

BUSI300002

Platform Economy and Business Analytics

Program : Global Summer Program

Term : Summer 2024

Duration : June 4, 2024 – July 26, 2024

Contact Hours : 54

Fudan Credits : 3

Course Description:

“For every leader in the company, not just for me, there are decisions that can be made by analysis. These are the best kinds of decisions. They’re fact-based decisions.”

—— Amazon’s CEO, Jeff Bezos

This course will change the way you think about data and its role in business.

The growth of Internet has allowed people to communicate instantly across great distance, in effect shrinking the world faster and further than ever before. It has revolutionized the way people access information and do business. In the recent years, the boom of mobile devices (e.g., smartphones, tablets) and social networks (e.g., Facebook, Twitter) also leads to dramatic change in revenue models and marketing strategies employed by digital platforms.

This course is designed for students who want a broad understanding of the opportunities and challenges of digital platforms that are widely observed in modern economies. Platforms are transforming technology, banking, logistics, media industries to name a few. A platform brings in distinct groups of ecosystem partners who is to join the platform network under the condition that doing so creates value for them. Information and communication technologies (ICT) enable and drive digital platforms, but they do not alone guarantee the success of platform business. Platform businesses entail a set of unique challenges that traditional product businesses do not face. For example, platforms gain value from network effects. Yet, when making platform strategies, managers often rely on assumptions that apply to businesses without network effects. It is challenging to create network effects because platform providers inevitably run into the so-called “catch-22” problem – a situation in which no ecosystem partner wants to join the network first in the absence of other partners with whom they want to interact. Furthermore, platform providers rush into creating network effects by often giving away content and services for free instead of profiting from them. By doing so, they need to have different monetization strategies to sustain their business in the long run.

The first part of this course will help students to understand these challenges and find ways to overcome them. It will combine real-world examples (i.e., with Harvard Business School cases) from various industries with explanatory theory. To the end, students will learn that what lies at the core of the success of platform businesses is the platform provider’s ability to develop and manage an ecosystem where a host of partners’ co-innovation and adoption plays a key role.

In the meantime, businesses, governments, and individuals create massive collections of data as a byproduct of their activity. Increasingly, decision-makers rely on intelligent technology

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to analyze data systematically to improve decision-making. In many cases, automating analytical and decision-making processes is necessary because of the volume of data and the speed with which new data are generated.

In virtually every industry, data mining has been widely used across various business units such as marketing, finance and management to improve decision making. In this course, we discuss specific scenarios, including the use of data mining to support decisions in customer relationship management (CRM), market segmentation, credit risk management, e-commerce, financial trading and search engine strategies.

The second part of this course will explain with real-world examples the uses and some technical details of various data mining techniques. The emphasis primarily is on understanding the business application of data mining techniques, and secondarily on the variety of techniques. We will discuss the mechanics of how the methods work only if it is necessary to understand the general concepts and business applications. You will establish analytical thinking to the problems and understand that proper application of technology is as much an art as it is a science.

The course is designed for students with various backgrounds — the class does not require any technical skills or prior knowledge.

After taking this course you should:

1. Describe common business models used in e-business.
2. Understand the business model of content providers such as Netflix
3. Understand the capabilities of the search engine marketing
4. Know the key components of platform business models
5. Approach business problems data-analytically (intelligently). Think carefully & systematically about whether & how data can improve business performance.
6. Be able to interact competently on the topic of data mining for business intelligence. Know the basics of data mining processes, techniques, & systems well enough to interact with business analysts, marketers, and managers. Be able to envision data-mining opportunities.
7. Be able to identify the right BI techniques for various business problems. Gain hands-on experience in using Python and get ready for the emerging job positions that require familiarities with the data analytics.

Course Goals:

There are two primary and three secondary learning goals associated with this course:

1. Theoretical Knowledge: Describe how a business organization's choice of strategy and process are closely related to the firm's information management and communications capabilities. Develop a foundation to develop quantitative and analytical techniques to solve business problems with innovative perspectives. Analyze the core technological and business issues and identify critical factors for business decision-making. Evaluate information systems relations with strategy, process, and organization.
2. Critical and Integrative Thinking: Specifically, how do you formulate business problems in terms that make them amenable to being solved through a systematic modeling approach. Formulation is key as is the construction and evaluation of the model. This skill is also essential as a manager tasked with evaluating the proposals, progress, and work outputs of data science teams.
3. Modeling: You should be competent in applying basic statistical and machine learning methods to data. Your modeling expertise should be sufficient for you to manage data science teams.

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4. Hands-on Exercises: You are NOT going to learn without practicing the data analysis yourselves. This course also provides you with the lab session, where you could link the empirical results you obtained during the lab to the concepts you learned in the lectures.
5. Interpersonal Awareness and Working in Teams: We will have a term project to do. The term project is teamwork, which means you need to firstly form a team. Each team includes 4-5 students. In this project, you will firstly analyze the existing business models and then apply the data mining techniques you learned in the class to solve real-world problems. The deliverable is a written report summarizing what you have done and what you have achieved.

Prerequisites:

No prerequisites.

Textbook:

There is no required textbook.

References (optional):

- E-Commerce 2016: Business, Technology, Society” (12th ed) by Kenneth Laudon and Carol Traver
- Social Media Analytics and Practical Applications: The Change to the Competition Landscape, by Subodha Kumar and Liangfei Qiu
- Data Mining for Business Analytics: Concepts, Techniques, and Applications in R, by Galit Shmueli, Peter C. Bruce, Inbal Yahav, Nitin R. Patel, Kenneth C. Lichtendahl, ISBN: 1118879368
- Data Science for Business: What you need to know about data mining and data-analytic thinking, by Foster Provost, Tom Fawcett, O'Reilly Media, 2013 ISBN: 1449361323
- Learning Data Mining with Python, by Robert Layton, ISBN: 1787126781

Software: Anaconda Navigator (for Win-64, OSX-64, and Linux-64)

- Jupyter notebook
- Python 3

Schedule:

Lecture	Date	Time	Topic
1	June 4, 2024	Online Sessions Lecture 1 - 8: 08:30-12:00 BJT (UTC+8)	Overview of the Course
2	June 11, 2024		Web 2.0 and the Power of Social Media
3	June 18, 2024		Platform and Network Effect
4	June 25, 2024		Sharing Economy and Crowdsourcing: The cases of Uber and Topcoder

5	July 2, 2024		Monetization: How to Make Money?
6	July 9, 2024		Decision Tree Learning
7	July 16, 2024		Model Selection and Evaluation
8	July 18, 2024		Linear Regression, Logistic Regression
9	July 22-July 26, 2024	Offline Sessions Lecture 9 - 12: TBD	Association Rule Learning
10			K-Nearest Neighbor, Recommendation System using Collaborative Filtering
11			Neural Networks, Deep Learning
12			Final Exam

Assessment:

Assessment Task	Weighting
1. Class Participation	15%
2. Term Project	35%
3. Final Exam	50%

Grading Scale:

Grades	A	A-	B+	B	B-	C+	C	C-	D	F
100	90-100	85-89	82-84	78-81	75-77	71-74	66-70	62-65	60-61	<60

The instructor will use the grading system as applied by Fudan University.

Credit Point Value:

Component	Contact Hours	Fudan Credits
Academic Lectures	44	3
Thesis/Exam	4	
Field Trip	3	
Seminar	3	
Total	54	

At Fudan University, the duration of one contact hour is 45 minutes, and 18 contact hours are equivalent to 1 credit.

Note: The document is subject to change at the discretion of School of Management, Fudan University.