Columbia Business School
AT THE VERY CENTER OF BUSINESS

B8026-001: Applied Fundamental Analysis with Alternative Data

Fall A Term, 2023: 1.5 Credits

PROFESSOR: Matt Dell Orfano

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Office Phone: N/A

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Office Hours: By appointment.

TEACHING ASSISTANTS

TA 1: [TBD]

TA 1 Office Hours: [TBD]

TA 2: [TBD]

TA 2 Office Hours: [TBD]

Communications from the instructor and teaching assistants about the course will take place through Canvas. Students should make sure they regularly check for announcements and messaging notifications.

COURSE DESCRIPTION

Finding the ground truth regarding the positioning, operations, and prospects of a company, country, resource pool, or investment opportunity is challenging. It is imperative to go beyond the numbers in financial statements with alternative data and information. In this course, we will learn to accept that no predefined formula exists to identify, quantify, and project a complex organization operating in a constantly evolving global environment.

We will highlight the importance of sufficiently framing questions for intelligence gathering and analysis. The act of questioning serves as the very foundation of any investigation, project, or research endeavor. It sharpens our focus, guides our inquiry, and lays the groundwork for meaningful and actionable answers. The power to shape our understanding of the world, businesses, consumers, and individual actors lies in the answers and data we gather and the quality and direction of the questions we pose.

The confidence to ask the right questions and break down the subject of the analysis and associated materials will be a vital component of the learning. The student will work with real datasets and benefit from direct advice, experience, and practical insights from portfolio managers, research analysts, consulting data analysts, and others to derive value from the world of information within their reach.

The combination of traditional and alternative data with the right real-world questions serves to forecast future outcomes. The overarching framework for applied learning will be:

- Collection: Framing the appropriate questions and sourcing information and data in context of the subject being evaluated.
- Evaluation: Understating the reliability of the data and validity of the information value as presented.
- Analysis: Applying methodologies and frameworks, including financial frameworks to transform the data for concise decisions.
- Reporting: Frameworks for pushing the data to subject models, including financial models, presenting the derived intelligence in a useable format.
- Distribution: Informing user, including oneself and integrating feedback on the outcomes.

This course guides the student in acquiring alternative data, extracting insight from it, using it for projections, contextual business model evaluation, and determining "unknown unknowns". The learning journey is intended to be insightful, engaging, empowering, and supplement traditional data, such as financial statements for students pursuing all disciplines. The knowledge will provide leverage the world of data and analytics, broaden your horizons, and enhance your toolkit for informed decision-making.

PRE & COREQUISITE COURSES

The Financial Accounting and Corporate Finance are ideal to have but nor required, however students from other schools are encouraged to cross register if they have basic familiarity with company financial statements.

STUDENT LEARNING OUTCOMES

Modern alternative data resources and techniques will be shared and applied. The course will give students the frameworks and tools to make thoughtful decisions on which data makes sense, how it fits into the context of financial statements and business models, and most importantly, when to ignore and question data. The student will leave with the ability to apply the practical macro, micro, and alternative data to their analysis, no matter the variant circumstances requiring their newfound skills. Students will master the ability to:

- use rigorous thought processes to optimize available information,
- justify their selection of relevant data,
- make conscious choices to go deeper or not into the data based on its application,
- uphold appropriate ethics and identify the consequences of using data that is available, and
- avoid pitfalls of blindly following data when presented with an associated compelling narrative.

CLASSROOM NORMS AND EXPECTATIONS

Core Culture

Students are expected to adhere to CBS Core Culture in this class by being Present, Prepared, Participating.

Inclusion, Accommodation, and Support for Students

At Columbia Business School we believe diversity strengthens any community or business model and brings it greater success. The School is committed to providing all students with equal opportunity to thrive in the classroom by providing a learning, living, and working environment free from discrimination, harassment, and bias on the basis of gender, sexual orientation, race, ethnicity, socioeconomic status, or ability.

Students with documented disabilities may receive reasonable accommodations. Students are encouraged to contact the Columbia University's Office of Disability Services for information about registration.

Columbia Business School adheres to all community, state, and federal regulations as relate to Title IX and student safety. Read more about CBS' policies to support Inclusion, Accommodations and Support for Students here.

Honor Code and Academic Integrity

The Columbia Business School Honor Code calls on all members of the School community to adhere to and uphold the notions of truth, integrity, and respect both during their time in school, and throughout their careers as productive, moral, and caring participants in their companies and communities around the world. All students are subject to the Honor Code for all of their academic work. Failure to comply with the Honor Code may result in Dean's Discipline. Here you can review examples of Academic Misconduct which may result in discipline.

Course materials (videos, assignments, problem sets, etc) are for your use in this course only. You may not upload them to external sites, share them with students outside of this course, or post them for public commentary without the instructor's permission

Course Attendance Policies and Expectations

Students from all programs should review and be familiar with the MBA Core Attendance Policy and the Exam Policy.

The critical element of success in this class will be to demonstrate a real-world understanding of business and put it in the context of the available data. There will be guest speakers for most class sessions to add context and application around the concepts we will study. This exposure and the class's interactive nature are of great value, and as such, attendance during class is mandatory with reasonable exceptions granted when requested in advance.

Learning Teams:

Students will establish learning teams on the first day of class. Learning teams should be ~5 students and will be named for presentation purposes.

Labs & Homework:

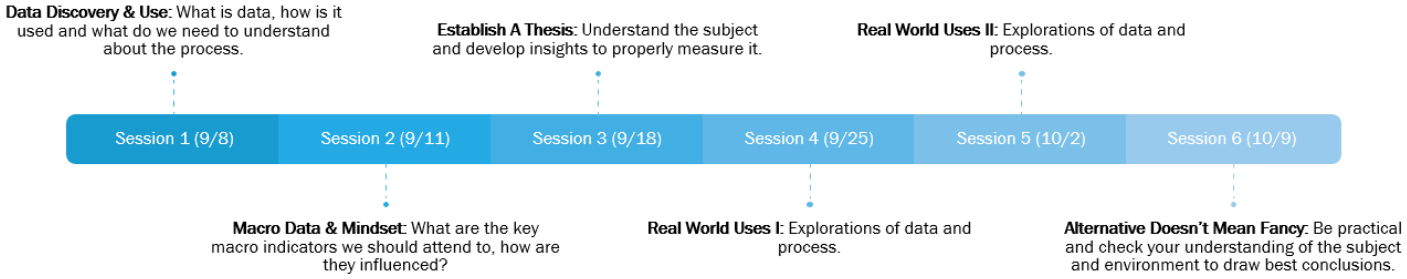
The lab module exercises will be completed in class. The homework will consist of documenting the same and a summary of findings done in PowerPoint and submitted on Canvas.

METHOD OF EVALUATION

Attendance & Participation	15%
Group Peer Evaluation	40%
Homework Submission	30%
Group Final	15%

COURSE ROADMAP/SCHEDULE

Course Framework:



Date	14:20	14:35	14:50	15:05	15:20	15:35	15:50	16:05	16:20	16:35	16:50	17:05	17:20	17:35
9/8/2023	Roadmap & Data Context					Break	Module 1 Lab			Break	Speaker / Lecture			
9/11/2023	Macro Data & Frameworks				HW Pres.	Break	Speaker / Lecture				Break	Module 2 Lab		
9/18/2023	Establish a Thesis				HW Pres.	Break	Speaker / Lecture				Break	Module 3 Lab		
9/25/2023	Real World Uses I				HW Pres.	Break	Case Discussion			Speaker / Lecture				
10/2/2023	Real World Uses II				HW Pres.	Break	Case Discussion			Speaker / Lecture				
10/9/2023	Intuition & Evidence				HW Pres.	Break	Module 6 Lab			Speaker / Lecture				Evaluation

Assignments & Specific Topics:

Session	Topics	Require Pre-Reading	Assignments Due
1: 9/8/2023	• What is data? • Sourcing data. • Data in a real-world context. • The data does not drive the problem; the problem drives the data. • Correlation does not equal causation.		
2: 9/11/2023	• CPI, PPI, PCE • Seasonal Adjustment • Retail sales data • Census bureau • ISM • Housing Starts	Starbucks Case	Lab 1 - Group
3: 9/18/2023	• Taking context from diffuse sources of information – create a thesis. • Using news sources to understand and frame a problem – what is a theme? • Structured vs. unstructured data, making sense of it. • Representative information around companies. • Observing the real-world understanding of a company's operations. • Framing your questions.		Lab 2 - Group
4: 9/25/2023	• Taking context from diffuse sources of information. • Using news sources to understand and frame a problem. • Observing the real world to understand a company's operations.	Radius Case	Lab 3 - Group
5: 10/2/2023	• Where have you been in the physical world? • Where are you going to the virtual world?		Lab 4 - Group

	• Design and implementation of web scrape to match KPIs.		
6: 10/9/2023	• Knowing what you can and cannot do and being thoughtful about the choices. • Do not take data at its face; following blindly is disastrously easy. • The more, the better? Less data can be more valuable when the cost outweighs the befit. • Focusing on what is possible in an analysis, not what would be perfect. • What are the key drivers of management incentives, are they aligned?		Lab 5 - Group
FINAL PROJECT: 10/16/2023			Final Due - Group

Labs:

Lab 1:

1. Build a framework for a business:
    a. What is on their website?
    b. Pull some basic filings.
    c. Understand what they show (or don't show).
2. Home Depot (public company)
    a. https://guides.library.columbia.edu/capitaliq (get your account)
    a. Using broker research reports accessible from significant banks through the library system to identify key revenue drivers, site which reports you looked at.
    b. Use the capital IQ excel plugin, use their projections template (download in the plugin) to download the standard data for Home Depot, and populate the template.

Lab 2:

1. Pick two proxy statements for S&P 500 companies.
    a. Compare and contrast the compensation incentive structures.
        i. Revenue, profitability, return on capital, etc.
        ii. How do you find out the last time they changed?
2. Use HOLT to conduct similar analysis

Lab 3:

1. Explain the concept of data cohorts
    a. What is the objective of attempting to segment a "starting point"?
    b. What elements could drive retention?
2. Acquiring a customer
    a. How do you think macro drove the customer acquisition?
    b. What could be micro elements that could drive customer acquisition?

Lab 4:

1. Look at personal credit card statements and identify as many attributes as possible in transactions.
    a. Think about the merchant, city, state, amount, date, payment aggregator, etc.)
2. Calendars
    a. What is the 4-5-4 calendar?
    b. How long is the Holiday season? Is it the same every year?

Lab 5:

1. For the following use public filings, press releases, transcripts, and company presentations.
    a. For VFC, locate and document the taxonomy of subsidiary brands in public filings, explain the relevance.
    b. For PNRA, explain the co-owned vs. franchise business models.
        i. What is the revenue recognition for each?
        ii. What would one observe with regards to total topline vs. same store sales?

c. For LULU, what is the best way to find store growth?
    i. Filings? Website?
d. For FIVE, where are stores located?
    i. Why does the geographic footprint matter?
e. For SBUX, what is the significance of its loyalty program?
    i. How does rev rec work when reloading onto a loyalty card?
f. For MCD, find management discussion regarding installing kiosks.
    i. What is the impact on sales and measurement of sales?
g. For NYT subscription business model, what are the plans (digital, print + digital, gift, cooking +crossword, etc.)
    i. How would this appear on your credit card, and how
    ii. How do you identify churn + gross adds?
h. For GPS, how does gift card accounting work?
    i. What about gift cards sold in CVS, etc.?
i. For AMZN 1P vs. 3P Marketplace
    i. What is the revenue model for each?
    ii. What happens when they acquire a business like WFM?
    iii. Identify all sources of topline in AMZN's business; which line items would be identified and captured in external data like a CC transaction, what would not?

Lab 6:

1. Pick a product on Amazon.
    a. Find every single attribute of the product that is made available to the user.
    b. Is your list comprehensive? Did you think about comments, shipping warranty, seller info, shipping times, etc.?
2. Pick a product on EBAY.
    a. Find every single attribute of the product that is made available to the user.
    b. Is your list comprehensive? Did you think about comments, shipping warranty, seller info, shipping times, etc.?