RUTGERS
School of Management
and Labor Relations

38:533:613
Selected Problems: HR Analytics and Issues

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Class time and location
7:20 – 10:00pm, Wednesdays
Levin 219

Office Hours
Wed. & Th. 2 -3pm
or by appointment

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REQUIRED MATERIALS

Readings will be accessible through the Canvas course webpage (https://tlt.rutgers.edu/canvas).

OPTIONAL MATERIALS

Students often request supplemental readings, either to assist with re-familiarizing themselves with statistics or HR Analytics. I recommend the following books:

- Schwab, D. P. (2005). *Research Methods for Organizational Studies* (2nd edition). Lawrence Erlbaum Associates: Mahwah, NJ.

- Cascio, W., & Bouderau, J. (2011). *Investing in People: Financial Impact of Human Resource Initiatives* (2nd edition). Pearson Education, Inc.

- Knaflic, C. N. (2015). *Storytelling with Data: A Data Visualization Guide for Business Professionals.* Hoboken, NJ: Wiley.
  - Note that the e-book is available through the Rutgers library system

- Bobko, P. (2001). *Correlation and Regression: Applications for Industrial and Psychology Measurement* (2nd edition). Thousand Oaks, CA: Sage Publications.

COURSE DESCRIPTION

This course is intended to give students the knowledge and experience needed to engage in a large-scale human resource analytic project. The goal of the course is to combine material learned in substantive areas of human resource management (Competitive Strategy, Workforce Flow, Developing Human Capital etc.) with HR Decision Making skills (Data-based Decisions, human resource analytics) and apply those knowledge and those skills to answer large-scale HR-focused business problem. Students will work both individually and in teams to design valid and reliable data, clean and prepare data, perform analyses, develop ways to visualize and present findings, write recommendations, and present their findings.

COURSE OBJECTIVES
The course is designed to accomplish the following objectives:
- Provide experience applying technical analytic skill to HR-related business problems
- Enhance students' critical thinking skills about the strengths and weaknesses of different research designs
- Give students experience managing and cleaning data for analysis
- Improve students' skills conducting basic data analyses to answer human resource questions
- Develop in-depth knowledge of the types of HR issues and questions that can be addressed using applied analytics
- Provide experience working together as part of an HR analytics team
- Enhance students' written and oral presentation skills with respect to effectively communicating the meaning and implications of analytical investigations and analyses.

SMLR LEARNING OBJECTIVES
This course is designed to help students attain the following SMLR learning objectives:

I) Written & Oral Communication — Communicate effectively at a level and in modes appropriate to an entry level professional.
- Communicate complex ideas effectively, in standard written English
- Analyze and synthesize information and ideas from multiple sources to generate new insights
- Produce high quality executive summaries
- Make an argument using contemporary and/or historical evidence
- Present ideas and arguments in a logical and effective way

II) Quantitative, Qualitative, and Analytical Skills — Apply appropriate quantitative and qualitative methods for research workplace issues.
- Formulate, evaluate, and communicate conclusions and inferences from quantitative information
- Apply quantitative methods to analyze data for HR decision making including cost-benefit analyses, ROI, etc. (HRM)
- Apply qualitative methods appropriately, alone and in combination with quantitative methods

III) Research Skills — Demonstrate an ability to collect, analyze and synthesize information to make logical and informed decisions impacting the workplace. Use evidence to evaluate hypotheses, theories and approaches to workplace issues.
- Analyze and synthesize information and ideas from multiple sources to generate new insights
- Assess and critique relevant evidence and research findings
- Use evidence-based analysis to appraise the validity of various hypotheses, theories, and approaches to workplace issues

V) Understanding Context — Evaluate the context of workplace issues, public policies, and management decisions
- Analyze issues related to business strategies, organizational structures, and work systems

VI) Application — Demonstrate an understanding of how to apply knowledge necessary for effective work performance
- Apply concepts and substantive institutional knowledge, to understanding contemporary developments related to work
- Understand the legal, regulatory and ethical issues related to their field
- Understand the internal and external alignment and measurement of human resource practices (HRM)

VII) Professional Development — Demonstrate an ability to interact with and influence others in a professional manner, and to effectively present ideas and recommendations
- Develop effective presentation skills appropriate for different settings and audiences
- Work productively in teams, in social networks, and on an individual basis

ASSIGNMENTS AND GRADING

Assignment	Weight

Homework Assignments: **40%**
   For most days, there will be a homework assignment, typically including a reading and
   reaction or statistical analysis.

Participation: **10%**
   Students are expected to come to class prepared, including having completed all the readings
   assigned for the day and corresponding homework assignments. As a high-level elective,
   your participation will be critical to the success of the class.

Analytics Project: **50%   (total)**
   Each student will be expected to conduct an analytics project, using data that will be provided to you
   on a hypothetical company. Information about the company and the data will be provided in class.
   You will need to come up with your own question, engage in the appropriate analyses, present your
   project, and write a final report.

   HR Analytics Question Proposal and Literature Review (15%; Due February 19): Provide a
   one-to two page description of your research question, why it is important, and how you plan to
   answer it. Then provide a 5 to 7 page integrated review of the literature on this topic. You should
   review at least 5 academic research papers on the topic in such a way as to tell a coherent account of
   the factors likely to influence the phenomenon you wish to study. The purpose of this assignment is to
   teach you to understand the previous research evidence regarding a particular topic area so that your
   Analytics project is built upon a solid evidence base. You should include your references (don't count
   toward page count).

   Executive Summary of Preliminary Findings (5%; Due March 25): Hand in an executive
   summary of your project. The purpose of this assignment is to ensure that you are on the right track
   with regard to your project, and to ensure that you are addressing your analytics question
   appropriately. Your analyses and results may change considerably between this executive summary
   and your final presentation and report. The executive summary can be a brief report or slides,
   whatever you feel is the most effective way to briefly convey your progress. It should not be a draft
   written report.

   Presentation (10%; April 15 or 22): Students will present their analytics project in class. Your
   presentation should be 15 minutes in length and include a Power Point (or comparable) presentation.
   You need to present you question, demonstrate its importance, describe how you examined it, present
   what you found, and provide clear and actionable recommendations. You will also need to answer
   questions from both me and the class about what you examined and found. You will also be required
   to provide feedback on the other students' presentations on the day you do not present.

   Written report (20%; Due May 6): At the end of the semester, you need to provide a formal report
   of your analytical project. The report should be between 10-15 pages (double-spaced; 12-point font;
   Times New Roman; 1-inch margins) of writing (it should not be just a slide deck), with unlimited
   additional tables and appendices as needed. The report should be written as if it were being provided
   to the organizations; it is not intended to be a research report (although you may want to draw upon
   some research findings). The report should include (but is not limited to) the following:
   - Executive summary of process and results (not part of 5-10 pages)
   - Description of question and its importance

- Data used and analysis procedures
- Interpretation of analyses
- Discussion of key findings
- Recommendations for practice
- References

Your grade will be determined by the quality of your question, how you addressed it, the quality of your analyses, how well you interpreted your analyses, the utility of your recommendations, and the clarity of your writing.

Grades will be computed mathematically based on the scores on the various grade elements. Final letter grades for the class will be determined as follows:

90-100	A
85-89.9	B+
80-84.9	B
75-79.9	C+
70-74.9	C
< 70	F

COURSE INFORMATION, POLCIES, AND RESOURCES

Course Website:
The course Canvas website (https://tlt.rutgers.edu/canvas) will be the primary mechanism that I will use to communicate information to the entire class outside of lecture. Copies of important material, readings, assignments, lecture slides, and grades will all be available on the course website. The course website will also have copies of the PowerPoint slides that I will use in class. I will try to make these all available at least one day before the scheduled lecture. Assignments will also be available on the course website.

Computer Use:
This class will make extensive use of Excel and the Data Analysis Add-In. Please make sure you can use the Data Analysis tools. It would also be helpful to review your Excel skills, as you will be making heavy use of the too throughout the class. Furthermore, computers will be required for class. That said, students are expected to only use the computers for class purposes.

Teaching Assistant "Help Hours" (by appointment): The Teaching Assistant for the course is Jung Ook Kim, a doctoral student in SMLR. By appointment, Jung will hold *help hours* to address your questions about how to use Excel, although he cannot directly help your homework or term report. To make an appointment, please contact Jung by email (jungook.kim@rutgers.edu) at least **24 hours** in advance during weekdays.

Assignment Policy:

Homework assignments are due at class time. Assignments handed in after class (or handed in to my office during class) may be marked down. Note, however, that even an "F" is much better than an "Incomplete." So it is always better to at least hand an assignment in late than not hand it in at all.

Accommodation:

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation: https://ods.rutgers.edu/students/documentation-guidelines. If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: https://ods.rutgers.edu/students/registration-form.

Academic Integrity:

All students enrolled in this course are responsible for abiding by the guidelines outlined in the University's Academic Integrity Policy. You can find the full policy at http://academicintegrity.rutgers.edu/academic-integrity-policy/. In particular, the principles of academic integrity require that a student do the following:

- *Properly acknowledge and cite all use of the ideas, results, or words of others.*
- *Properly acknowledge all contributors to a given piece of work.*
- *Make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.*
- *Obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.*
- *Treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.*
- *Uphold the canons of the ethical or professional code of the profession for which he or she is preparing.*

Attendance Policy:
   I do not take attendance, although I strongly suggest you attend all classes to receive a good grade, and more importantly, to understand all aspects of the course's content. If you miss class, for whatever reason, it is your responsibility to obtain the missed material and hand in the homework.

   If you miss class, please understand that it is your decision to do so. *It is not necessary to inform me that you have missed or will miss a class and informing me of such does not change any of the above policies*. I am happy to answer questions about the material in office hours; however, I will not reiterate entire lectures to those who missed class.

Student-Wellness Services
   Rutgers provides several resources to assist student who may be experiencing distress or mental health concerns. The following are some of the resources that are available to you if you need them.

   Counseling, ADAP & Psychiatric Services (CAPS)
   (848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901/ www.rhscaps.rutgers.edu/
   CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

   Violence Prevention & Victim Assistance (VPVA)
   (848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / www.vpva.rutgers.edu/
   The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

   Disability Services
   (848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / https://ods.rutgers.edu/
   The Office of Disability Services works with students with a documented disability to determine the eligibility of reasonable accommodations, facilitates and coordinates those accommodations when applicable, and lastly engages with the Rutgers community at large to provide and connect students to appropriate resources.

   Scarlet Listeners: **(732) 247-5555 /** http://www.scarletlisteners.com/
   Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.

LECTURE TOPICS AND ASSIGNMENTS

January 22:   Topic #1: Introductions and Review

        Readings:
- Pfeffer, J. & Sutton, R. I. *Why Every Company Needs Evidence-Based Management* in Pfeffer, J., & Sutton, R. I. (2006). *Hard facts, dangerous half-truths, and total nonsense: Profiting from evidence-based management*. Harvard Business Press.

January 29:   Topic #2: Basic Issues of HR Metrics and Analytics
        DUE:
        Homework for Topic#2
        Readings:
- Levenson, A., & Fink, A. (2017). Human capital analytics: Too much data and analysis, not enough models and business insights. *Journal of Organizational Effectiveness: People and Performance*, 4, 145-156.
- Fink, A. A., & Sturman, M. C. (2017). "HR Metrics and Talent Analytics." In D. Collings, K. Mellahi, & W. F. Cascio (Eds.) *The Oxford Handbook of Talent Management*, pp. 375-395. Oxford University Press.

February 5:   Topic #3: The Scientific Method, Hypothesis Testing, and Evidence-Based Management
        DUE:
        Homework for topic #3
        Readings:
- Schwab, D. P. (2005). *Research Methods for Organizational Studies*. Lawrence Erlbaum Associates: Mahwah, NJ. (Chapter 1)

February 12:   **No class Meeting today!**
        Topic# 4: Reviewing the existing literature
        Due:
        No Assignment Due today!
        Readings:
- Creswell, J.W. (2009). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. Sage Publications, Los Angeles. (Chapter2).

February 19   Topic #5: Research Design
DUE:
    HR Analytics Question Proposal and Literature Review
    Homework for topic #5
Readings:
- McGrath, J. E. (1981). Dilemmatics: The study of research choices and dilemmas. *American Behavioral Scientist*, 25(2), 179-210.

February 26:   Topic #6: Measurement & Survey Administration

DUE:
    Homework for topic #6
Readings:
- Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methdos*, 1, 104-121.
- Lietz, P. (2010). Research into questionnaire design: A summary of the literature. *International Journal of Market Research*, 52, 249-272.

March 4:   Topic #7: Survey Administration
DUE:
    Homework for topic #7
Readings:
- Dillman, D.A., Smyth, J.D., & Christian, L.M. (2009). *Internet, Mail, and Mixed Mode Surveys: The Tailored Design Method.* John Wiley & Sons: Hoboken, NJ. (Chapter 2).
- Dillman, D.A., Smyth, J.D., & Christian, L.M. (2009). *Internet, Mail, and Mixed Mode Surveys: The Tailored Design Method.* John Wiley & Sons: Hoboken, NJ. (Chapter 7).

March 11:   Topic #8: Statistical Modeling: Mediation
DUE:
    Homework for topic #8
Readings:
- Schwab, D. P. (2004). *Research Methods for Organizational Studies*. Lawrence Erlbaum Associates: Mahwah, NJ. (Chapter 19)
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, *51*(6), 1173.

March 18:   **Spring Break**

March 25:   Topic #9: Statistical Modeling: Moderation
              DUE:
                      Homework for topic #9
                      Executive Summary of Preliminary Findings
              Readings:
              - Schwab, D. P. (2004). *Research Methods for Organizational Studies*. Lawrence Erlbaum Associates: Mahwah, NJ. (Chapter 19)

April 1:   Topic #10: Big Data, AI, Ethics and Security of Data in HR Analytics
              DUE:
                      Homework for topic #10
              Readings:
              - Feffer, M. (2017). Beyond the numbers. *HR Magazine*, October, 61-64
              - Guzzo, R., Fink, A., King, E., Tonidandel, S., & Landis, R. (2015). Big Data Recommendations for Industrial–Organizational Psychology. *Industrial and Organizational Psychology*, 8(4), 491-508
              - Milam-Perez, L. (2017). The promise and peril of 'big data.' *HR Magazine*, March, 72-73.
              - Zielinski, D. (2017). Get intelligent on AI. *HR Magazine*, November, 60-61.
              - Mittelstadt, B. D., Allo, P., Taddeo, M., Wachter, S., & Floridi, L. (2016). The ethics of algorithms: Mapping the debate. *Big Data & Society*, 3(2), 1-21.
              - Nagele-Piazza, L. (2018). *Employees Are Key to Curbing Data-Breach Risks.* SHRM. November 20.
              - Nagele-Piazza, L. (2018). *Portable Devices Create Data-Security Challenges.* SHRM. November 20.

April 8:   Topic #11: Data Visualization and Story Telling

              DUE:
                      Homework for topic #11
              Readings:
              - Knaflic, C. N. (2015). *Storytelling with Data: A Data Visualization Guide for Business Professionals.* Hoboken, NJ: Wiley. (Chapter 1)
              - Knaflic, C. N. (2015). *Storytelling with Data: A Data Visualization Guide for Business Professionals.* Hoboken, NJ: Wiley. (Chapter 2)
              - Knaflic, C. N. (2015). *Storytelling with Data: A Data Visualization Guide for Business Professionals.* Hoboken, NJ: Wiley. (Chapter 7)

April 15:   Student Presentations
DUE:
- Presentation of HR Analytics Project
- Feedback on other student's HR Analytics Presentations

April 22:   Student Presentations
DUE:
- Presentation of HR Analytics Project
- Feedback on other student's HR Analytics Presentations

April 29:   Topic #12: Creating an Analytics Culture and Mindset and Wrap Up
DUE:
        Homework for topic #12
Readings:
- Boudreau, J., & Casio, W. (2017). Human capital analytics: Why are we not there yet? *Journal of Organizational Effectiveness: People and Performance*, 4, 119-126.
- Green, D. (2017). The best practices to excel at people analytics. *Journal of Organizational Effectiveness: People and Performance*, 4, 137-144.

May 6:   **DUE: Final Submission of Analysis Report**