

# Eddie Ning

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**Education**     **University of California Berkeley**  
Ph.D., Business Administration (Marketing), 2014-2019 (expected)  
B.A., Economics, 2008-2012  
B.A., Mathematics, 2008-2012

**Research Interests**     Information Acquisition, Competitive Strategy, B2B Marketing, Sales Force Management, CRM

**Job Market Paper**     “How to Make an Offer? A Stochastic Model of the Sales Process”

Many firms rely on salespersons to communicate with prospective customers. Such person-to-person interaction allows for two-way discovery of product fit and flexibility on price, which are particularly important for business-to-business transactions. In this paper, I model the sales process as a game in which a buyer and a seller discover their match sequentially while bargaining for price. The match between the product's attributes and the buyer's needs is revealed gradually over time. The seller can make price offers without commitment, and the buyer decides whether to accept or wait. Players incur flow costs and can leave at any moment. The discovery process creates a hold-up problem for the buyer that causes him to leave too early and results in inefficient no-trades. This can be alleviated by the use of a list price that puts an upper bound on the seller's offers. A lower list price encourages the buyer to stay while reducing the seller's bargaining power. But in equilibrium the players always reach agreement at a discounted price. The model thus provides a novel rationale for the pattern of “list price - discount” observed in sales. I examine whether the seller should commit to a fixed price or allow bargaining. When the seller's flow cost is high relative to the buyer's, both players are willing to participate in discovery if and only if bargaining is allowed. In such a case, bargaining leads to a Pareto improvement, which explains the prevalent use of bargaining in sales.

**Working Papers**     “Bargaining between Collaborators of a Stochastic Project”

Many business activities require collaboration between two firms. The surplus from the project can evolve due to changing market conditions, arrival of new information, or discovery of fit between the collaborators. For the project to be implemented, both collaborators have to agree to implement as well as on how the surplus is split. I study a model of bilateral bargaining

with stochastic surplus between two symmetric players. The frequency of the counter-offers determines the relative bargaining power at each moment. If the outside option is relevant, the collaboration is inefficient due to a hold-up problem faced by the responder. The model shows that the choice of bargaining procedure affects collaboration outcome. Increasing the frequency of counter-offers always increases social efficiency, and can lead to Pareto-improving outcomes; the proposer benefits too because the increase in efficiency can outweigh the loss of bargaining power.

“Effect of Label Informativeness on Price Sensitivity in the Cigarettes Market”

Cigarettes are sold in different strengths (regular vs. light vs. ultralight). In 2009, Congress passed Tobacco Control Act (TCA) which banned tobacco companies from communicating product strengths packaging materials. Cigarette companies continue to sell products with different strengths by using less informative color codes, i.e., relabeling Marlboro Light to Marlboro Gold, which creates room for confusion. This paper investigates the effect of such change in label informativeness on the choice behaviors of smokers in Nielsen’s panel data. I find a sharp decline in price elasticity after the passage of the law. This observation is robust to specifications that account for changes in consumer heterogeneity, state dependence, price endogeneity, and limited attention/consideration set. These results suggest that consumers perceive the products as more differentiated after the label change. This paper provides new evidence on the linkage between product labeling and consumer choice.

Work In  
Progress

“Entry and Positioning with Sequential Market Research”

Before entering a new market, a firm has to decide where to position its product amid uncertain consumer preferences. Firms can collect data through market research and make inference on consumer preferences. Information arrives sequentially, forcing firms to decide whether to conduct more research or enter under the current information. A monopoly collects more information before entry as data and inference become cheaper and faster, and all uncertainty is eliminated in the limit. This limiting result does not hold if there is competition. When conducting research, firms have to weigh the benefit of more information against the risk of opponent entering at the preferred location first. This puts an upper-bound on the amount of information firms learn even as the cost of learning approaches zero. Thus the fight for being the first-mover prevents firms from fully utilizing the benefit of “big data”.

“Evolving Preferences, Repeated Purchase, and Returns” (with J. Miguel Villas-Boas)

We study the repeated purchase and return behaviors of a buyer with evolving preferences for a product with finite lifetime. For example, buyers of enterprise software or cloud computing services experience changing demand for these services. The SaaS or pay-as-you-go business models allow buyers to pay only when the demand is high. However, in reality, SaaS firms often require buyers to sign contracts, thus practicing a very coarse version of pay-as-you-go. We examine the relationship between the lifetime of the product, or contract length in the case of SaaS, and the lifetime value of the customer. We solve for the optimal pricing and contracting strategy. A buyer may learn more about the product when they own it than when they do not. In such a case, the buyer’s behavior depends on her past purchases: the buyer has a lower purchasing threshold if she owned the product recently. This effect can explain why retention is easier than acquisition without explicit difference in cost.

### Selected Talks

Marketing Science Conference, Jun. 2017  
University of California Berkeley (Marketing), Oct. 2017  
IO Theory Conference, Nov. 2017  
European Winter Meeting of the Econometric Society, Dec. 2017  
University of California Berkeley (Economics), Apr. 2018

### Awards and Fellowships

Sheth-AMA Doctoral Consortium Fellow, 2017  
Journal of Industrial Economics Fellow, 2017  
Department Fellowship, UC Berkeley, 2014-2019  
Graduate Division Summer Grant, UC Berkeley, 2017  
URAP Summer Award, UC Berkeley, 2010

### Research Experience

**University of California Berkeley**  
Research Assistant for J. Miguel Villas-Boas, 2016-2017  
Research Assistant for Jose Guajardo, 2015  
Research Assistant for Ulrike Malmendier, 2009-2012

### Teaching Experience

**University of California Berkeley**  
Marketing (Undergraduate), Graduate Student Instructor, Spring/Fall 2016, Spring 2018  
Marketing Strategy (MBA), Graduate Student Instructor, Fall 2017  
Economic Analysis (Undergraduate), Graduate Student Instructor, Summer 2016  
Pricing (Undergraduate), Reader, Fall 2018  
Mathematical Tools for Economists (PHD), Tutor, Summer 2015  
Microeconomic Analysis for Business Decisions (Undergraduate), Tutor, Spring 2018

**Berkeley Business Academy for Youth (B-BAY)**  
Marketing, Instructor, Summer 2017

Industry            Antitrust Associate, **Charles River Associates**, 2012-2013  
Experience        Data and Policy Analyst, **Federal Reserve Bank of San Francisco**, 2013-2014

Professional      Session Chair, Marketing Science Conference, 2017  
Services

Graduate Coursework	Course	Instructor
	Marketing Strategy	Ganesh Iyer
	Choice Modelling	Minjung Park
	Computational Economics and Marketing	Przemyslaw Jeziorski
	Consumer Behavior	Clayton Critcher
	Mathematical Tools for Economists	Haluk Ergin
	Microeconomic Theory A	David Ahn, Haluk Ergin
	Microeconomic Theory B	David Ahn, John Morgan
	Econometrics A	Michael Jansson, Bryan Graham
	Econometrics B	James Powell, Denis Nekipelov
	Industrial Organization A	Ben Handel
	Industrial Organization B	Joseph Farrell
	Industrial Organization C	Kei Kawai
	Psychology and Economics A	Justin Syndor
	Non-Cooperative Game Theory B	William Fuchs
	Mechanism Design	Philipp Strack
	Discrete Time Asset Pricing	Nicolae Garleanu
	Times Series Econometrics	Michael Jansson
	Applied Econometrics	Patrick Kline, Chris Walter

Languages        English, Mandarin

## References

J. Miguel Villas-Boas (Chair)  
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