

**PEOPLE ANALYTICS AND STRATEGY (B7590)**  
**BIDDIND ONLY**

**PROFESSOR BO COWGILL**

Office: 955

E-mail: [bo.cowgill@gsb.columbia.edu](mailto:bo.cowgill@gsb.columbia.edu)

**TEACHING ASSISTANTS**

**CLASS TIMES AND LOCATION:**

TBD

---

---

**COURSE DESCRIPTION**

**Strategy is about understanding the drivers of firm performance.** This course continues the discussion from the core Strategy Formulation class -- but focuses on **internal, managerial and organizational** factors affecting strategic success. In particular, this course is about the human capital determinants of firm performance.

At the cutting edge of business and innovation, both new ideas and their execution depend critically on strategic human capital. Elite consulting firms like McKinsey or Bain, technology firms like Google, Amazon and Facebook, or finance companies like Goldman Sachs are at the forefront of investing heavily in human capital as a source of competitive advantage. This course is about human capital and how analytics can be used as a strategic management tool in a variety of settings.

These companies utilize analytical strategies to sharpen personnel management -- a set of strategies and technology called **people analytics**. This course is about human capital as a source of strategic advantage, and how companies, consultants, executives, bankers and technologists can harness empirical data to entrench and grow their advantage. The course also focuses on how people analytics relate to competitive advantage, i.e. the strategy of a firm and industry. We will examine industry and organizational features and focus on personnel strategies for firms based on their competitive advantage.

An important part of this course is the responsible and ethical use of these new technologies. The use of data in personnel decision-making raises questions about privacy, algorithmic bias, self-fulfilling prophecies and social impact. Blindness towards these issues not only raises ethical questions, but can also destroy shareholder value and sideline careers.

Learning in our course will occur primarily through discussion of cases and articles and guest lectures by executives in technology, banking and consulting. Understanding of advanced analytic methods beyond the MBA core is not necessary. A small number of data assignments can be completed in Excel.

## ABOUT THE INSTRUCTOR

Professor Cowgill has taught at Columbia Business School since 2016 and is also a research affiliate at CESifo, and a Term Member of the Council on Foreign Relations. His elective, *People Analytics and Strategy*, won The Aspen Institute's 2019 Ideas Worth Teaching Award. Professor Cowgill was also named to Poets and Quants' 2020 list of *Best 40 Business School Professors Under 40*.

Professor Cowgill received his Ph.D. from UC Berkeley, and won the Kauffman Junior Faculty Fellowship, the Robert Beyster Fellowship and the CESifo Prize. At Columbia, he also has affiliations with the Data Science Institute and Zuckerman Institute. His research interests are in applied microeconomics and strategy, particularly productivity, technological innovation, organizations and platforms.

## TARGET STUDENTS

This class is designed for all students interested in strategic leadership and its implications for modern workforce management, particularly in knowledge industries. This includes students with interests in strategy as it pertains to:

- **Strategy Consulting.** Most strategy and management consulting assignments involve clients' workforces. Many consulting firms, including BCG, Bain and McKinsey, have dedicated practices provide people-analytics services. These consulting firms also employ internal people analytics teams to analyze and diagnose their own human capital needs.
- **Banking and other professional services sectors:** The core resource of service sector companies is knowledge workers.
- **Technology:** The technology sector -- and particularly Google, Facebook and Amazon -- has been a developer and early adopter of people analytics practices.
- **General management:** Labor costs generally constitute around 60% of business costs. Managing organizational practices will become a major part of your job as you rise to executive ranks, irrespective of the specific firm or industry you join after graduation.

The course may also be useful for:

- **Engineering transitioners:** This class will cover examples and issues around how management problems can be solved with analytical perspectives originating in engineering.
- **HR Transitioners:** For students with a traditional, non-analytical HR background, the class will help transition into a more senior and strategic HR role. It may also help you develop more general technical and analytical skills using familiar examples.

## LEARNING OBJECTIVES

Student will learn to:

- Design a personnel strategy from scratch for an example company. Make prescriptions for personnel strategy based on a firm's competitive setting and its source of competitive advantage.
- Design interventions and collect data to evaluate and test hypotheses about people and workforce strategies.
- Solicit and respond to employee input and preference data in a sophisticated way.

- Assess black-box algorithms for quality, effectiveness and bias.
- Demonstrate awareness of legal, ethical and compliance aspects of collecting and utilizing data in a workforce setting.

### CONNECTION TO THE CORE

- *Strategy Formulation*: This course will start at the end of Strategy Formulation. It begins by exploring the implications of competitive dynamics and product strategy for acquiring, training, deploying and retaining human capital.
- *Business Analytics and Managerial Statistics*: The course will discuss and apply some of the methods in these classes, particularly around hypothesis testing and predictive analytics.

### REQUIRED COURSE MATERIALS

Each session will feature assigned readings which can be downloaded from the links below and/or read in the coursebook.

### CLASSROOM NORMS AND EXPECTATIONS

Students are expected to adhere to CBS Core Culture in this class by being Present, Prepared, and Participating. In particular, students are expected to:

- Complete the reading and discussion question assignments.
- Use the bathroom and eat before and after class. If you must go to the bathroom during class, please exit through the back of the classroom.
- You are required to fill out a course evaluation. These help our program develop over time. You will also have an opportunity to submit course feedback during the class so that we can tailor the experience to your reactions and interests as the class proceeds.
- Do not use electronic devices during class.

### COURSE ROADMAP/SCHEDULE

**Some articles below are behind a paywall. Please refer to your class' Canvas calendar page for direct access.**

*Note: I am planning guest speakers for 3-4 of the twelve classes. The exact timing of these will depend on the speakers' availability. Prior guest speakers have included:*

- *Pat Caputo, Director of People Analytics at Facebook.*
- *Rich Kleiman, NBA Agent, Founder and Partner at Thirty Five Ventures and Vice President, Roc Nation Sports.*
- *Carla Arellano, Partner and Director of People Analytics Practice at McKinsey.*
- *Julie Zide Mandel, Global Head of Organizational Research and Recruiting Assessment at Goldman Sachs.*
- *Jeremy Shapiro, Executive Director of Hiring and Workforce Analytics at Morgan Stanley.*
- *Brian Hughes, Uber's Head of Northeast & Midwest US*
- *Jasper Wang, Global Head of People Analytics. Bain & Company*
- *Beth Kaufman, Partner and Managing Director at BCG. Global Leader for BCG's People Analytics topic.*

*... and others.*

Session	Topic	Required Pre-Readings and Topics
1	Strategy and People: Introduction and Overview	<p><b>Required Reading:</b></p> <ul style="list-style-type: none"> <li>• Case: <a href="#">Sensing (and Monetizing) Happiness</a>.</li> <li>• <a href="#">How People Analytics Can Help You Change Process, Culture, and Strategy</a>, Harvard Business Review.</li> <li>• <a href="#">The Coronavirus thrusts Corporate HR Chiefs into the Spotlight</a>, The Economist, March 24, 2020.</li> </ul> <p><b>Related Reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Humanyze - Analytics For Better Performance</a>. Competitor company offering workplace sociometrics badges.</li> </ul> <p><b>Themes:</b></p> <ul style="list-style-type: none"> <li>• Introduction to the course: Strategic human capital as a foundation for competitive advantage. Analytics as a measurement toolkit for pursuit of this advantage.</li> <li>• Examples of people analytics applications: Promise, perils and the tradeoffs.</li> <li>• Course logistics and philosophy.</li> </ul>
2	Selection Theory: What Makes a Good Signal?	<p><b>Required Reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">How Employers Can Stanch the Hemorrhaging of Collegiate GPA Credibility</a></li> </ul> <p><b>Recommended Reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">What Causes Labor Turnover to Vary?</a> by Ed Lazear and Kristin McCue</li> <li>• <a href="#">Ask and You Shall Receive? Differences in Regrades in College</a>, by Cher Hsuehhsiang Li and Basit Zafar.</li> </ul> <p><b>Session Topics and Themes:</b></p> <ul style="list-style-type: none"> <li>• Why, how and when firms hire.</li> <li>• Theory of Selection and Signaling</li> <li>• Expected measurement challenges around Hiring</li> </ul>
3	Evaluating Selection Methods	<p><b>Required Reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">In Head-Hunting, Big Data May Not Be Such a Big Deal</a></li> <li>• <a href="#">There's no Such Thing as Big Data in HR</a></li> <li>• The Econometrics of Gatekeeping Experiments (on Canvas)</li> </ul> <p><b>Session Topics and Themes:</b></p>

		<ul style="list-style-type: none"> <li>• Solving the measurement challenges in selection.</li> <li>• The measurability of "What makes a good signal?"</li> <li>• Good performance metrics. Bad sample.</li> </ul>
4	Algorithmic Bias: Predictions vs. Objectives and Input vs Output Regulation	<p><b>Required Reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Algorithmic Fairness and Economics</a>, <i>Journal of Economic Perspectives</i></li> <li>• <a href="#">[Small Data+Zero Bias] beats [Big Data+Small Bias]</a></li> <li>• <a href="#">Reuters article on Amazon</a>.</li> </ul> <p><b>Recommended Additional Reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Biased Algorithms Are Easier to Fix Than Biased People</a>, New York Times</li> <li>• <a href="#">Want Less-Biased Decisions? Use Algorithms</a>. Harvard Business Review.</li> <li>• <a href="#">The Managerial Effects of Algorithmic Fairness Activism</a>.</li> </ul> <p><b>Session Topics and Themes:</b></p> <ul style="list-style-type: none"> <li>• Career, social and ethical pitfalls of irresponsible use of analytics.</li> <li>• The use of potentially biased historical data in decisions.</li> <li>• Having a biased measure of performance.</li> </ul>
5	Explore/Exploit and the Value of Noise: Case Study of Field Experiment in Algorithmic Bias	<p><b>Required Reading:</b></p> <ul style="list-style-type: none"> <li>• Case: <a href="#">Using Artificial Intelligence to Screen Human Intelligence</a>.</li> <li>• Chapter: <i>Bias and Productivity in Humans and Algorithms</i> (on Canvas)</li> <li>• <a href="#">Enlightened by Randomness</a>.</li> <li>• <a href="#">Are you a 'cultural fit' for your job? Machines can now tell</a>, BBC, by Chris Baraniuk.</li> </ul> <p><b>Recommended Reading:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Implementing Anti-discrimination Policies in Statistical Profiling Models</a>, by Pope, Devin G., and Justin R. Sydnor. <i>American Economic Journal: Economic Policy</i>.</li> </ul> <p><b>Session Topic and Themes:</b></p> <ul style="list-style-type: none"> <li>• Why are companies using AI anyway?</li> <li>• How does the underlying use affect bias?</li> <li>• Can "good" algorithms ever come out of "bad" data?</li> <li>• How can we use our toolkit from earlier sessions to check?</li> </ul>
6	Compensation Decisions and Salary History Data	<p><b>Required Reading</b></p> <ul style="list-style-type: none"> <li>• <a href="#">When the Competition Is Trying to Poach Your Top Employee</a>.</li> <li>• <a href="#">Why You Should Charge Clients More Than You Think You're Worth</a>.</li> <li>• <a href="#">How to Gracefully Leverage an Outside Job Offer</a>.</li> <li>• <a href="#">Setting the Record Straight: Using an Outside Offer to Get a Raise</a>.</li> </ul>

		<b>Recommended Reading:</b> <ul style="list-style-type: none"> <li>• <a href="#">The Diamond-Water Paradox.</a></li> </ul>
7	Salary History Bans	<b>Required Reading:</b> <ul style="list-style-type: none"> <li>• <a href="#">Don't Ask Me About My Salary History</a>, New York Times.</li> <li>• <a href="#">If a Law Bars Asking Your Past Salary, Does It Help or Hurt?</a>, New York Times.</li> <li>• Case: Alphapha's Salary History Dilemma (Canvas)</li> </ul> <b>Recommended Reading:</b> <ul style="list-style-type: none"> <li>• <a href="#">Do Workers Comply with Salary History Bans? Voluntary Disclosure, Adverse Selection, and Unraveling</a>, American Economic Association Papers and Proceedings.</li> </ul>
8	Internal Mobility, Retention and Organizational Market Design: Preference Data and Job Assignments	<b>Required Reading:</b> <ul style="list-style-type: none"> <li>• Case: <a href="#">Matching Googlers</a> (all pages).</li> <li>• <a href="#">Making a market in talent</a>, McKinsey Quarterly.</li> <li>• <a href="#">Choose your job: Army offers soldiers career agency to bolster retention</a>, <i>Army Times</i>, February 20, 2020.</li> <li>• <a href="#">Your Approach to Recruiting is All Wrong</a>. Harvard Business Review.</li> </ul> <b>Recommended Reading:</b> <ul style="list-style-type: none"> <li>• <a href="#">The Biggest Mistakes Companies Make With Hiring</a>, Wall Street Journal</li> <li>• Designing Organizational Versus Public Markets</li> <li>• <a href="#">New officer job assignment system will fight nepotism, Army leaders say</a>, <i>Army Times</i>, February 27, 2020.</li> </ul> <b>Topics:</b> <ul style="list-style-type: none"> <li>• Why do workers leave firms? How can we help workers stay while giving them career growth?</li> <li>• Internal labor markets are difficult to get right, and require that we work with a different type of data: Preferences data.</li> <li>• The course until now is mostly about verifiable characteristics. Data about self-reported preferences can be useful, but introduces gaming and strategic misrepresentation.</li> <li>• Application: Which workers should be assigned to which projects?</li> <li>• Using data to assign workers to job assignments.</li> <li>• Merits of various approaches using in-class simulation.</li> </ul>
19	Review and Wrapup	
Due Date for Final Project: Two Weeks after Final Class		

The following courses are extra sessions, planned in case a guest speaker cancels or if additional space is available.

E.1	Organizational Culture and People Analytics	<p>Case: <a href="#">Agoda: People Analytics and Business Culture</a>.</p> <p><b>Optional:</b> <a href="#">The Happy Tracked Employee</a>, Harvard Business Review.</p> <p>At many companies, adopting people analytics requires a shift in perspective and culture.</p> <p>How can these organizations change? What are the complementary organizational practices necessary to adopt and succeed with people analytics?</p>
E.2	Theory and Business Strategy: People and Production	<p>Read <a href="#">Strategy Formulation and Competitive Advantage</a> with an eye towards workforce implications.</p> <p>What's the relationship between competitive advantage and people strategy?</p> <p>How does this depend on the characteristics of your firm and industry?</p>
E.3	Incentives, Teamwork and Promotion. Teams as Units of Analysis.	<p><a href="#">Microsoft's Lost Decade</a>.</p> <p>Themes: a) Measurement and incentives for organizational citizenship. b) Teams as unit of analysis.</p> <p>Application: Promotion. Is promotion just like hiring?</p>

## USEFUL RELATED READINGS

- [How Much Does Your Boss Make? The Effects of Salary Comparisons](#)
- ["Acting Wife": Marriage Market Incentives and Labor Market Investments](#)
- [The Value of Bosses](#)
- [Social Preferences and the Response to Incentives: Evidence from Personnel Data](#)
- Cappelli, P., & Keller, J. (2017). [The historical context of talent management](#). Oxford Handbook of Talent Management. Oxford University Press.
- [Google: To TVC or Not To TVC?](#) By William Kerr.

## METHOD OF EVALUATION

Attendance	10%
Participation	25%
Case Discussion Questions	10%
Data Assignments	25%
Optional Final Project	30%

***All the components of the grade are individual assignments of type C with respect to the honor code, except where otherwise noted.***

Students who participate actively in class, answer pre-questions thoughtfully, and do well on the case discussion questions can receive a maximum grade of HP.<sup>1</sup> Students who wish to receive an H must also submit an individual final project as described below. There is no reason to do a final project unless you are going to put forth a serious effort on all components of the grade.

For students who cross register from outside of the business school (this is rare):

### Class Participation

An important course requirement is active involvement in class discussion. Your participation is essential for both your own learning and that of other students. Because the academic portion of our class is case-based, much of the learning will take place in class discussion.

Every student should arrive well-prepared and able to answer the day's assignment questions. Students should also expect to be cold called in class. In terms of the quality of participation, the best class comments should:

1. Articulate a clear stance or argument (as distinct from reciting course facts).
2. Forward the conversation beyond what has already been stated, i.e., by elaborating on a previously stated point, disagreeing with or advancing a new hypothesis.
3. Raise issues from past classes, current events, or other instances that are relevant to the discussion.
4. Use data, examples, or your own personal and professional experience to support arguments.
5. Show curiosity and a willingness to take others' ideas seriously and engage in good-faith debate. You may disagree with your fellow students, but avoid questioning the motives, seriousness or integrity of other students' perspectives.
6. Help others feel safe about participating by inviting further discussion or referring to points that have already been made by classmates.

Students are also expected to be present, prepared, and participate per the Columbia Core Culture. Use of electronic devices in class is not allowed. Unexcused absences will affect not only your attendance grade but also your class participation grade.

### Case Discussion Questions

There will be one case discussion question for each case. Case discussion questions will be posted as assignments in your Canvas Calendar. They require you to read the relevant case or article and give a short response to one or two questions. You must submit your answer to the discussion question through Canvas by 8AM on the day we discuss the relevant case in class.

---

<sup>1</sup> For students taking this class from outside the business school (this is rare), you can see CBS' grading scheme [here](#) for an explanation of what HP/H and etc mean. If your department requires you to be graded on a A-F scale, you will need to complete the requirements for an "H" to get an A, and an "HP" to get a B.



## Data Assignments

The course will feature three data assignments. In these assignments, students will be given a real dataset and asked to answer questions relating to a business decision at the intersection of people and data. After your analysis, you may also be asked to design what you would do as “next steps” -- either as implementation, further data collection or a pilot intervention or test. Depending on the assignment, you may be allowed to work in groups.

These assignments will take at most a few hours to complete and will feature one to four open-ended questions. Your answer should be backed with empirics from the example dataset. Although there is no single correct answer, the data assignments are not subjective opinion exercises in which all perspectives are equally correct. You have data -- the essence of this class is that data can lead you towards a more empirically grounded, verifiable answer to problems.

You will be asked to engage in the tradeoffs between your objectives, the quality of measurement, and the costs of making decisions. Write-ups should analyze and persuade rather than recite facts. There is a 700 word limit. Write-ups should be uploaded to Canvas by 8AM on the day the associated case is covered in class.

## Optional Final Project

The final project is for students who aim to receive an H in the course. Completing a final project does not guarantee that a student will receive an H, and receiving an H also requires doing well in class participation and on the data assignments. I will assign a case relating to people analytics, with discussion questions and a dataset. There is a 2500 word limit, excluding exhibits. While providing some details is necessary, you should emphasize analysis over description. This project will be due two weeks after the final class.

## **RELATED COURSES AT COLUMBIA BUSINESS SCHOOL:**

- [Lead: People, Teams, Organizations](#)
- [Economics of Organizational Strategy](#)
- [Modern Econometrics for Business](#)
- [Organizational Change](#)

## **OTHER USEFUL RESOURCES:**

- [Resources in Personnel Economics](#)
- [A Short Course in Personnel Economics](#) and [Teaching with Personnel Economics](#)