ISU^{WU} on-line

Internationalization Strategy and Data Science

WU (Vienna University of Economics and Business)

Course outline

Course title	***Internationalization Strategy and Data Science***
Instructor	*Jonas Puck & Thomas Lindner* *Jonas.puck@wu.ac.at; thomas.lindner@wu.ac.at* *WU, Institute for International Business* 
Language of instruction	English
Course level	Undergraduate

Aim of the course
In the first part of this course, we focus on the strategies associated with international business. On the one hand, students will learn the relevant theoretical foundations of international expansion. This includes strategies and theories associated with international market selection, ownership strategies, and value chain decisions. On the other hand, strategies to manage an internationally active firm will be presented, discussed, and applied. This includes strategies associated with the global configuration of value chains and functional strategies for marketing, HR, and finance. In the second part of the course, students will learn to understand and apply advanced tools for business analytics. We will develop conceptual and mathematical foundations. Then, we will apply these foundations to analytical questions using R (A language for statistical computing). The course will be accompanied by a learning module in DataCamp, which students can use to acquire basic programming skills, and extend existing knowledge. We will solve simple isolated exercises, as well as more involved issues in business case studies. After completing this course, students will be able to manage and execute data science and analytics tasks, and understand how these tasks contribute to MNC strategy and competitive advantage.

In the third part of the course, students will work on a project that combines what was covered in the first two weeks of the class.

Learning objectives
Students learn • To understand and apply theories and strategies associated with the internationalization process • To understand and apply theories associated with the management of internationally active firms • To understand basic principles of business analytics • To translate complex business decisions into questions for data-driven decision making • To use R (A language for statistical computing) • To understand the scope and limitations of business analytics

Application requirements for international incoming students
Application requirements for the Undergraduate Program are current enrollment in an undergraduate study program in the fields of business administration or related fields. By the time of participation in the program, students must have completed a **minimum of one year of undergraduate education** with a specific focus on business administration and related areas. Applicants interested in participating need an excellent command of the English language. The English language requirements can be found at Language Requirements.

Teaching methods
The class is a workshop-style course, with many interactive elements and case studies. Students are expected to give presentations, provide feedback on each other's work, and discuss their progress with instructors. The class is also accompanied by an online teaching module, which forms an inherent part of teaching and student evaluation in this class. This online module is provided by DataCamp, a leading provider of online resources for data science training.

Pre-course assignment
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Course contents for intensive weeks one and two; in week 3 students work on their projects, assignments.	
Day 1 (Week 1)	• The global market: development and structure
Day 2	• Internationalization I: Market Selection
Day 3	• Internationalization II: Entry Mode
Day 4	• Managing the MNC I
Day 5	• Managing the MNC II
Day 6 (Week 2)	• Introduction to Analytics and to DataCamp
Day 7	• Basic Mathematics for Analytics (online module "Data Science for Business" due)
Day 8	• Inferential Statistics with R (I) (online module "Introduction to R" due)
Day 9	• Inferential Statistics with R (II) and Application (online module "Generalized Linear Models in R" due)
Day 10	• Data Science in the MNC: Recruit Japan and Vodafone (project proposal due)

Day 11 (Week 3)	• Work on Project
Day 12	• Work on Project
Day 13	• Project Coaching
Day 14	• Work on Project
Day 15	• Work on Project

Comments
N/A

Criteria for successful completion of the course
Test in session 6, group project paper, completion of online module

Assessment
• *Final project* • *Homework exercises* • *Test in session 6* • *Class participation* • *Project proposal*

Course literature (cases, papers, online material…)
Case studies: • Paillasse International SA: Global Market Selection (HBP) • Vodafone: Managing Advanced Technologies and Artificial Intelligence (HBP) • Recruit Japan: Harnessing Data to Create Value (IMD) • To JV or not to JV: That's the question for XTech in China (HBP) Online Module in DataCamp Course readings • Chapters 1, 2, 11-14 of "International Business and the New Realities" by Cavusgil, Knight, and Riesenberger (2020, 5th edition) • Chapters 1 and 2.1 of "An Introduction to Statistical Learning" by James, Witten, Hastie, & Tibshirani (2017, 8th edition) • Chapter 1 of "Hands-on Machine Learning" (you can skip the parts on "Reinforcement Learning" and "Batch and Online Learning") by Géron (2018, 8th edition)

Further readings suggested by the lecturer(s)
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