Planning an Academic Analytics Program:

A look at what is being offered and what is being considered.

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AmStat News, June 2012

• “Big Data is a Big Topic” but, despite the enormous potential for contributions by statisticians, our profession and the ASA have not been very involved in Big Data activities, promoting…

→ The International Year of Statistics

SIBSIG meeting at JSM 2014

• SIBSIG – Statistics in Business Schools Interest Group (ASA)
• MSMEBS – Making Statistics More Effective in Business Schools (DSI)

The EMPHASIS is STATISTICS education in schools of Business

How do we:

➢ keep the science of statistics in these programs,
➢ apply the GAISE guidelines,
➢ give our students applied and sound statistical knowledge

And not step aside in this “next wave of business” namely ‘Analytics’

Statistics as an important and equal piece of the interdisciplinary proposed model

Two Benchmarking Papers

• “Big Data Analytics and Data Science UG Programs,” By Aasheim, C., Williams, S., Rutner, P. and Gardiner, A
• The rise of Big Data and Analytics
• The State of Industry
• Implications for Academia

• “Benchmarking Academic Programs in Business Analytics” By Gorman, M. and Klimberg, R.
• Existing Business Analytics UG and Grad Programs
Skills Identified in Literature
- math
- statistics and probability
- data mining
- visualization techniques
- programming
- problem-solving
- knowledge of technologies and techniques for data capture
- data storage and data management
- understanding of “unstructured” data and data “quality”
- familiarity with hardware, platforms and architectures
- understanding of ethical considerations, especially privacy
- data governance policies
- business acumen
- communication skills

Where analytics programs housed
- Business Analytics Programs
  - Typically require a traditional database or data warehousing course
  - Generally do not require programming courses
  - Require statistics courses; though less than Data Science
  - Visualization, big data, data modeling, and data mining courses
- Data Science Programs
  - May not require database or warehousing courses
  - Generally require more statistics courses than BA programs and higher math
  - Visualization, big data, data modeling, and data mining courses

A Survey was Created to:
- Gather information from those in the trenches
  - Who is offering UG/Grad programs?
  - Who is considering adding programs?
  - Who is teaching Business Statistics, Analytics, Data Science?
  - What software are they using?
  - How do they define Analytics?
  - What are the important skill sets?
  - Thoughts about the future importance of the media buzz.

Online Qualtrics™ Survey
Two targeted audiences
1. ASA Connect Posting
   1. Statistical Education Section
   2. Business and Economics Section
   ✓ 92 read and consented to participate
   ✓ 28 removed failure to participate
   ✓ n = 51 Offered or taught Business Statistics
2. Direct SIBSIG members email request
   n = 39
   → 8 duplicate institutions
Planning an Academic Analytics Program

8/11/2015

Who is teaching UG Business Statistics?

Do you offer additional Analytics course?

Other software options included:
- Tableau
- Python
- SAS Enterprise Miner
- Stat, e-views and SQL

What are you thinking?

- The next three questions were designed to get a sense of whether Analytics is a serious trend for the future or a passing ‘buzzword’.
- Respondents were ask to indicate the extend to which they agree with each of the following:
  1. BA/DS skills are sought out by recruiters.
  2. BA/DS is one of the fastest growing fields in Business.
  3. In the near future, BA/DS will be a major or minor degree option in most Business Schools.

Top Five Identified Skills

Preliminary Observations

1. About 2/3 of the responding institutions report they offer no formal programs in BA/Data Science,
   - While about 90% believe it is sought out by recruiters and is one of the fastest growing fields in business,
2. About 56% of business programs require one core statistics course.
   - About 38% require two.
3. Excel received the modal choice for UG B-Stat instruction,
   - R was the modal choice for additional analytics course instruction.
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2. BA/DS is one of the fastest growing fields in Business.
3. In the near future, BA/DS will be a major or minor degree option in most Business Schools.
BA/DS skills are sought out by recruiters.

BA/DS in one of the fastest growing fields in Business.

In the future, BA/DS will be a major or minor degree options in most major B-Schools.
Top Five Identified Skills

- Statistics / Data analysis: 34
- Work with data: 27
- Computing Skills/Programming: 16
- Problem Solving / Critical Thinking: 15
- Communication: 13
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