Introduction to Business Data Analysis

Mini MBA Program of Saigon Business School

Academic Year 2023 – 2024

Overview

Data is the most valuable asset of a business, to the point where many modern management theories hold that the company with more data is the wealthier company.

Having more data about customers will help businesses understand their customers, grasp trends, and even take strategic actions to adjust customer behavior in real time.

Having more data about competitors and markets will help businesses improve their competitive edge, create a clear difference, and thus seize the market.

Almost all key business activities generate new data in real time every day that managers need to monitor, analyze, and evaluate, such as sales, marketing; human resources fluctuations; financial indicators; production and service supply of the enterprise ...

For the general workforce, the ability to ask questions about data, the ability to collect and analyze data will be a strong competitive advantage, bringing in new sources of income, making better decisions, and improving productivity. A recent report by McKinsey Consulting identified data analysis as one of the most important skills to have in the economy at present.

The Business Data Analysis course in the Mini MBA program of Saigon Business School will help you answer essential questions such as: What data do managers need to pay attention to? How to collect and analyze data? How to turn data into knowledge and insights so that decisions can be made more accurately?

Course objectives

With the general meaning as above, the course will help students achieve the following specific objectives:

· Understand the role and significance of business data analysis in business

- Be able to use the most important data analysis methods proficiently without using too complex software
- Be able to visualize and "tell stories with data" from there to improve the ability to convert data into useful information for businesses
- Be able to collect data in key business activities; understand and evaluate the correct meaning of the most important indicators, thereby knowing how to make decisions based on data (data-driven business).

Structure

The course consists of 4 major parts:

- Part 1: Overview of data analysis and data analysis methods
- Part 2: Data management in business
- Part 3: Data-driven decision making
- Part 4: Business project or case studies

Detailed content

The course consists of 15 theoretical classes and 1 week of project or case study, lasting a total of 6 weeks. The detailed content is as follows:

Session	**Content**
PART 1: OVERVIEW OF DATA ANALYSIS & DATA ANALYSIS METHODS	

#1	**Overview of business data analysis** · Introduction to Business Data Analysis (Business Data Analysis) · Understanding the definition of "Data Literacy" (Data Literacy) and the importance of data literacy and data analysis in modern business · Instructions for using sample data files (used as learning materials to practice data analysis in the course) · Preparing data for analysis
#2	**Principles of data statistics in business** · The types of constants and variables in business data · Frequency distribution and variables · The impact of contrast, correlation, and interaction of data on business strategy · The law of large numbers (Law of large Numbers) · The capabilities of variables in business · Common data problems (clean data, data ethics, legal regulations to comply with ...)
#3	**Data sources by level and data collection tools** · Zero-party data - Active source data · First data - Primary data · Second data - Secondary data · Third-party data - Secondary data linked to third parties · Active big data collection tools

#4	**Descriptive analytics** · Understanding descriptive analysis in business data analysis · Survey marketing and data analysis exercise · Understanding econometrics · Understanding BI tools (MS Power BI, ...) to visualize numbers
#5	**Predictive analytics** · Predictive models · Data mining · Text analysis
#6	**Prescriptive analytics** · Computer vision · Operations research · Signal processing · Image processing · Natural language processing · Metaheuristic solutions in solving combinations
Part 2: Data management in business	

#7	**Data management** · Data architecture · Data quality · Master data management · Personal data privacy law
#8	**Data life cycle** · Understanding the data analysis lifecycle · Data creation journey · Understanding the source system and the method of extracting data from the source system · Data replication
#9	**Data storage** · Data storage and data warehouse · Data warehouse technologies · ETL/ELT concept
#10	**Data application management** · SQL language · Python language · R language · Data visualization reports · Ad-hoc data analysis reports · Executive data reports · Database and data modeling

Part 3: Data-driven decision making	
#11	**Overview of data-driven decision making** · Process and methods for decision-making through data · Problem identification · Bias sensors in data collection · Simpson's paradox effect · Decision trees and investment decisions
#12	**Data-driven decision-making methods:** · Method using maturity framework · The importance of the right data to generate the right strategy · Data setting method for business model (Business model canvas) · Data-driven mindset · Data-driven behavior
#13	**Data modeling and visualization** · Deep learning in Data science · Hypothesis testing: P Value and Pearson Correlation · Data streaming · Guiding customer service response scenarios through streamed data and identifying behavior sets

#14	**A/B Testing** · Understanding exploratory data analysis and visualization · Understanding A/B testing · Analyzing A/B testing results · Real-world examples of A/B testing · Practicing A/B testing design
Part 4: Business project or case studies	
#15	· Introduction to business project or case studies
#16 - 18	· Students work on a project with a business or solve a real-world case study about data-driven decision-making in businesses. · In the final class, students will present the results of their projects at SBS or at a partner business.

Learning materials

· Students will be granted access to the following learning systems by SBS:

o Google classrooms (accessed with SBS's own domain email): to view and download materials uploaded by the instructor each week.

o Academic portal to take attendance, track learning progress, exams, etc.

Assessment

· Students will be assessed based on three criteria:

o Attendance (Attendance – 10%): According to attendance, students who miss more than 20% of classes will not receive a certificate.

- Progress assessment (progress test – 30%): group assignments and individual assignments given by the instructor during the learning process.
- Business project or final case study (Final project – 60%)

· Students who meet the attendance requirements and achieve an overall grade of 5.0 or higher will receive a certificate for the "Business Data Analysis" course from SBS.

· Students who accumulate enough certificates for the entire course will receive a Mini MBA degree from SBS.