Xinlong Li

Email: xinlong.li13@rotman.utoronto.ca   TEL: +1 (647) 865-6939

105 St George St, Room 567, Toronto, ON, Canada, M5S 3E6

https://sites.google.com/view/xinlong-li/home

EDUCATION

Ph.D. Candidate in Marketing, Rotman School of Management, University of Toronto
(Expected completion date: June 2019)

M.S. Statistics, Department of Statistics, University of Chicago, 2013

B.S. Statistics, Chu Kochen Honors College, Zhejiang University, 2011

RESEARCH INTERESTS

Structural Models, Machine Learning, Fintech, Digital Marketing, Network Effects

PUBLICATIONS

1. Demographic and Indication-specific Characteristics Have Limited Association with Social Network Engagement: Evidence From Four Healthcare Support Groups (with Trevor van Mierlo, Andrew Ching and Doug Hyatt) Journal of Medical Internet Research, vol.19 (2): e40, 2017.

WORKING PAPERS

1. How Does a Firm Learn in a Changing World: The Case of Prosper Marketplace (**Job Market Paper**, with Andrew Ching)

2. The Last Hurrah Effect: End of Periods Increase Riskier Investment Decisions (With Avni Shah, in preparation for submission to *Journal of Marketing Research*.)

   Accepted for presentation by the 2018 Association for Consumer Research Conference

3. The Importance of Career Networking: Evidence from Movie Actors (With Jinghui Qian and Andrew Ching, under review at *The Quarterly Journal of Economics*.)

4. Getting Incentives Right for Service Employees: Evidence from a Gasoline Retail Chain (With Steven Lu, Sridhar Moorthy and Mengze Shi)

WORK IN PROGRESS

1. Quantum Machine Learning in Marketing (With Avi Goldfarb)

2. The Effects of Negative Media Exposure on Actresses: Evidence from the 2014 iCloud Leak (With Jinghui Qian)

TEACHING EXPERIENCE

Teaching Interests

Marketing Analytics, Digital Marketing, Data Analysis, Econometrics, Statistics.

Teaching Assistant

1. Principles of Marketing (Commerce, Prof. Ryan Webb) 2014

2. Big Data and Marketing Analytics (Commerce, Prof. Andrew Ching) 2016-2017

3. Integrated Data and Model (MBA, Prof. Mara Lederman) 2014-2016

4. Statistics (MBA, Prof. Brian Silverman and Prof. Philipp Afèche) 2015-2017

5. Managerial Economics (MBA, Prof. Heski Bar-Isaac) 2015, 2017

CONFERENCE PRESENTATIONS

1. Marketing Science, Philadelphia, June 2018

   "How Does a Firm Learn in a Changing World: The Case of Prosper Marketplace"

2. 7th Annual Empirical & Theoretical Symposium, Poster Presentation, Guelph. 2018

   "How Does a Firm Learn in a Changing World: The Case of Prosper Marketplace"

3. 6th Annual Empirical & Theoretical Symposium, Poster Presentation, Montreal, 2017

   "The Importance of Career Networking: Evidence from Movie Actors"

4. Marketing Science, Shanghai, June 2016

   "The Importance of Career Networking: Evidence from Movie Actors"

CONFERENCE ATTENDANCE

1. Marketing Science, Philadelphia, June 2018

2. Marketing Research Symposium, Waterloo, 2018

3. Machine Learning FinTech Conference II, Toronto, 2018.

4. National Bureau of Economic Research: Digitization Tutorial, San Francisco, 2018.

5. Rotman FinHub's Inaugural Conference on Financial Innovation Issues, Toronto, 2017

6. Marketing Science, Shanghai, June 2016

7. QME Conference, Evanston, 2016

8. Frontiers in the Economics of Organizations and Markets: Theory, Applications and Methods, Toronto, 2016

9. National Bureau of Economic Research: Digitization Tutorial, San Francisco, 2016.

10. Quantitative Marketing and Structural Econometrics Workshop, Evanston, 2015

11. BIG Ideas Doctoral Student Workshop; Harvard Business School, Harvard University, 2015

12. Quantitative Marketing and Structural Econometrics Workshop; Kellogg School of Management, Northwestern University, 2015

HONORS AND AWARDS

1. Fellow, ISMS Doctoral Consortium; Temple University, 2018

2. University of Toronto, School of Graduate Studies (SGS) Conference Grant, 2018

3. University of Toronto Fellowship, 2013-2017

4. Robert House Fellowship, 2013-2017

5. Fellow, ISMS Doctoral Consortium; Fudan University, 2016

6. Fellow, BIG Ideas Doctoral Student Workshop; Harvard Business School, Harvard University, 2015

7. Fellow, Quantitative Marketing and Structural Econometrics Workshop; Kellogg School of Management, Northwestern University, 2015

8. AIMIA Conference Travel Funds; Rotman School of Management, University of Toronto, 2014-2017

9. Outstanding Graduates of Zhejiang Province (1%), 2011.

10. National Scholarship, Awarded by China's Ministry of Education (1%), 2009

ACADEMIC SERVICE

1. Ad-hoc Referee: Management Science

REFERENCES

Andrew T. Ching (Advisor)

Professor of Marketing

Rotman School of Management

University of Toronto

(416) 946-0728

aching@rotman.utoronto.ca.

Mengze Shi

Professor of Marketing

Rotman School of Management

University of Toronto,

 (416) 946-7963

mshi@rotman.utoronto.ca.

Matthew Osborne

Assistant Professor of Marketing

Rotman School of Management

University of Toronto

(905) 569-5794

matthew.osborne@gmail.com.

Avni Shah

Assistant Professor of Marketing

Rotman School of Management

University of Toronto,

(647) 447-9482

avni.shah@rotman.utoronto.ca.

PAPER ABSTRACTS

1. How Does A Firm Learn in A Changing World? The Case of Prosper Marketplace (Li and Ching, Job Market Paper)

Previously, due to the limitation of data availability, most marketing and economic research makes the assumption that models built on historical data can predict consumer choice in the future. However, consumer tastes might change over time, especially due to the digital innovations which have revolutionized the world. Therefore, treating all historical data equally may lead to a seriously misspecified model for the current market. This problem is referred to as *Concept Drift* in machine learning.

Does a firm attempt to address the concept drift problem in a rapidly changing environment? If so, how does a firm make use of data to adapt to the changes? Could a firm better predict consumer behavior by utilizing historical data in different ways? In this paper, we try to answer these questions. By using a rich micro-level dataset (the whole dataset contains 444,782 loan applications), machine learning techniques (Naïve Bayes Classifier, Ensemble Modeling, and Hidden Markov Model) and structural modeling, we find evidence that Prosper Marketplace, which is one of the largest online peer-to-peer (P2P) lending platforms in the U.S., recognizes the concept drift problem when developing their model to assess borrowers' risk and set interest rates. More specifically, we find that Prosper selectively uses the data based on a moving window.

In our counterfactual studies, we investigate what happens if Prosper switches to three different ways to utilize historical data. In the first counterfactual experiment, we assume Prosper pools together historical data generated in similar economic environments as today to make decisions. This approach can help Prosper increase its revenue by 7.61%. In the second counterfactual, we borrow the ensemble modeling idea from machine learning. That is, instead of assuming Prosper uses a single model, we allow Prosper to build multiple individual models and make predictions by taking weighted average of those individual models. Each individual model is built using data from a certain economic environment. The revenue increase in this counterfactual case is around 10.26%. In the last counterfactual, we allow Prosper to first use hidden Markov model to recover the unobserved economic states then pool together all the data from similar hidden economic states to make rating assignments. Prosper can expect 11.7% increase in its revenue in this 'what-if' scenario.

2. The Last Hurrah Effect: End of Periods Increase Riskier Investment Decisions (Li and Shah, working paper)

TGIF: Thank Goodness it's Friday." It is a phrase that is ubiquitous in modern society and used to signify the positive feelings associated with the transition between the work-week ending and the weekend beginning. This feeling of slack has spilled over to work habits as well. A recent survey of HR professionals found that a majority of workers reportedly felt the least productive in the office on Fridays. This brings up a natural question: Could this end-of-the-week effect influence decision-making as well? More specifically, does the potential slack associated with the end of a period affect investors' risk tolerance and risky decision-making? Using a unique panel dataset of peer-to-peer lending loans we find evidence for an end-of-period effect, whereby investors are more likely to invest in riskier loans at the end of- week or end-of-month. These investments also have significantly worse returns relative to other days.

The end of period effect documented in this paper is in line with the mental accounting theory. The end of a mental accounting period propels people to feel less connected with their present selves because they

know once they pass the temporal landmark, they can embrace their brand new future selves. This feeling of disconnection of their present selves makes people more likely to make riskier decisions since even if the outcomes turn out to be negative, they will soon enter a new mental accounting period and can easily blame their old, imperfect past selves for the wrong decisions.

3. The Importance of Career Networking: Evidence from Movie Actors (Qian, Li and Ching, working paper)

We study how individuals make use of peer-to-peer versus hierarchical networking to help market themselves to potential employers. We argue that a stronger peer-to-peer network facilitates learning from the co-workers' skills and collaborative skills and therefore improves one's work performance. We further argue that a stronger hierarchical network could have a negative effect which goes beyond the direct human capital accumulation implication - it could influence a manager's or officer's hiring decision and create bias or unfairness in the process of recruiting.

We test our hypotheses using a large dataset from the movie industry. We find evidence that actors with a better peer-to-peer network are associated with better movie box office performance, suggesting a positive learning effect of peer-to-peer networks. In contrast, we find actors with a better hierarchical network are associated with poorer box office return, suggesting a potential mismatch between movie roles and actor skills. We also find that actors with a better hierarchical network are more likely to get a leading role. However, for big budget movies, hierarchical network ties could not further improve one's chance to get the leading roles. In addition, we find evidence that leading actors with stronger hierarchical networks are more likely to be associated with movie failure. This effect is more pronounced for small budget movies perhaps because the budget constraint may force producers and the director to focus on a small set of actors. Unfortunately, this may increase the likelihood of mismatch, which could lower the quality of the movie. For big budget movies, the mismatch is less likely to happen because the director and producers can afford to do a more extensive search.

4. The Effects of Negative Media Exposure on Actresses: Evidence from the 2014 iCloud Leak (work in progress, with Jinghui Qian)

We estimate the effects of negative media exposure on social network formation and movie performance based on a quasi-experimental design with the "2014 iCloud Leak" incident as the instrument. On August 31, 2015, private nude photos involving a number of celebrities were hacked and leaked from the iCloud. This iCloud Leak drew massive media attentions both on conventional mainstream media and on social networks on these celebrities. Using the iCloud Leak as the instrument and focusing on actresses, we seek to identify the causal effect of negative media exposures on those actresses' social network connections, career development, and work performance. We find that actresses involved in the iCloud Leak will become less important in the motion picture industry, as measured by the network centralities. In addition, those actresses exhibited productivity measured by movies played in the following years. Furthermore, we find that movies played by the iCloud Leak actresses exhibit lower box office return than the controlled movies. In short, this research shows that negative media exposure can affect the network centrality of the celebrity and hinder work performance and career development, even if the actresses have not done anything wrong.