Syllabus

Boardroom Global Challenge

Department of Economics and Business
CENTRAL EUROPEAN UNIVERSITY

- **Instructor:** Tibor Voros
- **Credits:** 2 (4 ECTS)
- **Term:** Winter-Spring 2017-2018
- **Course level:** MA/MSc
- **Prerequisites:** Knowledge of basic management, finance and economics is required. If in doubt, please contact the instructor.

Course availability

Cap: 35
Students form the MS in Technology Management and Innovation program have direct entry (first priority).
Students from the MS in Finance program have second priority.
Students from the waiting list will be added to the class on a first comes first served basis until cap is reached.
The course starts in the Winter semester and finishes in the Spring semester.

Course description

The Boardroom Global Challenge is designed to place students into realistic business and management scenarios, where they can try various roles and apply, practice and understand foundation issues studied in core courses and considered in organizations. An on-line, turn-based, management level business simulation forms the basis of the class. The simulation incorporates supply chain, finance, pricing, investment and marketing related decision making problems. The course exposes students to the need of transformational and system-wide process oriented thinking. The pedagogical approach is strongly focused on Kolb's learning cycle and the experimental approach: in this context, the instructor is a facilitator for the simulation and does not carry the traditional authoritative role.

This online simulation places students in the Board of Managers role. Participants lead the operations of major mobile handset manufacturers. These multinational companies sell products on various markets, including the American, European and Asian markets. There are different handsets, technologies, markets and coverage expectations. Boards will have to make decisions about key issues, based on past financial statements and observed customer habits. Teams compete against each other within the given markets: usually there are 5-7 companies in a simulated universe. All companies are publicly traded and their financial results are available throughout the simulation for all competitors. Thus participants practice not only their own management and decision making skills, but also have to consider company valuation and competitor analysis techniques. The simulation is supported by a computer-based, online model. The simulation engine is provided by CESIM. A unique storyboard, written by Prof T. Voros, makes the simulation more interesting and demanding. The simulation lasts approx. 2-3 months in real time. For each round, approx. one-to-two weeks are given to prepare the decisions. The usual framework is 2-3 practice rounds and 6-7 live rounds. Please see the schedule for the exact timeline.

At the end of each round, Boards will have to enter their decisions (production, pricing, marketing etc.) into the online simulation interface. For the Global Challenge Simulation, please form groups of 3-5 members (depends on class size). Please note: due to the complexities of the simulation, there are limits in participation. For one class – one universe in simulation terms – the maximum number of firms is 7, and each firm may be led by a max. 5 member management team. Thus the limit is 35 participants. If there are additional participants, a second universe (or class) has to be opened.

Learning outcomes

INTENDED LEARNING OUTCOMES	ASSESSMENT
Knowledge and Understanding 1. Describe key issues faced by businesses and understand their impact on the company, both in terms of financial and non-financial items 2. Understand key financial terms and their limitations in describing a technology-focused organization 3. Understand decisions made at CxO level for companies	Team Meetings, Strategy Documents, Shareholders' Report & Presentation
Intellectual Skills 1. Recognize critical factors in a business problem 2. Develop a structure for analyzing problems 3. Present the analysis and insights on a problem to interested parties in a convincing, non-technical manner	Shareholders' Report & Presentation, CTSR
Practical Skills 1. Build and use meaningful spreadsheets to present and solve quantitative business problems 2. Carry out sensitivity, data, regression, and optimization analysis 3. Understand strategy building and development over a longer timeframe	Strategy Documents, Shareholders' Report & Presentation, CTSR
Transferable Skills 1. Translate descriptions of business situations into formal models, and investigate those models in an organized fashion 2. Apply generic modeling heuristics to help in the design and use of strategy 3. Extract insights from data, and use those insights to communicate, persuade and motivate change 4. Interact with members in a group to produce analysis for external parties with time constraints	Strategy Documents, Team Meetings

Reading list

Recommended readings

Finance and Marketing related core books may be useful

Wayne L. Winston: Data Analysis and Business Modeling (MS Excel 2003 & any of the more recent editions are fine) – a free downloadable e-book will be provided exclusively for the course – referenced in Sessions as WW.

Assessment

As this is a complex exercise, grading in this case combines various items, including individual and group elements.

Element	Contribution to grade (100 total)
Global Challenge – 2cr	**100.00**
2xStrategy Documents (initial & 3rd year)	20.00
Team meetings (includes minute papers)	30.00
Peer Evaluation	10.00
Cumulative Total Shareholders' Return	15.00
Shareholders' Report & Presentation	25.00

Team Meetings (30)

Team meetings are held with the instructor. Ability to explain decisions and familiarity with the topics are required. Usually two-three minute papers are included in the course, one (separate) A4 page may be used by team members during a test. Sample questions:

In the simulation universe the Technology 1 demand is decreasing more rapidly in USA than in Asia over Round 1-5. Which are the two major real life economic / technical innovation-related theories mostly causing these differences (coded in the simulation)?

You receive a company fact sheet, where ROS is listed as 5.88 (2011);-1.7 (2012);-14.42 (2013) for the last three years. What is ROS and what does this tell you about this company?

Strategy Documents (20)

Short business documents are expected, with description of the business environment, competitors, products, key strategies and approaches. Appendix may contain additional charts or tables, they do not count into the page limit. Strategy re-evaluation happens in the third round of the simulation, thus two documents will have to be submitted.

Strategy V1: Initial strategy (pre 1st round) (2-3 pages)

- Outline key strategy, company name, mission statement
- Understanding and plans of management for different markets (6 year timeframe)
- R&D decisions, investments on a round by round basis (calculations, reasons for investment etc.)
- Major risks, issues

Strategy V2: Updated strategy & competitor analysis (after 3rd round) (3-4 pages)

- Discuss what worked, what hasn't, why?
- Review the past 3 rounds shortly
- Competitor analysis
- Strategy change

Shareholders' Letter & Presentation (25)

Shareholders' Letter

Report is approx. 3-4 pages (plus tables, charts etc.), summarizing key decisions and long term strategy: style is business document. The Shareholders' Letter is usually a yearly report – teams have to summarize 6 years this time for their shareholders. Key items to include: market & company position,

initial strategy and changes, yearly review with financials, future plans etc. Teams may use sections of Strategy V1 or V2.

This is a business document for shareholders – please write accordingly. Include enough financials to properly establish your position in the universe. You may focus on products / markets where you were successful, but be candid about what worked / what failed. The presentation is given to your shareholders – they bought shares six years ago. What have they gained? Explain! You should also include future plans and step outside the game (e.g. new phone designs, mergers, acquisitions etc.)

Shareholders' Presentation

Approx. 10 min presentation + 8-10 minute Q&A. The aim of the presentation is to convince shareholders to keep with the company. Teams are to summarize the most important decisions and explain them to shareholders. Teams should also summarize strategic issues and detail the future charted for the companies.

Peer Evaluation (10)

Anonymous peer evaluation, max. 10 points per each individual. Assigned points are averaged.

Cumulative Total Shareholders' Return (15)

Calculated by the game engine at the end of each round: based on the initial round and last round share price & dividends paid. Scaled to 15.

Course schedule and materials for each session

	Date	Activity
1		**Introduction – Opening Sample Rounds** All participants should be present – practice session in class. Please bring laptops or ipads/tablets (perhaps easier to use laptops, but the simulation works on tablets perfectly well). There should be at least one laptop/team. Introduction and explanation for simulation. Forming of teams. Spreadsheet modeling basics.
2		**Sample Round 2** Understanding financial items. Decisions and consequences. Unintended consequences.
3		**Live R1** Submit Strategy v1 before closing round. Plan your pricing & marketing.
4		**Live R2** Using historical data to predict future: regression and demand prediction.
5		**Live R3** Managing your finances: issue shares or take debt? R&D, comparison of teams.

6		**Live R4** Submit Strategy V2 before closing the round. Understanding pricing strategies.
7		**Live R5** Technology diffusion: models.
8		**Live R6** Teams make decisions on their own. Preparation for Shareholders' Meeting.
9		**Submit Shareholders' Documents & Presentation**

Frequently Asked Questions / FAQ

What is the Global Challenge simulation?

Participants form teams and become managers of global telecom (handset manufacturer) companies. Each team starts from the same position (opening vignette available online) and compete within a simulated environment. Participants play 6 rounds (years), and the cumulative shareholder return is calculated based on these rounds. Teams are measured on financial performance (cumulative shareholder return): strategies and results are presented to shareholders during the Global Challenge Presentation. Watch the video here: https://www.youtube.com/watch?v=BsJRz0FulgU.

How complex is this simulation?

It is a fairly complex simulation, requiring balancing production, demand and financial parameters. Tariffs, transportation costs, transfer pricing are as much part of the problem as investing in technologies (there are 4 different technologies, like 3G etc) or building factories. The simulation integrates a range of concepts from various management-related disciplines, including economic, political, financial, accounting, procurement, production, logistics and marketing issues. The generic simulation framework (made by CESIM, www.cesim.com) have been played by more than 50,000 professionals since 1996. It is helping to understand financial concepts and the problems of a commoditizing market place. Your success to some extent depends on your competitors as well.

So it is not a unique simulation, is it?

It is actually completely unique, because the parameters of the simulation (and there are hundreds of them) can be modified by the simulation leader (Prof Tibor Vörös in this case). Tibor has written a specific storyboard (with the help of CESIM) and became the Winner of the Innovation in Course Design category for the CEEMAN Champions' Award 2010.

How competitive is the simulated environment?

Depending on the teams, it may become very competitive. Price wars are typical, particularly as technology progresses: competitors (other teams) can be badly shaken (in real world: forced out of a market) by these price wars. This can also be used as a strategy to control markets.

Sample results at the end of the simulation

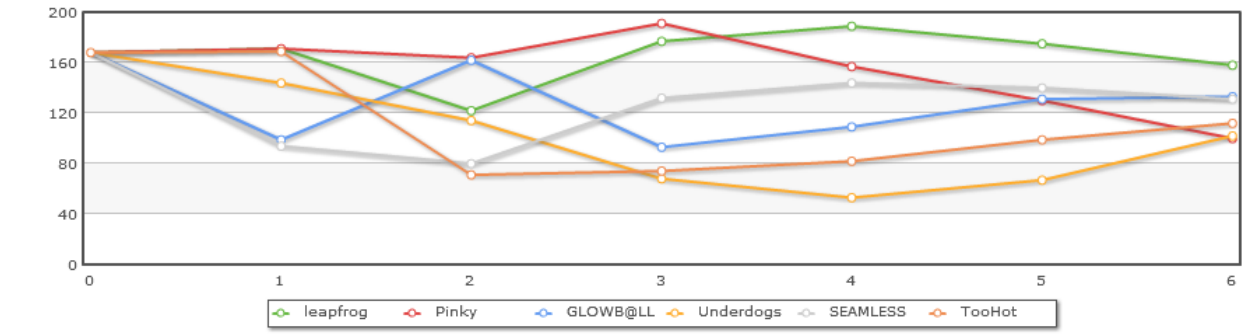
The charts below show share price changes over time and financial results in the 6th round for six teams. Note: there are several different storyboards, and this is not necessarily a representative example of the

storyboard you are going to play. You will have access to data from a prior simulation to facilitate preparation.

Ratios

	leapfrog	Pinky	GLOWB@LL	Underdogs	SEAMLESS	TooHot
Market capitalization of the company (K USD)	4 413 717	2 858 865	3 999 948	3 473 075	3 959 350	3 708 120
Shares outstanding at the end of round (t shares)	28 000	28 556	30 000	34 000	30 324	33 000
Share price at the end of round (USD)	157.6	100.1	133.3	102.1	130.6	112.4
Average trading price during the round (USD)	178.6	130.0	131.3	67.0	140.0	99.2
Dividend yield	2.61	0.00	3.75	0.00	2.94	0.00
P/E ratio	31.0	718.2	27.0	19.2	109.1	42.5
Cumulative total shareholder return (p.a.), %	**0.56**	**-8.09**	**-3.15**	**-6.15**	**-3.60**	**-5.14**

Share price at the end of round (USD)



As a participant, do I have to be there on every session?

A detailed outline will be available. Generally each team has to be there specifically for a 30-min time window. However, most teams will complete their decision making during the class time and thus stay for the entire class time. If the team completes the decision earlier, it is possible to only come for the meeting. Most meetings incorporate a Q&A session and a minute paper.

I am not happy with my team.

Even in real life you cannot always select your team members. Generally the teams are created randomly, though advice is requested from Finance / Marketing / Mgt Science professors that each team would have at least one strong finance / quantitative person. Swapping between teams is allowed, as far as these considerations are kept.

I am doing most of the work and all the others are just freeriders.

Try to handle the situation, talk to team members. Minute papers and Q&A sessions are designed to avoid (and discuss) situations like this. 10% peer evaluation is also included in the evaluation. At the same time, a considerable percent of the grade (shareprice, presentation etc.) is obviously team-based.

It doesnt have an Human Resources module, depreciation is fixed, we cannot sell factories, I am not happy with the share price and the in-game company evaluation, I think our company worths twice as much, I cannot really play Apple etc.

Its a simulation. First of all, simulations are always limited, simply because they are limited models of reality. Second, all the issues you experience, others experience as well. So you are all equally limited. If you have any recommendations, I am really happy to hear them and will try to incorporate them in future versions. As an example, at the beginning there was no inventory in the simulation: also all the transfer

price-related calculations had to be done by hand. These additional modules are now integral parts of the simulation.

Should I take the class (if it runs as an elective)?

This is a unique chance to understand how people from other departments (Finance, Accounting, Supply Chain, Marketing / Pricing etc) would think: you have an opportunity to try an entire company over six years. You will have a better understanding of how people think at higher management levels and what their problems may be: this should help in discussion or analysis of problems. Nevertheless, if in doubt, ask: if you find electives you are more interested in, take them, explore different knowledge domains & enjoy!

Ahem, it sounds complex….

It is. Its fun & game, but also requires serious work. Ad hoc decisions and ignoring what other teams do can bankrupt the company. Each company has unlimited credit line, but with $2 billion debt share price would plummet from the initial say $160/share to $50/share on short notice. Investors would not be happy.

It's a fun game, right?

Yes, but the term 'game' may be a touch misleading: this simulation requires considerable work. The decision making screen has some 10 subscreens, with several input boxes. Particularly during the first class it looks daunting to say the least (usually, class members look like zombies by the end of the first session). In addition, you will have to evaluate balance sheets and financial results on a weekly basis and make decisions for the next week, taking into account competitors. That said, participants generally enjoy it ☺.

Brief Bio

Tibor Vörös has over 20 years experience in both academic and corporate environments. He is an enthusiastic and curious individual, who has explored areas ranging from medical approaches and robotics to corporate financial processes. Tibor's work is mostly related to information systems (e.g. knowledge management, decision making, business intelligence, business analytics) and quantitative areas. He also researched these topics and evaluated corresponding frameworks from the theoretical point of view. Tibor Vörös holds an MSc in Maths, Physics and Information Technology and he is a Harvard Executive Education graduate, also completing a PhD at the University of Hertfordshire. He worked at the Central European University Business School as Senior Lecturer for several years: he also undertook the role of MBA Director among other administrative duties. Tibor has spent considerable time on complex finance-driven business simulations and created unique storyboards to help participants experience real life problems in classroom situations. CEEMAN has selected Mr Vörös as the winner of the Innovation in Course Design category for the CEEMAN Champions' Award 2010. Current research work concentrates on the relationship of organizational culture and information technology. Tibor also took part in various industry campaigns, including the Microsoft Business Productivity Infrastructure Optimization campaign or the Cloud Business Transformation approach.