Business Analytics Careers

Why Major in Business Analytics?

Analytics is a challenging and exciting field that helps people and businesses make informed decisions based on quantitative information. As an analytics professional you will make extensive use of data modeling, statistical techniques, and scenarios to use data to find meaning, explain causation, and make predictions. Society continues to become more and more dependent on information technology and software applications to collect, store and use massive amounts of information. Data Analysts are highly sought after as valuable partners to almost any field of study, including engineering, agriculture, social science, medical science, environmental science, forestry, marketing, accounting and finance.

Career Tracks

- **Developers** – A developer gives technical support during the escalation of a big data project, producing technical documentation, alongside working with the architecture, provision, tuning and development of various distributed systems (including Hadoop). They would, therefore, require good problem solving and analytical skills. Developers liaise with other colleagues (and sometimes clients) to work within client budgets and objectives to deliver data needs to satisfy projects. Developers are highly experienced and skilled with experience using Microsoft SQL Server, Oracle or IBM DB2.
- **Architects** – Tending to require a number of years' data management experience, a big data architect is responsible for the planning, design, implementation and integration of big data solutions. They can explain how a big data technology, such as Hadoop, can be utilized to solve big data problems. Therefore, they need to creatively problem solve using their strong analytical skills. They have the overall aims of the organization and the needs of their colleagues, including the data scientists and data engineers, in mind when designing their architectural solution. Working across teams requires good communication skills and an ability to build rapport with others.
- **Consultants** – Working with clients to advise them on solutions to their data needs, a big data consultant understands their clients' business problems, further identifying a big data strategy to fit these problems and advising on how this could be implemented for their clients' case. They are up to date with suitable current technologies and have the ability to write algorithms and accurately compare and analyze data sets. Project management and communication skills are very important.
- **Analysts** – Often working under the data scientists, the analyst is often an entry level position, popular with recent graduates. Analysts work with a set of data based within a particular system, create models and spot patterns, take inference from them, look further into the data sets and report results. Therefore, soft skills, such as curiosity, written and verbal communication skills and interpersonal skills, are very important for success in this position. The IT requirements for this role will differ from company to company but experience with Matlab, SPSS, Java and R can be of benefit. Some may ask for Hadoop experience too. Acumen for statistics and mathematics is highly valued.
- **Administrators** – Administrators provide support activities for data warehouse and transactional servers. This might include performance and tuning management, monitoring of the systems, database maintenance and backup and recovery. Typically there is less client interaction than with an architect position (for example), but they would still need to be client focused to work with their team to complete projects successfully.
- **Project managers** – Managing a team of professionals as part of a big data project, the project manager sits between the technical team and the organizational aims of their employer or their clients. A project manager advises their clients/employer on their big data requirements, ensuring these fit within the constraints of the data, the team and any budgetary considerations. They would have project management experience and possibly hold an OR, science or engineering masters or PhD. Ideally they are curious and logical, and able to clearly, calmly and efficiently solve their clients' business problems.
- **Data scientists** – Ideal for someone who is numerically minded, with a curious personality and with the ability to explain complex data in an easy to understand way for clients. The data scientist uses their

business acumen, and their mathematical (creating algorithms, using matrices and linear algebra) and statistical knowledge to look at multiple data sources and find hidden solutions to their clients' business problems. The bringing together of the programming, mathematical, statistical and business consulting skills is what makes this position the next step from an analyst role.

- **Engineers** – This role sits neatly alongside the analytical work of an analyst and the expertise of the data scientist. They tend to have a computer programming background and are instrumental in ensuring that data pipelines are feasible. They build new data applications, combining data from a number of sources, ensuring it is presented in a compatible format in order for their colleagues to use the data quickly in their work. Engineers will need previous experience of working with big data and, more specifically, in using software frameworks, such as Hadoop.

(Source: London School of Economics)

Common Job Titles

Job titles and actual job responsibilities vary widely from firm to firm. Be sure to review internship and job descriptions carefully. Some common job titles in Business Analytics include: Analyst, Analytic Consultant, Analytics Manager, Big Data Analyst, Business Analyst, Business Data Analyst, Business Information Management Consultant, Business Intelligence Consultant, Business Intelligence Developer, Consultant, Data Analyst, Data Integrity Analyst, Data Scientist, Implementation Engineer, Senior Consultant Business Solutions, and Statistician

Key Skills/Competencies

Hard Skills	Soft Skills
• Mathematics/Statistics	• Communication
• Quantitative & Technical Analysis	• Relationship Management
• Research & Analysis	• Decision Making and Problem Solving
• Data Presentation	• Flexibility/Adaptability/Focus
• Project Management & Organization	• Tenacity and Ethics
• Coding and programming skills in major applications	

Is a Business Analytics Major right for you?

Still unsure if you should major in Business Analytics? Schedule a session with a Career Counselor, attend one of our "Major Workshops", and attend career events to network with employers that hire Business Analytics majors and engage alumni who majored in Business Analytics. You may also schedule time through the various departments to meet with a faculty member to explore their perspectives on individual career paths.

Resources & Associations

http://www.kdnuggets.com/

http://flowingdata.com/

http://www.datasciencecentral.com/

http://www.r-bloggers.com/

http://fivethirtyeight.com/

http://blog.revolutionanalytics.com/