

**Moneyball:
Analytical Sports Management**
May 6-10, 2019

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Aims and Objectives

This course explores the background and use of evidence-based management in sports with a focus on (association) football. We will study what analytics is and isn't, how it has been used in the major professional sports, and how it can be used to value and trade players, manage the player talent cycle, manage football clubs, and assess the quality of club and team management.

Course Structure

The course is divided into ten sessions of ninety minutes, one in the morning and one in the afternoon. For each session a core reading is required. There will be a brief introduction of the major issues covered in each session, followed by a discussion of issues arising from the readings.

Course Requirements

In preparation of the course:

- Carefully work through the required readings.
- Prepare a one-page summary (single-spaced) of a required paper to be distributed *before* class.

During the course:

- Lead the class discussion of the assigned paper.
- Contribute to class discussions when you are not the leader.

After the end of the course:

- Write a short report (2,000-3,000 words, 12pt font, excluding references) analyzing a specific transfer, league, squad, or club of your choice. As far as possible, you should use data to support the analysis.
The essay is due **June 21, 2019**.

A note about readings and other materials

The field of sports analytics is young, with many discoveries happening in real time. This is especially true in football, the main focus of our seminar. As a result, there is a shortage of high-quality academic work in this area; it also means that much of the cutting-edge analytical work appears online (blogs, social media, etc.) and is not peer-reviewed. Our discussions are intended to make you knowledgeable consumers of research undertaken by industry; I will also provide information about some of the more prominent platforms and sources during the seminar.

I recommend that students read *Moneyball* by Michael Lewis and watch the movie based on the book prior to the seminar.

Lewis, Michael. 2004. *Moneyball: The Art of Winning an Unfair Game*. New York: W.W. Norton.

May 6: Analytics And Management In Professional Sports

Session 1: Analytics and Management

Required Readings

Davenport, Thomas H. 2006. "Competing on Analytics." *Harvard Business Review*, January.
<https://hbr.org/2006/01/competing-on-analytics>

OR

Davenport, Thomas H. 2013. "Analytics 3.0." *Harvard Business Review*, December.
<https://hbr.org/2013/12/analytics-30>

Session 2: Analytics in Professional Sports (and Football)

Required Readings

Alamar, Benjamin and Vijay Mehrotra. "Beyond 'Moneyball': The Future of Sports Analytics."

- <http://analytics-magazine.org/beyond-moneyball-the-future-of-sports-analytics/>
- <http://analytics-magazine.org/beyond-moneyball-the-rapidly-evolving-world-of-sports-analytics-part-i/>
- <http://analytics-magazine.org/sports-analytics-part-2/>
- <http://analytics-magazine.org/analytics-a-sports-part-iii-improving-resource-allocation-with-portfolio-decision-analysis/>

OR

Davenport, Thomas H. 2014. "Analytics in Sports: The New Science of Winning." *International Institute for Analytics*. https://www.sas.com/content/dam/SAS/en_us/doc/whitepaper2/ii-a-analytics-in-sports-106993.pdf

May 7: Players As Assets

Session 3: Analyzing and Managing the Market For Players

Required Readings

Read any 3 of the CIES Football Observatory Monthly Reports available at:

<http://www.football-observatory.com/-Reports->

- “Competitive Balance: A Spatio-Temporal Comparison”
- “Ten Years Of Demographic Analysis of the Football Players’ Labour Market in Europe”
- “World Football Expatriates: Global Study 2018”
- “Player Turnover Strategies in The Five Major European Leagues”
- “Is There An Optimum Squad Age To Win in Football?”
- “The Transfer of Footballers: A Network Analysis”
- “Transfer Market Analysis: Tracking the Money (2010-2017)”

Frick, Bernd. 2007. “The Football Players’ Labor Market: Empirical Evidence from the Major European Leagues.” *Scottish Journal of Political Economy* 54 (3): 422-46.

Optional Readings

Altman, Daniel. “Managing the player portfolio”

<http://www.northyrdanalytics.com/NYA-managing-player-portfolio.pdf>

Kuper, Simon, and Stefan Szymanski. 2012. *Soccernomics*. London: Harper Collins. Chapters 2-4.

Szymanski, Stefan. 2015. *Money and Football: A Soccernomics Guide*. New York: Nation Books. (Ch.2: Players)

Szymanski, Stefan, and Ron Smith. 1997. “The English Football Industry: Profit, Performance and Industrial Structure.” *International Review of Applied Economics* 11 (1): 135-153.

Session 4: Understanding Player (and Team) Quality

Required Readings

Gerrard, Bill. “Is The Moneyball Approach Transferable To Complex Invasion Team Sports?” *International Journal of Sport Finance* 2 (4): 214-230.

OR

McHale, Ian G. and Samuel D. Relton . 2016. “Player Ratings in Soccer,” in *Handbook of Statistical Methods and Analyses in Sports* ed. Jim Albert , Mark E. Glickman , Tim B. Swartz and Ruud H. Koning. Boca Raton: CRC Press (pp.373-384).

Optional Readings

- Anderson, Chris and David Sally. 2013. *The Numbers Game: Why Everything You Know About Football Is Wrong*. London: Penguin. (Chs. 8-9)
- Franks, Alexander M., Alexander D'Amour, Daniel Cervone, and Luke Bornn. 2016. "Meta-Analytics: Tools For Understanding the Statistical Properties of Sports Metrics." *Journal of Quantitative Analysis in Sports* 12 (4): 151-165.
- McHale, Ian G., and Samuel D. Relton. 2018. "Identifying Key Players in Soccer Teams Using Network Analysis And Pass Difficulty." *European Journal of Operational Research* 268 (1): 339-47.
- Oliver, Dean. 2004. *Basketball on Paper: Rules and Tools for Performance Analysis*. Dulles, VA: Potomac Books.
- Shea, Stephen M., and Christopher E. Baker. 2013. *Basketball Analytics: Objective and Efficient Strategies For Understanding How Teams Win*. CreateSpace Independent Pub. Platform.
- Torgler, Benno, and Sascha L. Schmidt. 2007. "What Shapes Player Performance In Soccer? Empirical Findings From A Panel Analysis." *Applied Economics* 39 (18): 2355-2369.

May 8: Analytics and Players As Employees

Session 5: Signing and Exiting A Player

Required Readings

Geey, Daniel. "The Transfer Window: What You Need To Know."

<https://danielgeey.com/the-transfer-window-what-you-need-to-know/>

"How a transfer really works - agents, tapping up, WhatsApp and why clubs can't recoup fees with shirt sales"

<https://www.independent.co.uk/sport/football/transfers/transfer-window-premier-league-revealed-how-a-transfer-deal-really-works-a7837031.html>

Optional Readings

Dobson, Stephen, and John Goddard. 2011. *The Economics of Football*, 2nd ed. Cambridge: Cambridge University Press. (Ch. 7: Determinants of Professional Footballers' Salaries).

Geey, Daniel. "The One Stop Shop To Understanding the Transfer Window."

<https://danielgeey.com/the-one-stop-shop-to-understand-the-transfer-window/>

Tunaru, Radu, Ephraim Clark, and Howard Viney. 2005. "An Option Pricing Framework For Valuation of Football Players." *Review of Financial Economics* 14 (3-4): 281-295.

Session 6: Managing Players As Employees

Required Readings

Lynam, Ian. "Pay Smart." Video (<https://vimeo.com/256945189>) and presentation slides.

AND

Gerrard, Bill. 2017. "Analytics, Technology and High Performance Sport," in *Critical Issues in Global Sport Management* ed. Nico Schulenkorf and Stephen Frawley. New York: Routledge.

OR

Carling, Christopher, Thomas Reilly, and A. Mark Williams. 2007. *Handbook of Soccer Match Analysis: A Systematic Approach to Improving Performance*. Abingdon: Routledge. (Ch. 1: Introduction to Soccer Match Analysis)

May 9: Football Analytics and Organization

Session 7: Evidence-Based Management

Required Readings

Pfeffer, Jeffrey, and Robert I. Sutton. 2006. "Evidence-Based Management." *Harvard Business Review* 84 (1): 63-74.

Rousseau, Denise M., and Brian C. Gunia. "Evidence-Based Practice: The Psychology of EBP Implementation." *Annual Review of Psychology* 67 (2016): 667-692.

Optional Readings

Rousseau, Denise M. 2012. "Envisioning Evidence-Based Management" In *The Oxford Handbook of Evidence-Based Management*. New York: Oxford University Press.

Session 8: Decision Quality – Hiring Managers and Players

Required Readings

Rousseau, Denise M. 2018. "Making Evidence-Based Organizational Decisions In An Uncertain World." *Organizational Dynamics* 47 (3): 135-146

"The dynamics of Swansea City's transfer team: The key roles of the main players explained - and who has the final say on signings"

<https://www.walesonline.co.uk/sport/football/dynamics-swanea-citys-transfer-team-13216285>

"Michael Edwards and how Liverpool's sporting director became the man behind big name transfers"

<https://www.liverpoolecho.co.uk/sport/football/transfer-news/michael-edwards-liverpool-fsg-klopp-12124673>

Optional Readings

Bridgewater, Sue, Kahn, Lawrence M. and Goodall, Amanda H. 2011. "Substitution and Complementarity Between Managers and Subordinates: Evidence From British Football." *Labour Economics* 18 (3): 275-286.

Besters, Lucas M., Jan C. van Ours, and Martin A. van Tuijl. 2017. "Effectiveness of In-Season Coach Dismissal." In *Handbook of Statistical Methods and Analyses in Sports* ed. Jim Albert , Mark E. Glickman , Tim B. Swartz and Ruud H. Koning. Boca Raton: CRC Press. pp. 385-400

Dobson, Stephen, and John Goddard. 2011. *The Economics of Football*, 2nd ed. Cambridge: Cambridge University Press. (Ch. 9, The Football Manager).

Anderson, Chris and David Sally. 2013. *The Numbers Game: Why Everything You Know About Football Is Wrong*. London: Penguin. (Ch. 11: the Young Prince)

May 10: Designing An Analytical Football Club

Session 9: Diagnosing Alignment

Required Readings

“The Congruence Model: A Roadmap for Understanding Organizational Performance.” Mercer Consulting

McAfee, Andrew, and Erik Brynjolfsson. 2012. “Big Data: The Management Revolution.” *Harvard Business Review* October.
<https://hbr.org/2012/10/big-data-the-management-revolution>

Optional Readings

Anderson, Chris and David Sally. 2013. *The Numbers Game: Why Everything You Know About Football Is Wrong*. London: Penguin. (Ch.10 Stuffed Teddy Bears)

Davenport, Thomas H. 2014. “What Businesses Can Learn From Sports Analytics.” *MIT Sloan Management Review* 55 (4): 10-13.

Nadler, David A., and Michael L. Tushman. 1980. “A Model For Diagnosing Organizational Behavior.” *Organizational Dynamics* 9 (2): 35-51.

Szymanski, Stefan. 2015. *Money and Football: A Soccernomics Guide*. New York: Nation Books. (Ch.7: Strategy)

Session 10: Building Competitive Analytical Advantage

Required Readings

Alamar, Benjamin C. 2013. *Sports Analytics: A Guide for Coaches, Managers, and Other Decision Makers*. New York: Columbia University Press. (Chs.7-8)

OR

Davenport, Thomas H., Jeanne G. Harris, David W. De Long, and Alvin L. Jacobson. “Data To Knowledge To Results: Building An Analytic Capability.” *California Management Review* 43 (2): 117-138.

OR

Pfeffer, Jeffrey, and Robert I. Sutton. 2006. “Treat Your Organization as a Prototype: The Essence of Evidence-Based Management.” *Design Management Review* 17 (3): 10-14.

Online Football Analytics Sources

Blogs

- Keith Lyon's sports analytics links: <https://www.scoop.it/t/liasing>
- StatsBomb: <https://statsbomb.com>
- OptaPro: <https://www.optasportspro.com/about/optapro-blog/>
- Martin Eastwood: <http://www.pena.lt/y/blog.html>
- American Soccer Analysis: <https://www.americansocceranalysis.com>
- FiveThirtyEight (Sports): <https://fivethirtyeight.com/sports/>
- Mark Taylor: <http://thepowerofgoals.blogspot.com>
- Laurie Shaw: <http://eightyfivepoints.blogspot.com>
- Goal Impact: <http://www.goalimpact.com/blog/>
- Deloitte: <https://www2.deloitte.com/uk/en/pages/sports-business-group/articles/our-publications-in-sport.html>
- Daniel Altman: <http://www.northyrdanalytics.com/blog/>
- Sander Ijtsma: <http://11tegen11.net>