THE EVOLUTION OF AN ANALYTICS CURRICULUM: EXPERIENCES OF A PIONEERING BUSINESS SCHOOL

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GROWTH OF ANALYTICS PROGRAMS

- 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.

Note that graduate majors and degrees far outnumber undergraduate offerings.
THE FIELD OF BI/BA

- Decision Sciences (modeling, quantitative methods)
- Information Technology (database, data warehousing)
- Statistics (data analysis, data mining)
- Business Analytics
PHASE 1: BUSINESS INTELLIGENCE/BUSINESS ANALYTICS PROGRAM
PHASE 2: EXPANSION TO INCLUDE OTHER FIELDS

- Three tracks: one being original program
- Second track for those who didn’t want the Data Mining course
- Third track for other fields such as health care, criminology, biology, national defense, etc.
Multidisciplinary Vision for our ISA Programs

Information Systems

Business Analytics

Others:
Interactive Media
Computer Science
Statistics
Bio Engineering
GIS
Public Administration
PHASE 3: EXPANSION TO INCLUDE A CO-MAJOR

- competitive pressure from other academic institutions
- demand from industry for our graduates and
- emphasis on “big data” and visualization
describe the uses of analytics to process large data sets, so-called "big data", being generated throughout society

construct and manipulate both structured and unstructured data to produce data sets for analytical purposes.

apply appropriate methods for data analysis including predictive models and visualization methods
CO-MAJOR CURRICULUM

CORE coursework is to be satisfied by all co-majors (18 or 19 credit hours) as follows:

- Data description and summarization
- Data management – Structured
- Regression models
- Visualizing data and digital dashboards
In addition to the common core, each co-major is required to complete one of two 15 credit hour tracks:

Track 1: Business analytics
Track 2: Predictive Analytics

Other prospective tracks:

- bioinformatics
- health care
- geographical analytics
PHASE 4: ADDITION OF A GRADUATE CERTIFICATE IN ANALYTICS

Courses required of all students:

- Introduction to Predictive Modeling
- Managing Data for Business Analytics
- Statistical Programming and Data Visualization
- Predictive Analytics and Data Mining
STRUCTURE OF THE CERTIFICATE

- 4 courses offered during a calendar year

- Structure will be 10 weeks + 2 week break + 10 weeks + 2 week break + 10 weeks + 2 week break + 10 weeks.

- Courses will be delivered in a hybrid model that is mostly online with 8-10 required campus visits over the course of the year.
REFLECTIONS
REFLECTIONS (cont.)

- Growth means additional aptitude filters would need to be implemented in order to maintain quality
- Hiring of new faculty members in the current climate of scarce resources
- Significant investment in training: big data management and processing, text analytics and visualization
integration of coursework from the students’ point of view (common data bases and projects)

very few candidates for courses from other disciplines