The Beer Game: Serious Business
John Sterman

The innovation: John Sterman has developed a management simulator that gives students the opportunity to run a company virtually before taking charge in reality.

The research: An airline pilot and a corporate manager have many things in common. They control systems of great complexity. They shoulder nail-biting responsibility. And they must be prepared for the unexpected. But there is one significant difference between the pilot and the manager—no airline would dream of sending a pilot up in the real thing before he or she had had extensive training with a flight simulator on the ground. The simulator gives the pilot the chance to learn, to make mistakes, and to experience the unexpected without risk to passengers and aircraft.

John Sterman realized that managers are expected to fly their organizations into unknown skies pretty much by the seat of their pants, so he set about creating a computer-driven management “flight simulator” called The Beer Game. Functioning much as an aircraft simulator does, the software program gives students the opportunity to ‘fly’ a company solo. The user takes command of a virtual firm and pilots it from startup to success. More important, the simulator serves as a laboratory in which students can systematically explore the consequences of strategies without risking the fortunes of a real enterprise.

A key tool for teaching the system dynamics of supply chains and the core principles of effective management, The Beer Game puts teams of students in charge of managing the four areas of a distribution chain. The players at each level—retailer, wholesaler, distributor, and factory—receive shipments of beer, fill as much of their customers’ orders as possible, and place new orders for beer with suppliers. As in real business, the goal is to keep company costs low while meeting customer demand.

The Beer Game does not produce winners or losers. Students make operational decisions and receive feedback from past decisions. Often, they’re surprised by the side effects and delayed consequences of their actions, but realize how much better it is to be surprised at the keyboard than in the boardroom. By game’s end, management students have gained insight into the behavior of a distribution system—and the difficulties of developing a robust strategy for managing even a simple operation.

The Beer Game management simulator is actually based on a manual version called The Beer Distribution Game, created at MIT Sloan in the 1960s by system dynamics founder Jay Forrester and the MIT Sloan System Dynamics Group. It is one of many management simulators that have been developed over the years by MIT Sloan faculty, including Sterman, who is also the creator of such popular programs as Boom and Bust and People’s Choice.

Learn more about John Sterman’s research at http://web.mit.edu/jsterman/www/SDG/beergame.html