

Fernando Martel García

Contact Details

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Other:     

Professional Experience

Microsoft Inc.

Principal Data Scientist, Windows Data, 2024–to date

- Led novel backlog prioritization framework for Windows. Enabled USD ROI ranking of features across teams, and a feedback loop for continuous improvement. Achieved 100% OKRs (peer median 66%). Endorsed by the Corporate VP.
- Initiated Windows business model innovation effort. Leveraged platform economics to identify opportunities to 2-3x annual revenue (\$20B+) over five years. Got buy-in from Marketing, Business Planning, and Strategy.
- Influenced cross-team strategy to maximize retention of 500M+ Windows 10 devices near end of service. Resulted in timelier retention metrics, adoption as OKR, and the first experiment designs to measure lift of retention initiatives.

Principal Data and Applied Sciences Manager, Windows Engineering, 2021–2023

- Initiated, designed, and led first experiment to measure lift of a full OS release (Windows 11). Assembled and coordinated 38-person v-team across 8 orgs. C-suite extended experiment thrice, influencing major product decisions.
- Coached team on agile principles, scrum, and intake processes to handle fire drills, *ad hoc* requests, and changing roadmaps. Helped boost team Thrive Score 5 points above company average, 8 points above data org (range 0-100).
- Initiated, designed, and led the first randomized controlled trial to measure the lift of personalized recommendations in Windows Start Menu. Resulted in a >50% lift in CTRs, and solutions to enable faster, trustworthy experimentation.
- Coached feature crews on the use of prioritization techniques, experiment checklists, templates, rhythm of business, and debugging. Achieved 150% of our experimentation goal.

Marriott International Inc.

Director of Marketplace Analytics, 2019–2020

- Evangelized machine learning, goal setting (OKRs), and customer discovery frameworks to internal startups, resulting in the adoption of a more analytical process, greater resource commitments, and more targeted marketing campaigns.
- Led omni-channel instrumentation, measurements, and reporting for Eat Around Town initiative, resulting in more accurate, visible, granular, and timely omni-channel performance tracking.
- Created customer acquisition reference model and planning process for new initiatives, resulting in significantly more credible launch plans from the Loyalty Marketing and Finance departments.
- Embedded myself in a hotel for 3 days, identifying \$100M+ of potential revenue lift in analytics opportunities.

Nike Inc.

Director of Product Management, Advanced Analytics and Machine Learning, 2018–2019

- Built foundational self-serve Machine Learning and AI infrastructure, and new demand signals estimated to yield \$100-\$300M in additional revenue through better demand forecasts.
- Servant leader for the “Demand Sensing Transformational Initiative”, the most important initiative in Nike Inc.’s digital transformation. Rated highly successful in leadership skills in a highly matrixed organization.
- Used customer-centric selling techniques to build relationships across a large, complex, and highly matrixed Fortune 500 company, persuading a 1,500 strong org to begin adopting machine learning, and automation.

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- Hired product team, created lean ROB, and built MVP specs for monitoring and observability solution to bring stability, visibility, and continuous improvement to the forecasting function, which supports \$10B+ in annual purchases.

Cambridge Social Science Decision Lab Inc.

Technical Founder, 2013–2018

- Built “automated statistician” enterprise software so business users of all skill levels can measure the lift of new initiatives using *offline* A/B tests.
- Communicated vision and developed **patent-pending technology**, resulting in a **\$2,000,000 seed round**, and software development agreement for equity swap.
- Set company goals, agreed individual Objectives and Key Results, and led agile software development team, delivering MVP on time, and within budget.
- Deployed customer-centric selling techniques to manage hiring, and customer development process. Achieved a 75% job offer acceptance rate, and above average conversion metrics.

Harvard T.H. Chan School of Public Health

Research Fellow, Department of Global Health and Population, 2010–2012

- Led the introduction of applied game theory and causal inference to flagship doctoral seminar on health systems reform. Resulted in a Lecturer job offer (declined).
- Designed and implemented a politically sensitive field experiment with pre-registration, sequential hypotheses, and verifiable randomization. Published in the Journal of Development Economics (Impact Factor 5.1).
- Demonstrated how problematic missing data is fundamentally a causal question, and how to diagnose it in randomized control trials. **Earned seven citations from the leading researcher in the field.**

World Bank Group

Staff Economist, Development Economics Prospects Group, 2004–2006

- Implemented state-of-the-art automated data systems and time series forecasting models. Resulted in more detailed, timely, and frequent reports, with a smaller team.
- Communicated World Bank forecasts and analytical reports. Invited to brief World Bank President, Chief Economist, Executive Board, and to present findings at professional conferences.
- Created first interactive online version of a flagship report. Wrote proposal, got buy-in from all departmental stakeholders, and raised \$40,000 in internal funds. Ranked “Outstanding/best practice” in annual performance evaluation.

Research Analyst, Development Economics Prospects Group, 2000–2003

Consultant, Development Economics Prospects Group, 1999

Other Professional Experience

Consultant, 3ie Replication Window 3: HIV Prevention, Int. Initiative for Impact Evaluation (3ie), 2014

Consultant, Development Impact Evaluation Initiative, World Bank Group, 2013.

Peer Reviewer, Political Economy Analysis Toolkit, International Monetary Fund, 2013.

Consultant, World Institute for Development and Economics Research, United Nations University, 2013

Intern, Office of the Assistant Sec. for Int. Affairs, U.S. Department of the Treasury, 1999.

Intern, Government Relations Group, Morgan Stanley Dean Witter, 1998.

Trainee, European Commission, Unit A2: Middle East, Directorate General IB, 1997.

Intern, J.P. Jenkins, Market Makers, City of London, 1995.

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Education

Ph.D. Political Methodology (causal inference), New York University, 2010. **Completed in 4 years.**
M.A. International Economics, Johns Hopkins University, 1999. **Graduated with distinction.**
B.A. Politics, Philosophy and Economics, Oxford University, 1996

Publications

Peer reviewed publications

De La O, Ana L. and Pablo Fernández-Vázquez and Fernando Martel García (2023) **Federal and state audits do not increase compliance with a grant program to improve municipal infrastructure: A pre-registered field experiment.** *Journal of Development Economics* 162 (May). Replication data and code are available at [Harvard Dataverse](#)

Martel García, F. (2016). **Replication and the Manufacture of Scientific Inferences: A Formal Approach.** *International Studies Perspectives* 17 (4), 408-425.

Martel García, F., and L. Wantchekon (2015). **A graphical approximation to generalization: Definitions and diagrams.** *Journal of Globalization and Development* 6 (1), 71-86.

Martel García, F. (2014). **Democracy is good for the poor: A procedural replication of Ross (2006).** *International Studies Perspectives* 1 (3). (This paper “is in the top 10% of all research outputs ever tracked by Altmetric,” [Altmetric](#), accessed 1/22/2018.) Replication data and code are available at [Harvard Dataverse](#)

De La O, Ana L., and F. Martel García (2014). **Do federal and state audits increase compliance with a grant program to improve municipal infrastructure (AUDIT study): study protocol for a randomized controlled trial.** *BMC Public Health* 14 (912). (To the best of my knowledge this is the first study protocol for a RCT in political science published in a peer reviewed journal.)

Martel García, F., and L. Wantchekon (2010). **Theory, External Validity and Experimental Inference: Some Conjectures.** *The Annals of the American Academy of Political and Social Science* 628 (1), 132-147.

Registered Research Protocols

De La O, Ana L., and F. Martel García (2012). **AUDIT study: To determine whether federal and state audits increase Mexican municipalities’ compliance with a federal grant program to improve municipal infrastructure.** *International Standard Randomized Controlled Trial Number Register (ISRCTN22381841).*

Academic working papers

Anastasopoulos, L. and F. Martel García (2016). **Do Kenyan Teenagers Respond to HIV Risk Information? A Procedural Replication of Dupas (2011).**

Martel García, F., and L. Wantchekon (2013). **A Graphical Approximation to Generalization: Definitions and Diagrams.** WIDER Working Paper WP/2013/082.

Martel García, F. (2013). **Definition and Diagnosis of Problematic Attrition in Randomized Controlled Experiments.**

Martel García, F. (2013). **A Unified Approach to Generalized Causal Inference.**

Martel García, F. (2012). **Small, Slow, and Diminishing: The Effect of Democracy on the Under-five Mortality Rate.**

De La O, Ana L., and F. Martel García (2011). **Institutions, ‘Elite Capture’ and Welfare Inequality in Mexico.**

De La O, Ana L., and F. Martel García (2011). **How are Mayors Held Accountable Without Re-election? A Theoretical Primer.**

Martel García, F. (2010). **Democratic Compacts, Institutional Accountability, and Health Outcomes.**

Martel García, F. (2010). **Causal Inference in Time Series Cross Section: Process Matching.**

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Patents

Martel García, F., [Methods, systems, and articles of manufacture for the management and identification of causal knowledge](#). U.S. Patent application US 15/037,190, filing date November 24, 2014.

Professional reports

[Global Economic Prospects](#). World Bank. Contributor to six editions: 2001–2006.

[Global Development Finance](#). World Bank. Contributor to six editions: 2001–2006.

[Short-term Risk Monitoring Report](#). Financial Risk Committee and Executive Board, World Bank. Monthly global business cycle forecasts and analysis.

China Quarterly Update. World Bank China Office. Contributed quarterly forecast and analysis of China's external economic environment. 2004–2006.

Field Research and Data Collection

Randomized controlled trial investigating the effect of federal and state level audits on municipal accountability. Fielded endline survey. 2011–2012.

Observational study investigating the social and institutional determinants of municipal infrastructure investment location choices. Trained and equipped Mexican auditors with GPS devices to collect location data for municipal infrastructure investment. 2011–2012.

Awards and Honors

Oar Award, recognizing individuals and who go above and beyond to live and promote Microsoft and Windows + Devices cultural principles, 2022.

McCracken Fellowship, full tuition and stipend, New York University, 2006–2010.

4 Spot Awards (\$300–\$500) “recognizing and expressing appreciation for extraordinary efforts”, World Bank, 2000–2005.

Bologna Center Fellowship, half tuition, Johns Hopkins University, 1998–1999.

Research Grants

Research Grant, \$5,000, Leitner Program in International and Comparative Political Economy, Yale University (with co-investigator).

Research Grant, \$7,000, Institution for Social and Policy Studies, Yale University (with co-investigator).

Summer Research Grant, \$1,500, New York University, 2007–2009.

Travel Grant, \$500, New York University, 2008.

Conferences and Seminars

Invited Academic Conferences

[Replication and the Manufacture of Scientific Inferences: A Formal Approach](#). Joint Statistical Meeting, Chicago, August 2, 2016.

[Replication and the Manufacture of Scientific Inferences: A Formal Approach](#). 3ie Replication Consultation, District of Columbia, May 29, 2015.

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Procedural Replication: Improving Research Practice. International Studies Association Annual Convention, Toronto, March 28, 2014.

A Solution to Generalized Causal Inference. X Meeting of the Experiments in Governance and Politics Research Network, Columbia University, New York November 23, 2013.

Testing Generalizable Theories with Social Experiments. UNU-WIDER Project Workshop on Experimental and Non Experimental Methods in the Study of Government Performance, New York University, August 22-23, 2013.

Understanding and Diagnosing Problematic Attrition in Randomized Controlled Experiments. IX Meeting of the Experiments in Governance and Politics Research Network, University College London, May 31–June 1, 2013.

Identifying Causal Effects in Field Experiments with Attrition: A Graphical Approach. Midwest Political Science Association Annual Conference, April 11–14, 2013.

Understanding and Diagnosing Problematic Attrition in Randomized Controlled Experiments. Applied Statistics Workshop, Harvard University, Department of Government, February 20, 2013.

Small, Slow, and Diminishing: The Effect of Democracy on the Under-five Mortality Rate. Harvard University, Department of Government, September 18, 2012.

The Effect of Democracy on the Under-five Mortality Rate. Harvard School of Public Health, Department of Global Health and Population, April 25, 2012.

Democratic Political Order, Institutional Accountability, and Health Outcomes, Harvard University, Department of Government, February 27, 2012.

Invited Professional Conferences

Testing How External Audits Can Improve Service Delivery in Mexico. ieGovern Impact Evaluation for Public Sector Governance and Justice workshop, Dakar, Senegal, June 24–27, 2013.

Using Randomized Controlled Trials to Improve Policy. ieGovern Impact Evaluation for Public Sector Governance and Justice workshop, Dakar, Senegal, June 24–27, 2013.

Global Economic Risks and the Colombian Economy. Organized by the Colombian Exporters Association and *La República* newspaper. Bogota, Colombia, March 23, 2006.

APEC Study Centers Consortium Annual Meeting. Viña del Mar, Chile, May 27, 2004.

Making Trade Work for the Poor. Advanced Course for Government Employees. Georgetown University, Washington DC, June 7, 2004.

Second APEC Senior Officials Meeting. Pucón, Chile, May 25, 2004

XX General Assembly of Mexico's National Agricultural Council. Mexico City, Mexico, June 2003.

Posters

Theory, External Validity and Experimental Inference: Some Conjectures. Atlantic Causal Inference Conference, Steinhardt Center for the Promotion of Research Involving Innovative Statistical Methodology, New York University, May 20–21, 2010

Teaching

Harvard School of Public Health

Political Economy and Ethics of Health Reform (Ph.D.): Spring 2011, Spring 2012. Co-instructor.

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New York University

International Politics: Fall 2008, teaching assistant for Shanker Satyanath.

Comparative Politics: Spring 2009, teaching assistant for Joshua Tucker.

Johns Hopkins University (SAIS)

International Monetary System: Fall 1999, teaching assistant for Max Corden,

Reviewer service

American Journal of Political Science

European Journal of Political Research

Journal of Experimental Political Science

Observational Studies

Professional Organizations

Member, [Experiments in Governance and Politics Research Network](#), 2013–Present.

Visiting Fellow, [Harvard Institute for Quantitative Social Science](#), 2010–2013

Skills

Scientific computing: R, Python, Stata, EViews, Stan, SQL, NetLogo, Git, reproducible research.

Professional: Causal inference, design of experiments, statistics, forecasting, business model innovation, startups.