

Speaker: Online Learning May Be Part of Restructured Education

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Disruption can lead to innovation, in industry and in education. But where does the innovation lead?

Education innovator Michael B. Horn addressed this question Thursday in a wide-ranging discussion at the University of Virginia's **School of Engineering and Applied Science**.

Horn is the co-founder and executive director of education practice at Innosight Institute, a nonprofit think tank devoted to applying the theories of disruptive innovation – something that creates a new market and eventually displaces older technology – to solve problems in the social sector. His talk opened the program, and was followed by a panel discussion with Julia Stiglitz of Coursera, an educational technology company offering massive open online courses and with which the University is now working; Jon Michel of Science Applications International Corporation, an engineering solutions firm; and Cathy Sandeen of the American Council on Education.

Horn said America is losing its edge in college degrees, falling to 10th in the developed world in the percentage of the population between ages 25 and 34 who have post-secondary degrees. At the same time, there are about 3 million jobs for which employers cannot find qualified applicants, he said.

Disruption in business comes frequently because of technology. During the panel discussion, Stiglitz cited a \$45 billion applications industry that has grown up around the iPhone, which did not exist six years ago. [

Horn cited newspapers as a bundled service, with a wide array of information from news to sports to recipes to television listings, display and classified advertising, all packaged in a way that is convenient and portable. He said newspapers have been replaced with a variety of online sources that can be accessed with mobile devices, thus “unbundling” newspapers.

Hotels and educational institutions seemed immune to the disruption model, Horn said, since there had been no inexpensive way to provide the services of high-end institutions like the Four Seasons or Harvard University.

“There is no technological fix for Holiday Inn to go upmarket,” he said. “If you wanted to move upmarket, you had to put in the facilities that the hotels that were already there have.”

Universities, however, have a broken business model, said Horn, who described three types of business models – solution shops, where problems are solved; value-adding process businesses, where materials or information are improved; and facilitated user networks, where people benefit from information.

Universities combine all three models, Horn said, but this model is failing. Costs are rising and to cover the costs, universities raise tuition, which then prices customers out of the market. As these customers are priced out, other vendors arise to satisfy the market.

While the disruption in universities is their structures, not the technology, some of the technology may help the schools survive, and provide an opportunity not just to face disruption, but to improve education itself.

“Students have different needs at different times,” he said. “Some learn quickly, some learn slowly. They all come from different backgrounds.”

He said a university’s current semester-based model is designed to impart information within a defined time frame. “We believe that time is fixed and learning is variable,” Horn said.

He said under this model, content is delivered to the student who must learn it within the fixed timeframe, be tested on it, and then progress to the next grade or the next body of material.

However, online learning can be used to customize education. Competency-based learning offers experiences to the students, gives real-time interactive feedback and tests the student, who moves on when the material is mastered, he said.

“It makes it better for the average student,” Horn said. “The disruption is not the technology, but a totally different model.”

Online learning has gained a foothold; projections are that 50 percent of all students will take at least one online course by 2015, he said. Student achievement has been demonstrated to increase when taking online courses that are administered and created by instructional designers, Horn said.

Universities now may look at outsourcing education services in the future via providers such as Coursera, Udacity, 2U and Dev Boot Camp, with the university providing the brand name and the pedagogy and the online company providing the technical expertise, the metrics and the platform.

“It is a case of repositioning your core business,” Horn said. “You sustain innovations online when it makes sense. You need to apply the correct business model for the job.”

But, Horn warned, the process – especially the profit and revenue formula – becomes hard to change because companies and institutions are reluctant to alter how they do business. Successful organizations can fail. Good organizations can fall behind and slip into the middle, and then fall to the bottom. One hundred years ago, he noted, a list of the world’s top 100 worldwide would include many in Germany and few in the United States; that is not how the picture looks today. The same holds true for many of the dominant businesses, most of which are not what they were 50 years ago. And many of the dominant businesses of today will not be the powerhouses of tomorrow, he said.

Organizations must be examined over time, he said, to determine how they absorb improvements and develop trajectories. He said the pace of technology starts with “not enough” and gets better, citing the evolution of the computer, from mainframe to laptop to today’s handheld devices.

“If we were going to predict the future, I would be wrong about many things,” he said. “

In the future Horn sees, Universities still will provide residential education, but there will be more personalized avenues for getting an education, such as company-sponsored certificate courses targeted at certain subjects, and ways of measuring and certifying people’s problem-solving skills. He also sees corporations creating their own education arms if they cannot find employees with the specific skills they seek.

“Instead of the destination for four years that it has historically been, the university may evolve into something you keep coming back to over your lifelong learning,” Horn said. “You can come back to it whenever it is time to “level up,” and you can do that through your employer, or if you are switching jobs. I think that symbiotic relation may be rising right now.”

The event was co-sponsored by the **Office of the Vice President & Chief Information Officer** and the **Office of the Executive Vice President and Provost**.

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