customer story

Industry
Academic

Business Issue
In age of information organisations are faced with skills shortages and are looking to universities to help bridge the gap.

Solution
SAS® Visual Analytics

Benefits
Business students with no programming background gain experience in 'thinking tools' and data-driven decision-making.

Cultivating a new breed of data-driven business graduates

The majority of organisations now accept that driving value from data is no longer a competitive advantage, but a competitive necessity. With skills shortage as the major barrier for most companies, there is an ever-increasing demand for graduates with an analytical approach to decision-making. To address this skill shortage universities are responding by introducing programs such as Master of Data Science or Master of Business Analytics.

The University of Sydney has realised however that these 'data scientists in the making' are just one piece of the puzzle. More than ever it is necessary to educate business professionals (including managers) to work with data scientists and manage complex business analytics eco-systems.

According to University of Sydney Associate Professor, Dr. Olivera Marjanovic introducing analytics tools into the business discipline is the next shift to helping drive analytics success.

"This new breed of business graduates will enter the workforce with an understanding of how to leverage data to inform decisions and drive organisational innovation," she said. "This will not only help bridge the gap between IT and business, but they will support the culture change that is needed when creating a data-driven organisation."

Aligning education with business needs

Dr. Marjanovic says that universities are exploring innovative ways to align more with industry needs and look at how students can be primed for not only today's business but also future work practices.

"Employers that I'm speaking with are no longer interested in universities offering courses structured around skills-based training but rather they want graduates equipped with 'thinking tools'," she said. "They want them to learn how to gain a competitive advantage, not only by solving current problems and finding answers to the existing questions, but by asking brand new questions and using data and analytics to deal with complex problems, in a holistic and ethical way. This is the future of business education."

The University of Sydney's Business School uses SAS® Visual Analytics in its courses, which explore how data is collected and managed to deal with complex business problems. It is aimed to support the development of 'boundary spanning' professionals – which involves establishing effective connections and value networks within and outside an organisation.

"Boundary spanning and creating complex value networks is crucial for today's economy," Dr. Marjanovic says. "While organisations have traditionally operated within silos, data doesn't work like this – it flows throughout. And the more you can get data flowing across organisations, the better you can leverage it for competitive advantage."

"We can use Visual Analytics as a conceptual tool to develop a shared understanding across disciplinary boundaries and communicate effectively to develop strategies and co-create solutions."

One of Dr. Marjanovic's post-graduate students is Mr. Ramanan Arampamoorthy. He says the course he attended provided him with much more exposure to the future of business and the role that data plays.

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>
> Mr. Ramanan Arampamoorthy
> Postgraduate Student, University of Sydney

"I work in the business technology team at a large bank and what I learnt on the course has definitely helped me in my current role," he says. "With the increasing flow of data in a financial institution, it's important to know how to manage and make sense of it."

Mr. Arampamoorthy added that it was very exciting to use Visual Analytics in his coursework. "It looks so simple and literally drag and drop which is great for students who may not have any programming experience," he said.

He cited a Harvard Business Review survey that found one-third of the skills needed for future positions would in some way relate to analytics.

"I can see from my own education that universities are more aware of this need," he says. "In future, I would not be surprised if business intelligence subjects become compulsory for all students."

Dr. Marjanovic says the fact that Visual Analytics is available in the cloud is a big advantage for universities as this means there are no problems and time spent managing accounts or setting it up. "This leaves us with more time for teaching innovation," she said.

Supported by a large Australian Government Office for Learning and Teaching (OLT) grant, Dr. Marjanovic is currently designing and implementing innovative learning activities in Visual Analytics, using storytelling and industry-based scenarios. "My research has found that these activities are enabling students to reach higher levels of cognitive and knowledge skills," she said.

Creating value networks for societal benefit

"The higher-order thinking skills such as design thinking, will be more important in the future as organisations work together to deal with huge societal problems," Dr. Marjanovic says.

"Our graduates are unlikely to just work for a single organisation, they are likely to work on projects that involve a number of them," she says. "Analytics will be the enabler to making these value networks operate effectively."

Dr. Marjanovic cited the health sector as an example as it is a universal issue, which involves government, commercial organisations such as insurance companies, and community groups.

"These are all very complex and very different organisations," she says. "Businesses are profit driven, community groups generally focus on value services, and the government will want to make sure it uses its limited resources wisely."

She says data flows will need to be opened so the health sector can operate effectively, but there is also a need to understand the consequences of doing this, including very challenging data-related ethical implications.

Sharing knowledge benefits all

Marjanovic says she will continue to develop new activities around the teaching of analytics using SAS Visual Analytics but is also keen to spread her practices throughout the global community of educators.

Dr. Marjanovic is an academic advisory board member of the Teradata University Network. This collaborative international community shares ideas and resources around big data and analytics to develop courses that better reflect industry needs for business graduates.

"I believe this is what educational leadership is about," she says. "This area is moving so quickly that none of us can innovate in isolation. More than ever, it is necessary to share teaching innovations across traditional disciplinary boundaries, as well as to co-create new types of value networks with industry.

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