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Analytics University
Part 2

At the mid-year point in 2007, there are approximately 1,500 open job requirements for Web Analysts globally and many of these positions will go unfilled. According to Aberdeen research, 52% of companies reported that Analytics would be the number one technology investment for their organizations in 2007 to support sales and marketing efforts. Yet with hundreds of thousands of dollars being invested in technology, only 20% of companies surveyed currently employ full-time staff dedicated to analytics.

Use of web analytics is embraced by 90% of senior executives who recognize the benefits of measuring, monitoring and improving business processes with the aid of analytics. Yet, a major disconnect exists between the desire to implement and build a culture of web analytics and acquiring the right employees to execute on this goal.

Analytics University Part 2

This is the second part of a two part series focused on the need for education in the discipline of web analytics. Part 1 showcased vendor sponsored programs and explored the role of consultants, Blogs and Gurus. Part 2 of this series will delve into:

- Community Forums & Industry Associations
- Academic Programs

In Part 1, we discovered that there are resources available to employers of web analysts as well as programs designed to gain the maximum potential of existing tools through installation, implementation and integration. Part 2 will uncover opportunities and resources for aspiring web analysts and the potential next generation of employees.

"When the WAA was formed the charter was education and it has always been a primary focus."

"There is tremendous demand and no one to fill it. An expert is someone with three years experience."

~ Jim Novo,

Web Analytics Association Education Committee Co-Chair

An Institution Paving the Way

The Web Analytic Association (WAA) is an industry organization made up entirely of volunteers committed to promoting and evangelizing web analytics. Formed in 2003 in a California Hotel lobby bar, so the story goes, the founding fathers of the WAA had a clear and focused mission.

The goal of the three founding members, Bryan Eisenberg, Andrew Edwards and Jim Sterne was to create committees dedicated to the following analytics initiatives: Advocacy, Education, Events, International,

"Mostly the WAA has helped me rather than the other way around. It led to new contacts which led to a new job and a much better pay check."

~ Robert Blakeley

Product Manager,

WebMD

Membership/Sponsorship, Research and Standards. The organization has been instrumental in pioneering education in the field of web analytics and continues to grow with the support of its members. It is a resource for news, jobs, industry events and education.

If you are interested in the practice of web analytics and haven't visited the WAA site, you are missing out on a key resource.

A Community United

The Web Analytics Forum at Yahoo! Groups is comprised of 3,522 members and was founded in 2004 by Eric T. Peterson. The forum is a treasure trove of analytics information and a go-to web destination when seeking out answers to web analytics related issues. This site allows newbies and professionals to post questions, news, advice and information for all to comment on. What's different about the web analytics forum is that industry professionals are regular contributors to the site and openly share and exchange ideas.

"When I founded the Web Analytics Forum at Yahoo! Groups in 2004, I underestimated the demand for information about web analytics. Since that time the group has grown to well over 3,000 practitioners, consultants, and vendors worldwide."

~ Eric T. Peterson,

CEO of Web Analytics Demystified

The forum is maintained by the WAA and is open for enrollment to all interested parties. This is a fabulous source of information and insight as well as a great way to tap into the analytics community.

Organized Social Networking

Web Analytics Wednesdays (WAW) are international networking events designed to gather web analysts, practitioners, vendors and interested parties to discuss analytics in a casual networking environment. Local events are typically championed by an individual and may or may not have a corporate sponsor. Those that do, generally have the sponsors pick up the tab for libations, which is a good thing to get the discussions going.

Individuals are welcome to host their own WAW events if there is not one already initiated in their area. Scheduled WAW get-togethers include the following locations: Burbank, CA; Cambridge, MA; Toronto, Ontario; London, England; Louisville, KY; Conshohocken, PA; Baltimore, MD; Menlo Park, CA and Chennai, TaminlNadu, India. To attend a WAW event or to learn more visit, Web Analytics Demystified.

"WAW events provide a vital opportunity for different members of the community to exchange the war stories, advice and

Academic Programs

Academics for Practitioners, Prospects & Professionals

The most widely recognized academic program for web analytics is offered by the University of British Columbia (UBC) Continuing Studies. The program was conceived and developed with the help of the Web Analytics Association, who in the spirit of its volunteer committee style proceeded to enlist support from more than 70 of the greatest minds in the web analytics world to shape the curriculum.

"Intro to Web Analytics on July 11 was sold out, but there is another one happening in September after a brief hiatus to evaluate the program and make sure the curriculum is up to date. This will give us time to make any changes to the course materials."

~ Raquel Collins

Senior Program Leader

UBC Continuing Studies

Division of Applied Technology

The first course, *Introduction to Web Analytics* launched in October, 2005 and sold out immediately according to Senior Program Leader, Raquel Collins.

The entire program currently consists of four courses, which are required to obtain a UBC Award of Achievement in Web Analytics. The courses are:

- Introduction to Web Analytics
- Web Analytics for Site Optimization
- Measuring Marketing Campaigns Online
- Creating and Managing the Analytical Business Culture

The full four-course program has produced 75 graduates, which is expected to grow to 115 by the close of 2007. Many of these alumni are already employed as web analysts, yet others are finding jobs as a result of their new skills. Courses regularly sell out and to date, 300 students have completed the prerequisite *Intro to Web Analytics* course and many are continuing on for more.

Because of the overwhelming demand for these courses, the UBC is up to 8 courses per year, but the current program doesn't carry enough credit hours to qualify for a professional Certificate program. The WAA is working to resolve this issue by forming a partnership with the University of California Irvine to incorporate the web analytics coursework into a Certificate program. Students that complete the 100% online program at UBC and obtain the Award of Achievement in Web Analytics will be eligible to attend additional classes of their choice such as business intelligence or data quality. The additional credit hours will round out the education of the students and make them eligible for a Certificate.

Case Study: Jim Novo, Web Analytics Association

Q: What led to the partnership with the University of California Irvine?

"With the University of California, Irvine (UCAI) we approached them because students were graduating and asking how they could get a Certificate - a standard unit of adult education requiring more hours of instruction than the WAA / UBC course offers. Generating more course hours would be a challenge for us since the WAA is a volunteer organization, so we looked for a partner with existing courses that would fit into a Certificate program."

"With UCAI there will be a process to help determine how the web plugs into the rest of the business. The certificate program will provide a marketing path with CRM or BI courses. Because web analytics sits at the center of all these things, we decided the best way to complete a certificate was to provide options cafeteria style."

Q: What type of individual is best suited to take the UBC courses?

"We try to teach the gray area between IT and Marketing. IT people take the course to learn the marketing side of web analytics and marketers take the course to learn the technical side."

"Tech heads know how the servers work, yet don't have a marketing mindset and can't discern what to do with the data. With marketers, if they have the data, they know what to do with it, but they just don't have the technical skill to extract the data. It's difficult to teach. But also unique to get positive feedback from both marketers and IT groups."

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Case Study: Jim Novo, Web Analytics Association
Q: Sounds a bit like mixing oil and water. How does this play out in practical situations? "Web analytics tends to have great cross functional teams uniting Marketing, IT and Customer Service. Getting involved in a crossbreed kind of thing generates fantastic lift throughout an organization. Each part of the organization learns there's data in another function that can be used to improve their own function. Most web analytics folks usually have IT backgrounds and they think you can get good at the marketing side of web analytics by just throwing lots of answers at the problem until you find out what works. If you want to play in this junction between IT marketing you really need to understand both." "In the future, the analysis group as a unit will house all of your analytics people together. That's where you get cross pollination and real value for a company. Because of a silo mentality, problems don't get fixed because the source resides in another silo. If you push all the analytics to the same place and share data then you get a great synergy and really start to solve some business problems."

Considering a Graduate Degree?

A new program launching this month by North Carolina State University's Institute for Advanced Analytics will offer a Master of Science in Analytics (MSA) degree. Program director Dr. Michael Rappa believes that the best education he can provide is a foundation of analytics that will span online and offline channels and enable graduates to contribute to building the business processes that make up a foundation for an analytics culture within an organization.

The 10 month graduate program went through a remarkably fast approval process which began in 2006. The degree was authorized by university officials in February of 2007 and within three months, there were 500 prospective students who inquired about admission to the program. Although the program prerequisites include general subjects such as calculus and statistics, Rappa found that nearly 60% of prospective students already had advanced degrees, including 1/3 that were already MBAs.

Out of the hundred applicants that bid for the inaugural class, 25 were enrolled, which is astronomical for the first year of a new degree program according to Rappa. What's even more astounding is that major corporations are already seeking to hire the entire graduating class, even before admitting the first student!

The program has a curriculum based on four components:

- **Tools** – developing the skills needed to use industry standard software tools.
- **Methods** – learning the statistical and analytical methods commonly used in analytics (this is where many programs begin and end according to Rappa).

"We need to educate across the analytics terrain and web analytics in general. I think it's important to approach analytics broadly, because it will become increasingly difficult to separate the web from the rest the business. As we continue to recognize the internet as a very significant and powerful medium of interaction, it is likely to gobble up more and more of the business interactions. "

~ Dr. Michael Rappa,

NC State University

- **Applications** – learning about how the tools and methods are applied to solve business problems like web analytics, financial analytics and supply chain analytics.
- **Practicum** – a year-long exercise that puts students into teams and provides them with actual problems and data offered by industry sponsors. A real-world exercising of the intellectual muscles.

Case Study: Dr. Michael Rappa, Institute for Advanced Analytics

Q: Where did the concept of the Institute for Advanced Analytics originate?

"In 1998 I embarked on grand experiment to become the digital professor, to explore what it would be like to be a professor who was more centered in the future than in the past. I was fascinated early-on by the Internet and wanted to understand its potential for transforming higher education. I set-up a server in my office and began to distribute all of my course materials via a digital medium."

"When you digitize a business process you create a data stream, and the data flow into databases. It doesn't take long to realize that the data hold the potential for a better understanding of your processes and how to optimize them. This is what web analytics is about. As you migrate more of your process to the web, you can take advantage of that by gaining insight from the data."

Q: How did the Master of Science in Analytics program get started?

"The opportunity has been ripe for specialized graduate education in analytics for a few years now. Last year all of the key ingredients came together, which made it possible for us to do something bold. We're building the MSA degree from the ground up entirely new. We're involving a large number of faculty from across the university. And we're working closely with industry."

"We are serious about being a leader in this field. There are various schools doing modest things. Certificates, for example, which are easier to do. Some universities are developing concentrations, or tracks within a grad program with a few courses focused on knowledge discovery or data mining. That's quick and easy for a university to get on the books. A new degree is far more ambitious. It usually takes three years or more to launch a new degree. So it was an extraordinary feat to get it off the ground as fast as we did. I don't think you're going to see anything like this at another university for a few more years."

Q: Your program has a strong focus on data, can you elaborate on the role data plays and how you expose data to students?

"If you think about the student taking a class in stats, they apply methods to small data sets that are in no way comparable to the real world where data is measured in terabytes and streaming in at gigabytes per second. You want to deal with really, really large amounts of data in as close to real-time as possible. The methodologies and problems in this context are different. Data quality and the amount of noise is a serious consideration with web data. Web servers are brutally efficient in recording all of the clicks. But not all of the data are critically important."

"Getting to what's really useful is not as simple as one would hope. You have more data than ever before, but there is a great deal of garbage, and deriving insight from what's relevant requires great skill. Cleaning up databases and extracting only the more useful data. Universities in general are not teaching these skills because they seldom use realistic data sets."

"Have you ever seen data streaming in real-time across a server? It's a real eye opening experience for students watching the flood of data first hand. They start to understand the world of data analysis they're entering is not at all like a textbook exercise."

Case Study: Dr. Michael Rappa, Institute for Advanced Analytics

Q: How do you see the evolution of the MSA program and the students who graduate?

"I think next year well be in a better position to say what kind of student we want to recruit and what we'd like to graduate at the other end. What we're really trying to do is tap into a student who has a passion for working with massive amounts of data—to create a 'data virtuoso' who is skilled in the art and science of analytics and who can draw meaningful insights. The goal of the Institute is to discover where analytics is headed and to produce the kind of individual who can lead organizations forward."

Can't Find Them? Train Them!

Laura Thieme is the President of Bizresearch, a search engine marketing firm located in Columbus, Ohio. Laura took a unique approach to education when she found that locating the right employees for staffing out her organization was a challenging task. She viewed the field of prospective employees as: millennials that were likely to depart Columbus for other jobs six months to two years after training, candidates whose personalities weren't suited for detailed web analytics, account managers who demanded big salaries but didn't know or appreciate analytics, and finally web analytics rock stars that didn't want to work with another company. In order to build her search marketing and web analytics staff, Laura set out to train students and potentially prospective employees at nearby Ohio State University's Fisher College of Business.

"I keep a page from a Dilbert calendar on my office wall. It reads, 'Today I achieved unprecedented levels of unverifiable productivity'. Web analytics provides the ability to measure and verify."

~ Laura Thieme

Guest Lecturer,

Fisher College of Business

Working with Fisher's Deans, Laura resuscitated an antiquated Internet marketing course that had not been taught since 2001. Laura took on the title of Guest Lecturer and set out to teach search marketing, email marketing and web analytics. Laura's enthusiasm for SEM and analytics would classify as bubbling-over. When asked about her motivation for educating up-and-coming web analysts, she referenced the ability to train 25 or more potential candidates at one time. She jokingly referred to a slogan taken from a 2007 Dilbert desk calendar tear-out. '*Today I achieved unprecedented levels of unverifiable productivity.*' According to Laura, analytics provides the ability to measure and verify your marketing and advertising activity. Putting validity behind what is happening and allocating budget where it works. And if you're like some people, you need to get excited about finding that information, and presenting it to the client in valuable and meaningful format.

Case Study: Laura Thieme, President Bizresearch & Guest Lecturer at The Ohio State University's Fisher College of Business

Q: How do you typically find the right employees for your staff?

"We do personality profiling, where we can determine if someone is good at search, but not analytics. We've learned that some of our employees excel in organic or paid search, but do not gravitate towards analytics and reporting. Many search marketers get frustrated with the amount of reporting or analytics, or number of tools they need to learn, and lose interest in the job. Some tend to be creative thinkers who enjoy the discovery and analysis of using the data to solve a problem, yet don't want to report on the mundane, or keep up with the changes. We've tracked use

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Case Study: Laura Thieme, President Bizresearch & Guest Lecturer at The Ohio State University's Fisher College of Business

of 31 tools, at a minimum, to do our job. That's a lot of tools to learn and manage to perform search marketing and offer meaningful analytics.

Q: Where did the motivation to teach come from and how did you get started?

"Instead of trying to find the diamond in the rough, I figured that I could teach a class to train more candidates at the same time. Instead of teaching two or three interns at a time, I could devote two days a week for an entire quarter to these students, plus planning and grading time, which is admittedly significant. However, I couldn't have done this without the endorsement of the Deans at The Fisher College of Business, who were willing to take a theme from a course that they had taught in 2001, Principles of Electronic Marketing. I learned it was harder to implement a new course number and a new title within a short period of time, than to reinvent an existing course number and title. Therefore, I created a new syllabus and had to make modifications during the course for various reasons including learning that there was a competitor taking the course. I had planned to share my own search marketing and analytics data, which made it slightly more challenging to teach. Having access to meaningful data to teach at the highest level in my opinion, is challenging, at best."

Q: What were some of the hurdles that you had to overcome with teaching a class on search and analytics?

"One of the challenges of teaching the class is gaining access to the data that can be publicly shared with students. I am not a full-time professor, I am a practitioner. And, just because you practice it every day, doesn't mean that you can dedicate the time that a tenured professor is likely to dedicate. Personally, I perform better if I'm learning from theory and case studies, but also have access to real data. In fact, I always ask web analytics tool vendors to let me demo their tool on my client's or my real data. My students learned search marketing KPIs from a live, real ad campaign that Bizresearch personally sponsored and paid for. They managed and ran live campaigns in Google to track traffic, leads, calls, click rates and conversions. In a short class, it's not possible to teach everything but they learned an awful lot."

Q: What would you describe as the major needs in web analytics education?

"We need a curriculum at the undergrad or MBA level specific to search marketing and analytics. Students need to learn organic and paid search marketing, and understand the importance of the ad campaign performance. Accuracy of analytics work is critical, because someone's data can be entirely wrong because of a flaw in the implementation. This means they need to understand technology tools. There is a lack of standards, which is necessary to establish a baseline of knowledge. An accredited curriculum would help to establish this foundation of knowledge."

Q: Was the program a success?

"Yes. Out of 26 students, all of whom passed the course, five became Google AdWords Professional certified, and a couple of whom became Yahoo Ambassador certified. One person was hired by Proctor and Gamble as an intern in their interactive department; another was hired by Johnson & Johnson; three now work for me, and one is still being placed. The student and dean feedback I've received thus far is that "it's intense", with a highly detailed syllabus, (someone dropped based on this alone within the first two classes). I also had three top retailers contact me prior to the course's start, asking if I had any students who had completed the course yet, all of whom couldn't afford to wait."

"Course development takes a lot of time, especially at a large university. I'd love to see a full curriculum directive dedicated to organic & paid search and analytics. We are a ways away from that. It's too early to tell what the long term success of the course will be. I may teach the course again in January of 2008."

Different Approaches, Similar Goals

Although each of the educators featured in this brief takes a slightly different approach to classroom analytics, they share a common belief. It's necessary to provide a foundation of knowledge for interpreting data as well as provide access to current tools to exercise the data and view it in light of

"The courses tend to lean away from the technology and focus on the applications of the data. We wanted to teach how to understand the data and use that knowledge to solve business problems. We really encourage people to think."

~ Jim Novo

business goals. To do this, vendor participation is a critical component of educating prospective web analysts. Yet, teaching core business principles still takes precedent.

In pursuit of the WAA's mission of providing standards for the industry, they have embarked on an endeavor to produce a 'Body of Knowledge' for web analytics practitioners. The document will include definitions as well as technology standards to provide a catalogue of critical information. This resource is a guidebook for becoming a WAA Certified Web Analyst (the official test will be available in late 2007 or early 2008). To attain this credential, individuals will have to pass a test that will quantify their knowledge of web analytics. Any interested person is eligible to take the test and qualify as a Certified WAA web analyst. You do not have to take the UBC courses, or participate in any formal class to get the certificate. According to Jim Novo, that's why the body of knowledge is such an important document. It will bring standardization to the industry and provide employers with a gauge to evaluate prospective employees' experience in the field.

In summary, an exhaustive search of educational courses dedicated to web analytics produced very few results. In addition to the programs described here, several universities offer courses that touch upon web analytics at a very superficial level. If the web analytics industry gets its wish, there may soon be a standardized curriculum which will train students straight out of undergrad, or newly minted MBAs that web analytics is a core disciple to sound business practice. And when that happens, we can all look back and say: Remember when…?

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