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Ph.D. 609-246 - 88 35 Princeton, NJ 08540

EDUCATION

The Wharton School of the University of Pennsylvania, Philadelphia, Pennsylvania
PhD. in Statistics awarded May 2001

Autonomous University of Barcelona, Bellaterra, Barcelona, Spain
Master of Sciences in Physics - May 1990
Bachelor of Science in Physics – May 1988

EXPERIENCE

Rutgers

Associate Professor of Professional Practice January 2022 – Present
Nuria is teaching statistics to Master, MBA and undergraduate students. Nuria offers the acquired business perspective to the students after working for corporations and consultant companies for twenty years. Nuria has already taught at the Rutgers Business School: Multivariate Analysis, Risk Modeling, Data Analysis and Visualization, Business Intelligence Analytics, and Introduction to Business Research Methods. Nuria joined the Rutgers COVID-19 research group.

Part time Lecturer January 2021 – December 2021
Nuria taught courses of Data Analysis and Visualization, Business Intelligence Analytics, Introduction to Business Research Methods in the Newark Business School. Her courses focus on teaching the theory and using case studies with complex real-world data to apply new concepts, an interpretation of the results and how to visualize the results. Different platforms and programming languages will be used depending on the course - Tableau, R and/or Excel.

Pfizer

Director November 2015 – May 2021
As a director of the Emerging Customer Analytics team, I received 3 awards for: (1) mobile app impact analysis, (2) personalized marketing digital bag impact analysis, and (3) Chanel preference estimation. I worked in new innovative research using Engagement- Base Models to forecast communication impact and, I presented the research at the PMSA 2020 virtual conference. Some of my achievements while working at Pfizer include the following:

1. **Improved the Social Media Listening Insights.** I used ontologies and natural language processes in order to discover which topics patients were talking about. I identified one sentiment for each topic instead of an overall sentiment. For example, if a patient was satisfied with the efficacy of a product but dissatisfied with the price of the product, the comment had a positive sentiment for efficacy and a negative sentiment for access, rather than being assigned one neutral sentiment. A dashboard with visualization and

results was built to facilitate the understanding of the analysis results. This new intelligent dashboard helped Pfizer on understanding the barriers of their products and help on brainstorming about how to improve them.

2. **Measured the difference in adherence between patients using wearables and the patients not using them.** My analysis showed that the health watch "weareable" was successful in its goals and was profitable in Mexico. Besides profitability, the watch was helping on improving the communication between the patient and the physician. Besides, we found that the new wearable was encouraging the patients to follow a healthier life style. Thanks to this analysis, the watch was expanded to other countries.
3. **Improved the process of assigning a channel preference** to each health care provider (HCP). Field force feedback was automatically incorporated into the process in addition to the new HCP promotional activity. I used machine-learning models to estimate the preference of each HCP given their characteristics and prescription habits. The field force feedback was used to improve the business rules for the initial preference classification. This approach was first used in Mexico and is currently being applied in the entire Central and South America. These predictions will help the field force in reaching out to the HCPs in their preferred channel of communication.
4. **Developed a new methodology, "Engagement Base-Models"** (accepted for the 2020 PMSA conference), which removes the usual 6-month delay when estimating incremental sales provided by promotional channels. Engagement Base-Models works by : (1) computing elasticities from historical ROI results, (2) running machine learning models to relate those elasticities to engagement metrics and market dynamics, (3) computing elasticities with the new engagement metrics, and (4) computing the incremental sales impact by the elasticity calculations. The Engagement Base Models methodology provides real-time results as campaigns are executed, which allows optimization in real-time as well.
5. **Estimated incremental sales impact of social media, mobile apps, and paid search** using Bayesian models with all possible engagements the patient can use in those promotions: watching a video, sharing a post, liking our ads, spending 2 minutes on the website, etc. A single model was estimated for all promotional channels and other possible drivers affecting sales for a single brand.

Besides working in many different topics, Nuria had successfully managed projects, work with multiple colleagues, communicate processes, insights, results, moderate brainstorming meetings and train big groups of colleagues.

MarketShare

Director June 2010 – November 2015

Nuria was responsible of planning, executing, providing analytical insights of marketing mix models to her team and helping the client understand the methodologies being used to analyze the data. Nuria develops analytical plans that will lead the analysis to be able to accomplish all the analytical goals of the

project. Nuria provides input to the project manager of the time that will take to finalize each task of the project.

IMS Health

Senior Manager January 2009 – May 2010

Nuria is responsible of managing projects in the Promo-mix modeling area. Her responsibilities include deciding the methodology to use in each project to be able to answer the clients' questions, talking to clients to explain the methodology to be used, and finalizing projects in the allocated budget. She helps in segmentation, targeting and ROI optimization when time permits.

InventivHealth – HPR

Associate Director September 2007 – January 2009

This position involved analyzing time series data, finding the optimal marketing mix promotion to maximize profits, creating meaningful physician segments for strategic and optimization purposes. This position also required supporting the analytical group and developing new techniques to improve the market trends.

TNS-Global

Senior Sampling Statistician January2006 – September 2007

My responsibilities included: sampling design, weighting, and helping in solving problems in any survey to improving the response rate, eliminating biases, etc. Along with the sampling and design expertise, this position also required knowledge and experience in different multivariate statistics such as correlation, regression, segmentation, PLS, etc.

Mathematica Policy Research, Inc. April 2001 – December 2005

Statistician

Selecting samples with adequate sample sizes to obtain required precision, adjusting sampling weights for nonresponse, coding and constructing new variables, updating data sets, imputing missing values, modeling propensity scores, estimating variances and writing reports.

The Wharton School of the University of Pennsylvania

Teaching Assistant September 1996- May 2001

Responsible for the organization, teaching and grading of an introductory regression analysis course, summer 1999. Taught problem-solving techniques to students learning to analyze data; carried out the tradition academic duties of keeping office hours and grading exams and papers

Johnson & Johnson's, Raritan, New Jersey February – September 2000

Statistical Consultant

Assisted in the New Discovery research projects. Analyzed DNA Microchip data to help scientists arrive at conclusions and improve experiment techniques.

Intertek Testing Services, Centreville, Virginia Summer 1998
Statistical Programmer
Worked for the conversion rate project of the Postal Service, building all the computer programs to analyze data.

FIAC School of Languages, Barcelona, Spain September 1991 – August 1993
Agent-Manager
Organized a Summer School of English for foreign students in Cambridge, England

Princeton University, Princeton, New Jersey
Technician-chemistry August 1990 – August 1991
Prepared various types of growth media and laboratory stock solutions for the Molecular Biology Department
Technician January 1988 – March 1989
Worked in the Cyclotron of the Physics Dept. with the Nuclear Physics Group, performing data entry and debugging Fortran Programs

PUBLICATIONS

"Including Manage Care in Promotional Mix Modeling." *PMSA 2010.*

"Impact of Non-Personal channels on Optimality of Sales Force Size - A Simulation Study." *PMSA 2008*. (with Jutki Kalita, Richard Greenburg, Milind Dhamge)

"On modeling response propensity for dwelling unit (DU) level non-response adjustment in the Medical Expenditure Panel survey (MEPS)." *Statistics in Medicine 2006. Published online in wiley InterScience (www.interscience.wiley.com) DOI:10.1002/sim.2809* (with W. Lap-Ming, T.M. Ezzati-Rice, J. Greenblatt).

"Nonresponse Adjustments Using Logistic Regression: to Weight or not to weight?" *Proceeding of the American Statistical Association, Survey Research Methods Section [CD- ROM].* Alexandria, VA: American Statistical Association, 2006 (with E. Grau, F. Potter, S. Williams).

"An Application of Propensity Modeling: Comparing Unweighted and Weighted Logistic Regression Models for Nonresponse Adjustments." *Proceeding of the American Statistical Association, Survey Research Methods Section [CD- ROM].* Alexandria, VA: American Statistical Association, 2006 (with F. Potter, E. Grau, S.Williams, B.L. Carlson)

"Full Sample Assessment of Methods for Adjusting Weight to compensate for Dwelling Unit Nonresponse in the Medical Expenditure Panel survey (MEPS)." *Proceeding of the American Statistical Association, Survey Research Methods Section [CD-ROM].* Alexandria, VA: American Statistical Association, 2005 (with W. Lap-Ming, T.M. Ezzati-Rice).

"Results from the 2003 and 2004 Targeted Beneficiary Surveys on Access to Physician Services Among Medicare Beneficiaries." *Final report submitted to the Center for Medicare & Medicaid Services*. Princeton, NJ: Mathematica Policy Research, 2004 (with T. Lake, M. Gld, A. Cienecki, J. Markesich, S. Limpa-Amara).

"Comparing Estimates and Variances for a Data Set with Hot Deck Imputations." *Proceeding of the American Statistical Association, Survey Research Methods Section [CD- ROM]*. Alexandria, VA: American Statistical Association, 2004 (with F. Potter).

"Using Propensity Scores to Adjust Weights to Compensate for Dwelling Unit Level Nonresponse in the Medical Expenditure Panel Survey." *Proceeding of the American Statistical Association, Survey Research Methods Section [CD- ROM]*. Alexandria, VA: American Statistical Association, 2004 (with L-M. Wun, T. M. Ezzati-Rice, R. Baskin, J. Greenblatt, M. Zodet, F. Potter, and M. Touzani).

"Results from the 2003 Targeted Beneficiary Survey on Access to Physician Services Among Medicare Beneficiaries. *Final report submitted to the Center for Medicare & Medicaid Services*. Princeton, NJ: Mathematica Policy Research, 2003(with T. Lake, M. Gold, A. Cienecki, M. Sinclair, C. Lamothe-Galette, S. Limpa-Amara).

"Nonresponse Adjustments for a Survey of Children with Disabilities Using Information of a Responsible Adult." *Proceeding of the American Statistical Association, Survey Research Methods Section [CD- ROM]*. Alexandria, VA: American Statistical Association, 2003 (with F. Potter)

"Comparison of Sampling Variances For A Complex Sample Survey With High Selection Rates For

Primary Sampling Units." *Proceeding of the American Statistical Association, Survey Research Methods Section [CD- ROM]*. Alexandria, VA: American Statistical Association, 2003 (with F. Potter, E. Schaefer, J. Reschovsky, and S.Williams).

"Comparison of with-replacement and without-replacement variance estimates for a complex survey." *Proceeding of the American Statistical Association, Survey Research Methods Section [CD-ROM]*. Alexandria, VA: American Statistical Association, 2003 (with F.Potter, S.Williams, and J. eschovsky).

"Report on Survey Methods for the Community Tracking Study's 2000-2001 Round Three Physicians Survey." *Final report submitted to the Center for Studying Health System Change*. Princeton, NJ: Mathematica Policy Research, 2003 (with F. Potter, S. Williams, R. Strouse, and M. Ellrich).

"Impact of a Prepaid Incentive on the Community Tracking Study's Physician Survey" *Technical paper for the Center for Studying Health System Change* 2003 (with R.Strouse)

"Weighting, Nonresponse Adjustments and Imputation: National Survey of SSI Children and Families" *Draft report submitted to the social Security Administration.* Princeton, NJ: Mathematica Policy Research, 2003 (with F. Potter).

"Logistic Propensity Models to Adjust for Nonresponse in Physician Surveys." *Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM].* Alexandria, VA: American Statistical Association, 2002 (with F.Potter, M.Sinclair, and S.Williams).

"A Simulation Study to Evaluate the Robustness of Recent Methods for Preparing Variance Estimates in the Presence of Hot Deck Imputation." *Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM].* Alexandria, VA: American Statistical Association, 2002 (with M.Sinclair and L-M.Wun).

"The Community Tracking Study Surveys of Physicians." *Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM].* Alexandria, VA: American Statistical Association, 2002 (with F.Potter, S.Williams, and R.Strouse).

"Report on New Jersey Workplace Tobacco Policies Survey Methods Report." *Final report submitted to the University of Medicine and Dentistry of New Jersey*. Princeton, NJ: Mathematica Policy Research, 2002 (with M.Kovac, J.Hall, and R.Strouse).

"Multiple Imputation for Estimation of AR(1) Process Parameters" *Presented to the Faculties of the University of Pennsylvania in Partial Fulfillment of the requirements for the Degree of Doctor of Philosophy.* 2001

PRESENTATIONS

" COVID-19 Excess Deaths" ESPOO EURO 2022 conference.

"Predicting elasticities to Measures Sales Impact." 2020 Virtual PMSA conference.

"Full Sample Assessment of Methods for Adjusting Weight to compensate for Dwelling Unit Nonresponse in the Medical Expenditure Panel survey (MEPS)." 2005 *Proceeding of the American Statistical Association, Survey Research Methods Section [CD- ROM].* Alexandria, VA: American Statistical Association.

"Comparing Estimates and Variances for a Dataset with Missing Values and Multiple Hot-Deck Imputations." *2004 Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM].* Alexandria, VA: American Statistical Association.

"Nonresponse Adjustments for a Survey of Children with Disabilities Using Information of a Responsible Adult." 2003 Proceeding of the American *Statistical Association, Survey Research Methods Section [CD- ROM].* Alexandria, VA: American Statistical Association.

"Logistic Propensity Models to Adjust for Nonresponse in Physician Surveys." 2002 *Proceedings of the American Statistical Association, Survey Research Methods Section [CD-ROM].* Alexandria, VA: American Statistical Association.

"Measuring the Impact of Imputation on Survey Estimates for Complex Surveys: MEPS Example" 2002
Statistical Methods Workshop for the Agency for Healthcare Research and quality.

POSTER PAPERS
"Including Managed Care in Promotional MixModels." 2010 PMSA Conference.

"Impact of Non-Personal Channels on Optimality of Sales Force Size – A Simulation Study." 2008 PMSA
Conference.

COMPUTING EXPERTISE

Software: SAS, Eviews, JMP, S-Plus, Mathematica, Xlipstat, Systat, SPSS, LateX, Microsoft Office, Tableau and R