

# ANDRÉS MUSALEM

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## Education

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UNIVERSITY OF PENNSYLVANIA, THE WHARTON SCHOOL

Ph.D. in Marketing, 2006.

M.A. in Statistics, August 2004.

Dissertation: "Bayesian Estimation of Models of Individual Behavior  
Using Aggregate Data"

Thesis Advisors: Eric T. Bradlow and Jagmohan S. Raju.

Committee Members: David R. Bell, David C. Schmittlein and Edward I.  
George.

UNIVERSITY OF CHILE

M.B.A., July 2001 (Highest Honors).

Industrial Engineer, March 1999 (Highest Honors).

B.Sc. in Industrial Engineering, December 1997.

## Academic Experience

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DUKE UNIVERSITY, FUQUA SCHOOL OF BUSINESS

Adjunct Professor, July 2014-Present

Assistant Professor of Marketing, July 2006-June 2014.

UNIVERSITY OF CHILE, INDUSTRIAL ENGINEERING DEPARTMENT

Visiting Professor 2012-Present.

Full-time instructor, 1999-2001.

## Research Interests

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**General:** Development of theory-driven (i.e., structural) methodologies to learn about consumer and firm behavior from limited, incomplete or aggregate information with applications to marketing, economics and operations management problems.

**Bayesian Methods, Economics and Econometrics:** Bayesian econometrics, missing data problems, structural estimation, direct utility models, empirical

industrial organization, stochastic dynamic programming, mathematical programming with equilibrium constraints (MPEC), game theory, signaling.

**Marketing:** retailing, promotions, marketing/operations management interface, market entry, customer relationship management, consumer response to out of stocks and waiting times, product line competition, store choice, word of mouth, eyetracking.

**Empirical Operations Management:** out of stocks, queuing, staffing decisions, assortment, marketing/operations management interface.

### **Articles Published in Refereed Journals**

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Arias-Bolzmann, Leopoldo, Leonard M. Lodish, Orkun Sak, Andrés Musalem, Rodrigo Baez and Luis Jose de Souza (2003): "Wine pricing: The influence of country of origin, variety and wine magazine ratings," *International Journal of Wine Marketing*, Vol. 15 (2): 47-57.

Musalem, Andrés, Eric T. Bradlow and Jagmohan S. Raju (2008), "Who's got the coupon: Estimating Consumer Preferences and Coupon Usage from Aggregate Information", *Journal of Marketing Research*, 45 (December): 715-730.

Musalem, Andrés, Eric T. Bradlow and Jagmohan S. Raju (2009), "Bayesian Estimation of Random-Coefficients Choice Models Using Aggregate Data," *Journal of Applied Econometrics*, 24 (3): 490-516.

Musalem, Andrés and Yogesh Joshi (2009), "How Much Should You Invest In Each Customer Relationship: A Competitive Strategic Approach," *Marketing Science*, 28 (3): 555-565.

Musalem, Andrés, Marcelo Olivares, Eric T. Bradlow, Christian Terwiesch and Daniel Corsten (2010), "Structural Estimation of the Effect of Out-of-Stocks," *Management Science*, 56 (7): 1180-1197.

Lu, Yina, Andrés Musalem, Marcelo Olivares and Ariel Schilkrut (2013), "Measuring The effect of Waiting Time on Customer Purchases," *Management Science*, August, 59 (8): 1743-1763.

**Award:** Yina Lu was the recipient of the First Prize in the 2012 INFORMS MSOM Student Paper Competition for this manuscript.

**Downloads:** 2<sup>nd</sup> Most downloaded Management Science paper in June 2013 and August 2013 and 4<sup>th</sup> most downloaded paper in September 2013 according to Highwire.org.

**Berry, Steve, Ahmed Khwaja, Vineet Kumar, Andres Musalem, Ken Wilbur, Greg Allenby, Bharat Anand, Pradeep Chintagunta, Michael Hanemann, Przemek Jeziorski and Angelo Mele (2014), "Structural Models of Complementary Choices," *Marketing Letters*, accepted (co-chairs in bold).**

### **Manuscripts Under Review and Working Papers**

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"Word of Mouth Bias and Optimal Communication Strategies," with Yogesh Joshi, being revised for second round review at *Management Science*.

"Do Motivated and Incidental Processing Distort Conjoint Choices?," with Martin Meißner and Joel Huber, being revised for second round review at the *Journal of Marketing Research*.

"A Parsimonious Structural Model of Individual Demand for Multiple Related Goods," with Kenneth Wilbur and Patricio del Sol.

"Under-promising and over-delivering: strategic implications of word-of-mouth," with Yogesh Joshi.

"When Demand Projections Are Too Optimistic: A Structural Model Of Product Line And Pricing Decisions," with Woochoel Shin.

### **Work In Progress**

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"How new entrants affect incumbent retailers' pricing policy," with Carl Mela and Huihui Wang.

"Measuring salespeople effectiveness in retail stores using video recordings," with Marcelo Olivares and Nicolas Garcias.

"Inferring decision rules in conjoint analysis using eye tracking information," with Martin Meißner and Ricardo Montoya.

### **Research Seminars**

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"Word of Mouth Bias and Optimal Communication Strategies"  
Universidad de Chile, April 2014

"When Demand Projections Are Too Optimistic: A Structural Model Of Product Line And Pricing Decisions"

Universidad de Chile (Empirical Workshop in Management Science and Applied Economics), January 2014.

“Retail in High Definition: Using Video Analytics to Study Customer-Salesperson Interactions”

The Wharton School, U. of Pennsylvania, June 2014.

Duke University, August 2013.

U. of Maryland, August 2013.

“Quantitative Marketing”

Universidad de Chile (ISCI PhD Winter School), July 2013.

“The importance of Feature and Object Fixations in Choice-Based Conjoint Analysis”

Universidad de Chile (Empirical Workshop in Management Science and Applied Economics), March 2013.

“Retail in High Definition: Marketing and Operations Management Lessons from Digital Images and Videos of Retail Stores”

Universidad de Los Andes, May 2013.

Universidad Adolfo Ibañez, April 2013.

INSEAD, March 2013.

Telefonica Chile, January 2013.

Universidad de Chile (Retail Analytics Workshop), December 2012.

“Customer Waiting Time and Purchasing Behavior: An Empirical Study of Supermarket Queues”

University of North Carolina at Chapel Hill, May 2012.

Duke University, July 2011.

“When Demand Projections Are Too Optimistic: A Structural Model Of Product Line And Pricing Decisions”

Universidad de Chile (Ind. Eng.), April 2010.

London Business School (Marketing Summer Camp), July 2009.

“Structural Estimation of the Effect of Out of Stocks”:

Stanford (GSB), May 2010.

University of Michigan, Ann Arbor, February 2009.

University of Chicago (GSB), June 2008.

“How much should you invest in each customer relationship: A competitive strategic approach”:

Universidad de Chile (Ind. Eng.), December 2007.

“Estimating Consumer Preferences and Coupon Usage from Aggregate Information”, September-November 2005:

Cornell University  
Dartmouth College  
Duke University  
INSEAD  
Purdue University  
University of Maryland  
University of North Carolina  
University of Rochester  
University of Southern California  
University of Texas at Austin  
University of Texas at Dallas  
Washington University in St. Louis

“Estimating Models of Individual Behavior Using Aggregate Information”:  
Universidad de Chile (Ind. Eng.), December 2004.

### **Conference Participation and Discussions** (presenter in bold)

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Ricardo Montoya, **Andres Musalem** and **Marcelo Olivares** (2014): “Detecting Shelf Stock-outs using Real Time Point-of-Sales Data,” Consortium for Operational Excellence in Retail, The Wharton School of the University of Pennsylvania, Philadelphia, PA.

**Andres Musalem**, Marcelo Olivares, Ariel Schilkrut and Nicolas Garcias (2014): “Retail in High Definition: Using Video Analytics to Study Customer-Salesperson Interactions,” 2014 Marketing Science Conference, Emory University, Atlanta, GA.

**Andrés Musalem** (2014): “When Demand Projections Are Too Optimistic: A Structural Model Of Product Line And Pricing Decisions,” XII International Industrial Organization Conference, Northwestern University, Chicago, IL.

**Andrés Musalem**, Martin Meißner and Joel Huber (2013): “The importance of feature and object fixations in choice-based conjoint analysis,” 2013 Marketing Science Conference, Özyeğin University, Istanbul, Turkey.

Joshi, Yogesh and **Andrés Musalem** (2013): “Word of Mouth Bias and Optimal Communication Strategies,” 2013 Marketing Science Conference, Özyeğin University, Istanbul, Turkey.

**Andrés Musalem**, Kenneth Wilbur and Patricio del Sol (2013): “A Parsimonious Structural Model of Individual Demand for Multiple Related Goods,” 2013 Invitational Choice Symposium, Noordwijk, Neatherlands.

**Andrés Musalem**, Kenneth Wilbur and Patricio del Sol (2012): “A Direct Utility Multiple-Choice-Quantity Model with Interdependent Choice Utilities: An application to the Chilean TV advertising industry,” 2012 Marketing Science Conference, Boston University, Boston, MA..

**Joshi, Yogesh** and Andrés Musalem (2012): “Underpromising and Overdelivering: Competitive Implications of Word of Mouth,” 2012 Frontiers of Research in Marketing Science, University of Texas at Dallas, TX.

Yina Lu, Marcelo Olivares, **Andrés Musalem** and Ariel Schilkrut (2011): “Customer Waiting Time and Purchasing Behavior: An Empirical Study of Supermarket Queues,” 2011 Workshop on Empirical Research in Operations Management, The Wharton School of the University of Pennsylvania, Philadelphia, PA.

Yina Lu, Marcelo Olivares, **Andrés Musalem** and Ariel Schilkrut (2011): “Customer Waiting Time and Purchasing Behavior: An Empirical Study of Supermarket Queues,” 2011 Marketing Science Conference, University of Houston, Houston, TX.

**Joshi, Yogesh** and Andrés Musalem (2011): “Underpromising and Overdelivering: Competitive Implications of Word of Mouth,” 2011 Marketing Science Conference, University of Houston, Houston, TX.

Mela, Carl, Andrés Musalem and **Huihui Wang** (2011): “How Wal-Mart’s Entry Affects Incumbent Retailers,” 2011 Marketing Science Conference, University of Houston, Houston, TX.

**Musalem, Andrés** and Woochoel Shin (2009): “When Demand Projections Are Too Optimistic: A Structural Model Of Product Line And Pricing Decisions,” 2009 Marketing Science Conference, University of Michigan, Ann Arbor, MI.

**Musalem, Andrés** and Woochoel Shin (2009): “When Demand Projections Are Too Optimistic: A Structural Model Of Product Line And Pricing Decisions,” VII International Industrial Organization Conference, Northeastern University, Boston, MA.

**Musalem, Andrés** (2009): Discussion of “The Impact of Initial Financial State on Firm Duration Across Entry Cohorts,” by Kim P. Huynh, Robert C. Petrunia and Marcel C. Voia, VII International Industrial Organization Conference, Northeastern University, Boston, MA.

**Musalem, Andrés** (2009): Discussion of “Shopping Cost and Brand Exploration in Online Grocery,” by Andrea Pozzi, VII International Industrial Organization Conference, Northeastern University, Boston, MA.

**Musalem, Andrés** (2008): Invited discussion of “A Simple Nonparametric Estimator for the Distribution of Random Coefficients in Discrete Choice Models,” by Patrick Bajari, Jeremy Fox, Kyoo il Kim and Stephen Ryan, VI Quantitative Marketing and Economics Conference, New York University, New York, NY.

**Musalem, Andrés** and Wagner Kamakura (2007): “An Ecological-Inference Model for Drawing Conclusions about Individuals from Aggregate Data,” XXIX Marketing Science Conference, INFORMS, Singapore Management University, Singapore.

**Musalem, Andrés** and Wagner Kamakura (2007): “A Bayesian Latent Class Approach to Ecological Inference for Multi-way Contingency Tables,” Seminar on Bayesian Inference in Econometrics and Statistics, Washington University in St. Louis, St. Louis, Missouri.

**Musalem, Andrés**, Eric T. Bradlow, Daniel Corsten, Marcelo Olivares and Christian Terwiesch (2006): “Structural Estimation of Retail Demand Under Unobserved Out of Stocks,” Joint Statistical Meetings, ASA, Seattle, Washington.

**Musalem, Andrés**, Eric T. Bradlow, Daniel Corsten, Marcelo Olivares and Christian Terwiesch (2006): “Structural Estimation of Retail Demand Under Unobserved Out of Stocks,” XXVIII Marketing Science Conference, INFORMS, University of Pittsburgh, Pittsburgh, Pennsylvania.

**Musalem, Andrés**, Eric T. Bradlow and Jagmohan S. Raju (2005): “Who’s got the Coupon: Estimating Consumer Preferences and Coupon Usage from Aggregate Information,” XXVII Marketing Science Conference, INFORMS, Emory University, Atlanta, Georgia.

Mondschein, Susana and **Andrés Musalem** (2003): “Determining optimal service quality investments for different customer segments,” XXV Marketing Science Conference, INFORMS, University of Maryland, College Park, Maryland.

**Musalem, Andrés** (2000): “Determining Service Quality Impact on profits of a financial services firm,” X Latin Ibero-American Congress on Operations Research and Systems, Ciudad de Mexico, Mexico (CD-ROM).

Bosch, Máximo and **Andrés Musalem** (2000): “Category Management in Retailing: an Operations Research Vision,” X Latin Ibero-American Congress on Operations Research and Systems, Ciudad de Mexico, Mexico (CD-ROM).

**Musalem, Andrés** (1999): “Calidad de Servicio y Rentabilidad: midiendo el impacto de la calidad de servicio en la rentabilidad de una empresa de

servicios,” III Chilean Congress on Operations Research (OPTIMA), Arica, Chile (pp. 145-153).

(Translation: “Service Quality and Profitability: measuring service quality impact on the profitability of a financial services firm”)

## **Publications in Spanish**

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Bosch, Máximo and Andrés Musalem (2001): “Análisis de Interrelaciones en las canastas de compras de un supermercado”, *Revista de Ingeniería de Sistemas*, Vol. 15 (1): 49-72. (Translation: “Analysis of Interrelations in Supermarket Shopping Baskets”)

Bosch, Máximo, Cristián Espinoza, Andrés Musalem, Cristián Paz and Martín Vega (2000): “Experiencias de Administración por Categorías en Chile”, Working Paper Series, Industrial Engineering Department, University of Chile. (Translation: “Category Management Experiences in Chile”)

## **Academic Service**

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Reviewer for: *Marketing Science*, *Journal of Marketing Research*, *Quantitative Marketing and Economics*, *Management Science*, *Journal of Econometrics*, *Operations Research*, *Psychometrika*, *Computational Statistics and Data Analysis*, FONDECYT (The Chilean Research Fund Council).

Committee Member, Nicholson Student Paper Competition, INFORMS, 2013-2014.

## **Doctoral Thesis Committees**

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Song Yao (Duke University’s Fuqua School of Business, Marketing)

Yina Lu (Columbia University, Business School, Decision, Risk and Operations)

## **Grants**

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Fondecyt Project # 1130412: “A Structural Model Of Product Line And Pricing Decisions”. Role: Principal Investigator.

Fondef Project # IT13I20031: “Desarrollo de una herramienta para la evaluación económica de niveles de servicio al cliente en retail” (translation: “Development of a tool for the economic evaluation of service levels towards customers in retail”).



## **Honors and Awards**

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*Management Science* Distinguished Service Award, 2013.

The 2011-2012 WEMBA Marketing Management Course received the second largest number of votes for the Excellence in Teaching Award among 12 core courses.

MSOM Student Paper competition (awarded to Yina Lu) for the manuscript "Measuring the effect of waiting times on customer purchases", 2012.

*Management Science* Meritorious Service Award, 2010.

INFORMS Marketing Science Doctoral Consortium Fellow, 2003 and 2005.

Best-paper award at the Sixth National Conference in Marketing, University of Chile, 2003: "Segmentation of customers in a supermarket store" (coauthor: Máximo Bosch).

Doctoral Fellowship, The Wharton School, University of Pennsylvania (2001-2005).

Winner of the 2001 Presidential Fellowship offered by the Chilean Government. (I renounced this fellowship because of the financial aid received from Wharton)

"Ismael Valdés Valdés" Award, 2000, for excellent academic performance, moral values and organizational and leadership skills. Award given each year to a graduating Engineering student by the Chilean Institute of Engineers since 1953.

Dean's List, School of Engineering of the University of Chile, 1995, 1997, 1998.

Academic Excellence Fellowship, 1993, given by the School of Engineering of the University of Chile to the best 18 candidates (out of 700 students) in the admission process based on the scores of the P.A.A. (equivalent to S.A.T.).

Best Representative of the Kentian Spirit, 1992, award given each year by The Kent School (high school) to a graduating student.

Finalist at the IV Mathematics Olympics, 1992, Chilean Mathematics Society.

## **Teaching Interests**

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Marketing Management, Pricing Strategies, Product Management, Marketing Research, Latin-American Economic and Political issues.

## Teaching Experience

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DUKE UNIVERSITY, FUQUA SCHOOL OF BUSINESS

Marketing Management (Weekend Executive and Cross-Continent MBA Programs)

Marketing Practicum (Daytime MBA Program)

Companies: American Express, Cencosud, DuPont, IBM, Walmart  
Product Management (Weekend Executive and Cross-Continent MBA Programs)

South-America Global Academic Travel Experience (Daytime MBA Program)

DUKE UNIVERSITY, PRATT SCHOOL OF ENGINEERING

Marketing Management (Master of Engineering Management)

UNIVERSITY OF PENNSYLVANIA, THE WHARTON SCHOOL

Pricing Strategies (Undergraduate Program)

UNIVERSITY OF CHILE, SCHOOL OF ENGINEERING

Marketing Management II (Part Time MBA)

Marketing Management (Undergraduate Program)

Marketing Research (Undergraduate Program)

Optimization (Undergraduate Program)

Industrial Engineering Thesis Seminar (Undergraduate Program)

RECENT COURSE EVALUATIONS (1-7 SCALE, 7=BEST):

ACADEMIC YEAR 2011-2012 (DUKE)	PROGRAM	COURSE	INSTRUCTOR	OVERALL
Marketing Management (section 1)	WEMBA	6.5	6.5	6.3
Marketing Management (section 2)	WEMBA	6.5	6.6	6.4
Product Management	WEMBA/CCMBA	6.2	6.4	6.2
Marketing Practicum	Daytime MBA	6.1	6.3	6.2

ACADEMIC YEAR 2013 (U. CHILE)	PROGRAM	COURSE	INSTRUCTOR
Marketing Management II	Part-Time MBA	6.7	6.9
Marketing Management (section 1)	Ind. Engineering	6.2	6.7
Marketing Management (section 2)	Ind. Engineering	6.4	6.9

## Administrative Service and Conference Organization

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Faculty cabinet member for the Duke MBA Latin American Student Association (2010-2012).

Marketing Seminar Coordinator (jointly with Dan Ariely), Fuqua School of Business, Duke University, 2009-2010.

Marketing Seminar Coordinator (jointly with Joel Huber), Fuqua School of Business, Duke University, 2008-2009.

Organization of the 2001 Latin American Operations Research Summer School for young scholars held in Viña del Mar, Chile.

Organization of the Retail Management section of the XXIII Systems Engineering Workshop, Industrial Engineering Department, University of Chile, Santiago, Chile, July 2000.

Co-Organization of the II Congress in Marketing Research for Industrial Engineering and Business Administration students, University Federico Santa María and University of Chile, Santiago, Chile, November 2000.

Academic Coordinator of the MBA Program offered by the University of Chile in the North of Chile (Iquique, Antofagasta and Chuquicamata) to executives in the mining sector, 1999-2000.

## **Professional Society Affiliations**

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AMA: American Marketing Association, since 2004.

ASA: American Statistical Association, since 2005.

Econometric Society, since 2008.

INFORMS: Institute for Operations Research and the Management Sciences, since 2001.

## **Industry Projects**

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“Methodology to generate out of stock early warnings”, jointly with Marcelo Olivares and Ricardo Montoya. This methodology was developed for one of the largest global retailers.

Marketing Practicum Projects (Fuqua):

2011-2012:

Cencosud: Developing an eCommerce Strategy

DuPont: Marketing Recommendations for Health Care Surfacing Solutions

IBM: Seizing the Web Content Management (WCM) Opportunity in a Global Market.

2010-2011:

AmEx: Marketing American Express Cards to Women

DuPont: Develop potential sustainability offerings that distinguish DuPont

Titanium Technologies from competition

IBM Software Group: Embracing New Business Partner Models

Walmart: Price vs. Convenience: Are They At Odds With Each Other Anymore? Have some online retailers figured out how to do both?

Retailing:

ECR Chile (1999 – Documentation of the implementation and results of the first Category Management projects in the Chilean Supermarket Industry)

Financial Services Industry:

Banco de Crédito e Inversiones (1998 – Linking Customer Profitability and Service Quality)

Banco Central de Chile (1998 – Methodology to design a benchmark portfolio)

Public Sector:

JUNAEB (2001 – Chilean Government Agency, Consulting Project: Use of mathematical modeling to assign contracts in a combinational auction for the supply of eyeglasses for the Chilean School System)

### **Other Activities**

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Elected Director of the Student Council, Industrial Engineering Department, University of Chile (1998).

### **Personal Information**

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Country of Citizenship: Chile.

Languages: English and Spanish (native).

Hobbies: drums, soccer and skiing.