

THE NEXT BEST THING

by Christopher Puto

All business schools strive to duplicate real-world challenges in the classroom. At the University of St. Thomas, a new full-time MBA program uses **business simulations** as the backbone of the entire curriculum to immerse students in an intense world that mimics the actual business environment.

When Lou Gerstner was named to lead IBM, many industry experts were skeptical about his prospects for success. Although he was bright and accomplished, his background included handling consumer packaged goods at RJR Nabisco, finance at American Express, and consulting at McKinsey. How could he step in and turn around the world's largest technology company—when he knew nothing about technology *or* IBM?

Gerstner proved he did not have to understand technology to succeed. Instead, he had to understand the company's current and potential value to customers, and he had to figure out how IBM could best deliver that value. Today, IBM's e-business service approach to customers is one of America's great corporate success stories.

Like Gerstner, today's business school graduates can achieve success no matter where they go in the workplace if they have the right skills. Business schools can help them hone those skills by creating intense learning situations that replicate real-world environments. One excellent way to expose students to the challenges of corporate life is through computerized business simulation technology.

For the last few years, I have been deeply involved in developing business school curricula that revolve around computerized simulations. As dean of the University of St. Thomas in Minnesota, I have supervised the launch of a new full-time MBA program using the business simulation as the backbone of the curriculum. I also spent five years working with a similar program when I was director of MBA programs at the University of Arizona's Eller College of Business and Public Administration.

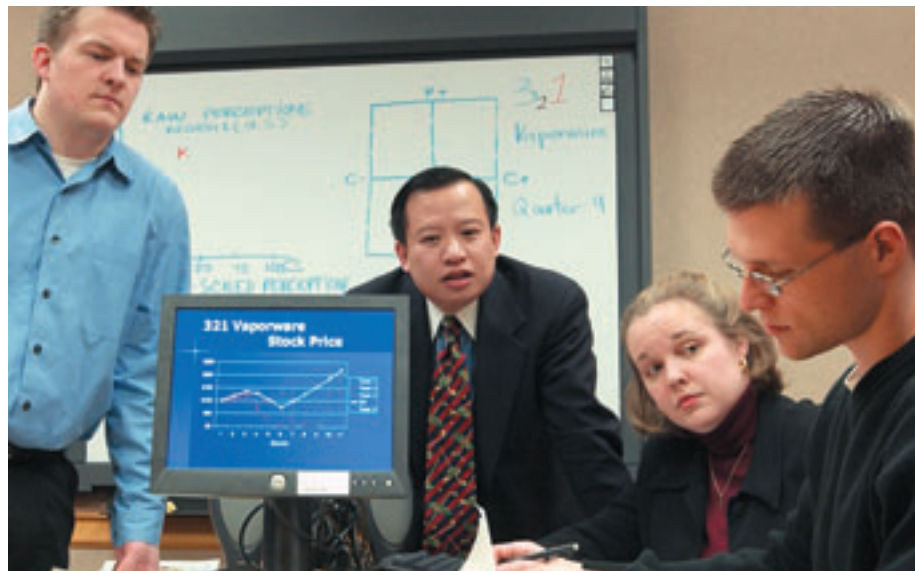
Simulations take the business case study and go one better. Most schools have not yet begun to take full advantage of the possibilities offered by business simulation technology. They can do this by integrating simulations throughout the whole curriculum.

A Brief Background

Computerized business simulations help students master the skills known as "critical incident learning"—skills that are not automatically learned in today's generally accepted business curricula. Many schools use consulting projects to augment the case method, but these only give students a glimpse of the total picture. Furthermore, even the most realistically based projects typically have a fail-safe mechanism in the watchful eye of the supervising professor. Therefore, even with consulting projects, students often do not develop the essential ability to identify and assess true risk.

Nonbusiness fields use technology-aided simulations to

give students “near experiences” with real risk. For instance, student pilots have long used complex computer-driven flight simulators that replicate actual flying conditions in extremely realistic ways. In one simulated flight, a student pilot could experience violent weather, navigational malfunctions, and electrical, hydraulic, and propulsion malfunctions that could take a lifetime to experience in the air. It’s important to note that even the most experienced pilots report that the environments achieved through simulation produce realistic emotional and physiological responses.



Student teams from the University of St. Thomas College of Business struggle to adjust their business plan as their computerized business simulation throws them several curves.

Anesthesiologists are also being educated through simulated conditions—in their case, computer-controlled dummies that can be programmed to imitate the physiological responses of human beings undergoing anesthesia. The University of Arizona School of Medicine introduced this technique in the mid-1990s. Instructors can program the dummy to react with many bodily systems all converging in one experience. The fact that a crisis is happening to a dummy makes it no less real, and the student knows that he must be prepared to react to any symptom in order to save the “patient.”

Computerized business simulations can be used in the same way to expose business students to a compressed range of real-world problems. Business simulations such as Pharmasim, Autosim, Stratsim, Markstrat, Brandmaps, Links, and countless others are regularly used in undergraduate and graduate classrooms to help teach topics like marketing, strat-

egy, international business, and supply chain management. Michigan, Kellogg, Darden, and Columbia are a few of the business schools using simulations within their curricula, either in courses or in one-week “simulation intensive” experiences. Business simulations can be found outside the university system as well. For instance, the cosmetics company L’Oréal has designed an online business simulation as part of its business competitions.

Computerized business simulations immerse students in the inner workings of an existing organization almost as if they were aliens from outer space come to visit planet Earth. They must summon survivorlike skills that force them to call on their core business knowledge, then assess challenges, solve problems, and implement plans of action. The more closely these simulations are tied to the ongoing curriculum, the more quickly students will learn key business concepts.

Full-Time Simulation

At the University of St. Thomas, students are involved in a business simulation exercise that spans the entire MBA program. Teams of students use the Brandmaps simulation as they work in a computer-mediated environment to compete against each other interactively. Four to seven five-member teams all form companies to manufacture an imaginary product called “vaporware,”

and meet weekly to discuss marketing, product development, and strategic positioning. Two days after making each decision, the groups get reports that analyze their decisions within the context of decisions the competing teams have made, and they all must live with the consequences as they move forward in the simulation.

Students spend about ten hours a week on the business simulation, which occurs outside their regular course load, although everything they learn in their core courses is relevant to the simulation. For instance, in a marketing class they will learn how to identify consumer needs and target likely consumers; they will use this knowledge as they carve out a market niche for their vaporware products. If one of the competing teams has targeted the same consumer group and has a better product or a better price, the first team will have to decide how to respond. Similar correlations between con-

tent and the business simulation occur with organizational behavior, finance, and other core courses. All of a sudden, what would normally be an abstract term that a professor uses in class hits home because students are applying that theory in the simulation.

The first year of the program can be stressful and confusing for students, because the simulation is introduced in the second week of the first semester. At that point, before they've had time to assess any business principles through their other classes, they're making decisions on strategy and pricing. They have to decide where they're going to build their manufacturing plant and how big it will be. If they have a large plant and it doesn't produce much, they'll be eaten up by overhead. It takes multiple periods to build a plant, so they have to predict its size two periods in advance and begin the construction process, or the plant won't be ready when demand is high. Similar challenges can make the first stage of the business simulation seem overwhelming at first, but students learn at a rapid pace.

At the end of the first semester, students write a paper that describes their firm's performance; they also prepare a presentation. Both are graded by the communications faculty on

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how well the project is presented and by the content faculty on how well students demonstrate what they've learned. Only a very small part of the grade this first year is based on the performance of the company.

Year Two

After a break for summer internships, students return to classes—and the simulation. Classwide elections are held to determine CEOs of each of the companies that were created the previous year. The top vote-getters recruit team members, and former teammates often end up in competing companies. The new teammates work together to determine the organizational structure of their companies, and they all sign a set of operating rules.

After the Simulation

For Julie Klewer, who graduated from University of Arizona's Eller College of Business and Public Administration in 1999, the MBA simulation program signaled a shift in her entire career. She had worked for ten years as a CPA before returning for her MBA, and she had a basic sense of how the decisions of one department could affect the entire organization. But she had no experience with areas like marketing, for instance, until the business simulation helped her learn to read marketing reports and understand the process of developing a marketing strategy.

Not only did she end up minor in marketing, she spent a few years teaching an undergraduate marketing course and working for a marketing research company. She eventually decided to work as a CPA again, but believes her strong marketing background enables her to discuss strategy and market development with the CFO and CEO at the CPA firm in Tucson, Arizona, where she is a partner.

"For me, the whole business simulation experience was key in my being able to set this firm apart from other players in the area," she says. She thinks business simulations can have similar profound effects on students who come to busi-

ness school with experience only in limited areas such as sales and marketing or shipping and receiving. "I don't think they have had an opportunity to see that if, as a team, we make this collective decision, five other variables in the mix get affected. So from the standpoint of just learning how to be more of a global thinker, I think a business simulation is really important," she says.

The team she joined during the business simulation had intense problems that gave her a chance to make hard decisions. "The team was really dysfunctional, and our CEO was horrible," she says. He was not just horrible, he was unethical, sharing marketing research on the sly with other teams in the simulation. After meeting with the administrator, the team members decided to confront and oust their top man. "We told him he was not an effective CEO and he had to step down. He did."

While the ordeal with the CEO was extremely stressful, says Klewer, "we salvaged it all in the end. We gave a really good presentation and ended up doing very well." And they gained invaluable insights into the tense and exhilarating world of real business.



Then the teams “borrow” money—anywhere from \$1 million to \$200 million on paper—from the class administrator, who acts as a bank. They use these funds to “buy” one of the existing companies. They can bid to take over the finest or the worst of these companies, keeping in mind that their performance will be judged by how well the company functions. The administrators will look at where they started out, how much they borrowed, and where they end up. Overall grades are based on a formula devised by the financial accounting faculty to measure the net change in wealth during the new management’s tenure.

At this point, most of the students are starting to feel they understand the simulation and the world of vaporware. This is when we start to throw a few curveballs, forcing them into critical learning incidents. For instance, new products come onto the market and new markets open. Students learn that one of the components they use in manufacturing is carcinogenic—but an expensive synthetic has just entered the market. Do they reformulate their product? If so, how do they handle the resulting price increases? How is the market structure affected by this new variable? The product and the market they thought they understood now seems to have gone haywire.

The introduction of the noncarcinogenic ingredient adds an ethical component to the simulation, and we also seek to integrate ethical considerations to the whole exercise. Rumors and competitive data are always floating about, and the students have to decide whether or not they

will avail themselves of that information. Competing teams are not supposed to collaborate by illegally dividing the market between them. If they do, and they’re caught, we hold a tribunal where the affected firms lay out their cases. The other CEOs and the administrator, acting as SEC commissioner, listen to the evidence and hold a secret ballot to determine what the penalty or sanctions should be. These vary according to the severity of the infraction—as is the case in the real world.



The business simulation program forces students to fine-tune skills such as decision making and communication, while exposing them to a wide range of business disciplines in an integrated environment.

In addition, any student who violates the rules of operation can be fired from a team. Any student who tries to be a “free rider”—who doesn’t do his share of the work—can be fired from a team. If that happens, he has two weeks to convince another team to take him on as a member. If this fails, he has to write a 25-page paper on the value of effective teamwork, and the best grade he can get is a C. In all the time I’ve administered MBA simulation programs, I’ve only had one student get fired and not be rehired.

The Case for Simulations

What I have witnessed in simulation-based MBA curricula reinforces my belief that such programs can replicate for business students the intense, realistic training that pilots and anesthesiologists receive with their flight simulators and automated dummies. A cross-functional simulated business curriculum teaches MBA students all the fundamental business skills at once: teamwork, analytical skills, communication skills, core disciplinary knowledge, strategic thinking, and effective decision making. Conducted within a controlled environment that spawns ample opportunities for coaching and critical incident learning, simulations instill in students the confidence in their decision making that only comes from experience.

A curriculum built around business simulation helps students become exponentially better at identifying where the

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payoff resides in a compendium of choices and at vetting those choices through determining ROI of time and resources. This is exactly what will be asked of them in the intense competition that is business today. The business simulation works equally well for students interested in entrepreneurship, corporate life, and international business.

The most profound effect of all is that the curriculum we have built around business simulations has proven to be a great equalizer between liberal arts MBA students and those who come from more traditional business academic backgrounds. The program tends to accelerate learning for *all* students. Because of the simulated business environment, students who have not had an undergraduate business back-

Program Highlights

The new business simulation curriculum of the full-time MBA program at The University of St. Thomas differs from a traditional MBA program in these key ways:

- The business simulation is cross-functional; it doesn't focus only on marketing, as is the case with some programs.
- It spans the entire two-year MBA program, with a break during the second semester of the first year.
- The business simulation teams act as the executive team of a simulated company. Teams are composed of students with an array of skills across business disciplines.
- Grades are based in part on success indicators, such as the company's market share, its quarterly net income, and how it compares to the competition financially.
- "Free-riding" students can be fired from their teams. They then must negotiate to be hired by another team or receive a C grade.
- In year two, CEOs of the simulated companies are elected by students, in a process that often pits old teammates against each other.
- In year two, teams may choose to grow a lagging company or to build the profits of the industry leader.
- Curveballs are thrown into the mix, so that students have to rethink their strategies to meet new market conditions.

ground now have a better chance of learning the basics of finance, accounting, and marketing while rapidly becoming equal partners with their classmates. The simulated environment provides a context and framework within which volumes of information can be structured and better internalized. By the second year, the difference between equally bright students from different backgrounds is nearly indistinguishable.

As a result, I believe this form of business education provides the potential for dramatically increasing the readiness of today's MBA graduates to accept and perform work assignments with greater responsibility and impact.


The Challenge

Why don't more schools create a "primordial soup" for their curricula, combining exciting simulated experiences with traditional academic learning? Randall Chapman, creator of the Brandmaps and Links simulations, says that such a program requires a great deal of "heavy lifting." He explains, "It requires a big investment of time setting up the course and integrating what is learned in the simulation with what is taking place in the classroom. Such a program also needs someone familiar enough with it at a high level to truly lead the charge—which is tough to find."

Chapman identified the final and perhaps most vexing problem as the protective instinct most academics feel for their courses. Many of them want to insulate the case-based

approach from being, as they see it, "diluted" by something like a computer simulation.

I would take it one step further and say that some academics have a bias against anything that may smack of training or skill-building, despite its strategic underpinnings. Instead, they default to the academic credentialing deemed necessary to excel in the business world. I've certainly wrestled with the training paradigm myself, as I am a great proponent of holding extremely high academic standards for our colleagues and students. Yet my students have conclusively proved to me that we cannot rely on case studies alone to create a sense of savvy, hone decision-making qualities, and build a strong emphasis on delivering superior customer value. At the very least, by relying solely on case studies, we're leaving many talented people behind.

The case method, established at Harvard 90 years ago, has been the mainstay for conveying business knowledge and managerial skills to generations of business students. I believe this venerable educational method can be effectively enhanced when schools use advanced business simulations to create a truly integrated approach for MBA education so that students are better prepared to lead tomorrow's ever more complex and competitive businesses. 

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