

XIAOLIN LI

Ph.D. Candidate in Marketing
University of Minnesota Carlson School of Management,
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EDUCATION

Ph.D. in Business Administration (Major: Marketing; Minor: Economics), Expected 2015
University of Minnesota, Carlson School of Business, Minneapolis, MN

M.A., Economics, 2009
Peking University, Beijing, China

B.S., Information Systems, 2006
Central University of Finance and Economics, Beijing, China

RESEARCH INTERESTS

My core interest is business-to-business marketing. Among the topics of particular interest are a) salesforce compensation, b) marketing channels, and c) procurement behavior. Methodologically, I am an empiricist who uses both observational data as well as field experiments to study these topics. I emphasize the use of structural econometric models to uncover the theoretical mechanisms.

DISSERTATION RESEARCH

“The ‘Shadow of the Future’ in IT Procurement Auctions”

Dissertation Co-Advisors: George John and Om Narasimhan (London School of Economics)
Committee Members: Linli Xu, Ravi Bappna (Information and Decision Sciences) and Thomas Holmes (Economics)

Proposal Defended: May 30, 2014

Procurement practices for complex goods and services exhibit a number of features: customized products/services, multi-year engagements, and complex contracts. Many of these transactions use auctions to select the contractor. In IT procurement auctions, technology and business changes inevitably create modifications to the originally agreed-upon work and payment during contract execution. These modifications are negotiated with the original contractor, and not subject to a new round of bidding. Surprisingly, the prior theoretical and empirical literature has almost completely ignored the possibility that such ex post changes (i.e., the “shadow of the future”) affect the original bids.

My dissertation develops a methodology to study how the original bids are influenced by negotiated ex post modifications. First, I formulate a mathematical model wherein far-sighted bidders incorporate ex post changes into their bid calculus. Next, I take my results to a unique set of detailed data on IT procurement auctions, and develop econometric methodology to estimate my model, and to compute counterfactual scenarios. I am able to establish several things.

First, negotiated ex post changes have a material effect on procurement auction bids. Intuitively, contractors lower their bids because ex post changes influence their “latent costs.” I calculate that if a buying firm were to credibly rule out ex post negotiated changes (i.e., commit to a new auction each

time), bids would rise by 27%, all else equal. Put differently, about a quarter of a bid derives from considerations of ex post changes. Second, I show that a crucial design feature of the auction (viz., the contractor payment formula) has a large, counter-intuitive effect on the size of the shadow of the future. Specifically, a lump-sum (fixed fee) payment format auction evokes 16% higher bids than does a “unit-price” (e.g., time and materials) auction, all else equal. Third, contractors who do *not* have a prior transaction with a client bid more aggressively given ex post changes. These results improve our ability to design better procurement auctions.

PAPERS UNDER REVIEW (See Appendix for Abstracts, Drafts available)

- **Xiaolin Li**, Raghunath Rao and Om Narasimhan, “Memory Imperfections and Messaging Strategy,”
(*Revised and Re-submit, Management Science*)
- Madhu Viswanathan, **Xiaolin Li**, Om Narasimhan, and George John, “Is Cash King? A Field Intervention on Mental Accounting in a Salesforce,”
(*Under Review, Journal of Marketing Research*)

SELECTED RESEARCH IN PROGRESS (Drafts available)

- **Xiaolin Li**, Ranjan Banerjee, Om Narasimhan, and George John, “Paying for Intermediate Output: A Field Intervention,”
- **Xiaolin Li**, Ranjan Banerjee, Om Narasimhan, and George John, “Incentives for a Multi-product Sales Force: Theory and Evidence”.
- **Xiaolin Li**, “The ‘Shadow of the Future’ in IT Procurement Auctions”.

CONFERENCE PRESENTATION

- Viswanathan, Madhu, Xiaolin Li, Om Narasimhan, and George John (2014), “Is Cash King? A Very Large Field Intervention in a Salesforce,” Thought Leadership on the Sales Profession Conference, Columbia University, New York. [George John, presenter].
- Viswanathan, Madhu, Xiaolin Li, Om Narasimhan, and George John (2013), “Is Cash King? A Field Intervention on Mental Accounting in a Salesforce,” UT Dallas FORMs Conference, Dallas, TX.
- Li, Xiaolin, Ranjan Banerjee, Om Narasimhan, and George John (2013), “Incentives for a Multi-product Sales Force: Theory and Evidence,” The INFORMS Marketing Science Conference, Istanbul, Turkey
- Li, Xiaolin, Raghu Rao and Om Narasimhan (2013), “Memory Imperfections and Messaging Strategy,” The INFORMS Marketing Science Conference, Istanbul, Turkey
- Li, Xiaolin, Tony Cui and Om Narasimhan (2012), “Feedback and Reference Dependency in Dynamic Tournament,” The INFORMS Marketing Science Conference, Boston, MA

HONERS AND AWARDS

- American Marketing Association- Sheth Doctoral Consortium Fellow, 2013
- Haring Symposium Discussant, Indiana University, 2012
- Henrickson Award for Excellent Performance, University of Minnesota, 2012
- McNamara Women's Fellowship, University of Minnesota, 2009-2013
- Academic Excellence Scholarship, Central University of Finance and Economics, 2002-2006

TEACHING EXPERIENCE

- **Instructor**, Carlson School of Management, University of Minnesota:
 - Principles of Marketing (Undergraduates), spring 2012, spring 2013. Teaching evaluations: average 5.2/6.0
 - Marketing Research (MBA), for Fall 2014
- **Teaching Assistant**, Carlson School of Management, University of Minnesota
 - Marketing Strategy (Undergraduates, for Prof. Yi Zhu), spring 2014
 - Marketing Management (MBA, for Prof. Carlos Torelli), fall 2013
 - Pricing Strategy (MBA, for Prof. Mark Bergen), fall 2012
 - Pricing Strategy (MBA, for Prof. Om Narasimhan), fall 2011
 - Pricing Strategy (MBA, for Prof. Carlos Torelli), spring 2011

TEACHING INTEREST

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| • Marketing Research | • Sales Management | • Marketing Channels |
| • Pricing | • B2B Marketing | • Quantitative Models |

INDUSTRY EXPERIENCE

- *Research consultant*, Schwan's Food Company, Minneapolis, MN (through the Institute for Research in Marketing, Carlson School of Management), 2012
- *Research Assistant*, Cheung Kong School of Business, Beijing, China, 2008
- *Researcher*, Pacific Institute, Pacific Securities, Beijing, China, 2007
- *Researcher*, China Property & Private Equity Market Research Center, Beijing, China, 2006

SELECTED DOCTORAL COURSES

Economics

Microeconomic Theory I	Jan Werner
Microeconomic Theory II	Beth Allen
Microeconomic Theory III	Aldo Rustichini
Microeconomic Theory IV	Kim-Sau Chung
Applied Econometrics I	Amil Petrin
Applied Econometrics II	Minjung Park
Applied Econometrics III	Kyoo il Kim
Applied Econometrics IV	Patrick Bajari
Industrial Organization I	Thomas Holmes
Industrial Organization II	Amil Petrin
Applied Economics PhD Seminar	Joel Waldfogel
Applied Game Theory I	Stephen Polasky
Applied Game Theory II	Terry Hurley
Workshop in Applied Economics	Amil Petrin and Thomas Holmes

Marketing Seminars

Consumer Behavior Research Methods	Deborah Roedder John
Consumer Behavior in Special Topics	Barbara Loken
Consumer Attitude & Persuasion	Rohini Ahluwalia
Quantitative Modeling I	Om Narasimhan
Quantitative Modeling II	Tony H. Cui
Consumer Judgment and Decision Making	Jane Ebert and Akshay Rao
Inter-Organizational Relations	George John

Mathematics

Real Analysis	Jack Quan
Theory of Probability	Maury Bramson

REFERENCES

George John

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General Mills–Gerot Chair in Marketing
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Raghunath Singh Rao

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University of Texas at Austin
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APPENDIX: SELECTED ABSTRACTS

Xiaolin Li, Raghunath Rao and Om Narasimhan, “Memory Imperfections and Messaging Strategy”

This paper studies the issue of optimal mix of message content in elections. Our approach is to build an analytical model of a political contest between two candidates endowed with initial budgets who are facing an election at a future date with an electorate consisting of supporters, opponents and undecided voters. The candidates take decisions on advertising sequence and content (positive vs. negative) over multiple periods. We depart from most prior work in the area by building a detailed model of voter decision-making that explicitly brings in the psychological literature on the importance of memory imperfections, especially in the context of evaluating and responding to advertising. Our analysis yields a number of interesting insights. First, when both candidates have low initial support the equilibrium involves both candidates investing only in positive messages. On the other hand, when both candidates have high initial support and symmetric budgets, the messaging strategy takes a “pulsing” shape that involves an initial investment in negative ads followed by positive ads. The situation is different for the case of asymmetric budgets; there, a candidate with larger budget facing a candidate with high initial support is likely to respond with a messaging strategy bunched with negative content towards the end of the election cycle. Second, when the initial support among candidates is asymmetric, the laggard is more likely to engage in negative advertising than the leader. Third, when memory decay is low, the likelihood of negativity in campaigns increases while a stronger rehearsal effect increases the likelihood of positivity in campaigns. The findings of our paper carry important implications for advertisers in designing their message content strategies in political marketing and other related contexts.

Madhu Viswannathan , Xiaolin Li, Om Narasimhan and George John, “Is Cash King? A Field Intervention on Mental Accounting in a Salesforce”

The growing prevalence of tangible, non-cash incentives as an alternative to cash in compensation plans is at odds with the fungibility of cash. In this paper, we use a multi-method empirical approach that combines a field intervention at a large national food manufacturer, a structural model and a survey to examine i) whether salespeople differ in their response to disparate forms of compensation, ii) quantify the impact of different sources of wealth, and iii) explore the underlying mechanisms at play. Our intervention led to a multi-million dollar sales drop (6.6%). Utilizing mental accounting concepts which show that consumers’ willingness to spend an additional unit of wealth depends upon its sources and categories, we specify a salesperson utility function with separately weighted components for cash and non-cash payouts. Our structural model finds that salespeople weigh non-cash payouts more than cash and that the new plan decreases induced effort levels by 3.5%. Finally, our survey explores correlates of this preference ascertained from prior literature. We find converging evidence that salespeople maintain separate accounts for cash and non-cash incentives.

Xiaolin Li, Ranjan Banerjee, Om Narasimhan and George John, “Paying for Intermediate Output: A Field Intervention”

Prompted by rising sales expenses, many firms are adopting a sales architecture with employees assigned to different stages of the selling process. We study an Indian firm that employed telecallers to generate appointments with qualified prospects and salespeople to follow-up and generate sales. The issue was whether to incentivize telecallers for appointments. We show analytically that commissions for appointments are warranted if telecallers’ and salespersons’ efforts are strategic complements. Assessing this poses methodological challenges because it involves two unobservable effort responses. We

undertook a multi-year intervention that removed existing commissions for appointments (leaving a flat wage plan for telecallers). Data over 19 pre and 12 post-intervention months showed that appointments dropped by 4%, while sales dropped 1%. Applying structural econometrics to these data, we estimate that telecaller efforts dropped 25% following the intervention, but that salesperson efforts increased 5.9%. These opposite changes indicate strategically substitutable efforts. Intuitively, the salespeople are compensating for fewer telecaller-generated appointments with greater effort on their part. We conclude that commissions for the intermediate output are not warranted here.