# YUE LI

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#### **EDUCATION**

#### University of Wisconsin-Madison

PhD student in Economics

Graduate minor degree in Mathematics

MS in Economics (2 year program)

2015 - Present
2017

2017

## Nankai University

BS in Mathematics 2013

#### RESEARCH INTERESTS

Marketing, Microeconomics, Game Theory, Industrial Organization, Behavioral Economics

#### WORKING PAPERS

1. <u>Yue Li</u>, Raghunath Rao, Paola Mallucci "Product Returns and Assortment Decisions: A Strategic Analysis of Online and Offline Competition" [pdf]

Abstract: We introduce and analyze a novel model of product assortment decisions in the context of online-offline retail competition. In equilibrium, the online store optimally offers easy-to-fit products to reduce costly returns. The competing brick-and-mortar store faces a subtle trade-off between generating higher sales and attracting more foot traffic, and might use its limited store size to stock harder to fit products. Our model provides rationale to the prevalence of low quality products sold online, as well as, to the steady growth of specialty stores in the downfall of traditional retailing.

We apply this model to study a new return policy that allows consumers to return online purchases directly to a competing brick-and-mortar store. This return policy increases the brick-and-mortar store's foot traffic and can be mutually beneficial for both retailers if the brick-and-mortar store size is small or if the returns agreement significantly improves efficiency. We also find three consequences of the return policy. First, the return policy alleviates the retailers' competition for consumers' first-stop shopping destination. Second, the two retailers differentiate to sell mutually exclusive products, and the equilibrium product variety increases. Third, consumers shop online more often and return more products.

2. Yue Li "A Theory of Limited Edition Products" [pdf]

Best Conference Paper, China Marketing International Conference 2021

Abstract: Why do firms sell limited edition fashion products, even when the demand constantly exceeds supply at the market price? Why do consumers value firm created scarcity? I propose a novel explanation in the context of a fashion good producer that periodically introduces new models. When the monopolist cannot commit to future product release dates, the equilibrium rate of product introductions is too fast. This inefficiency can be alleviated by committing to limited edition products. In equilibrium, consumers' willingness to pay for limited edition products is higher, because of both higher quality and longer anticipated product cycles. This provides a new theoretical foundation to why consumers value scarcity. The firm optimally creates scarcity by selling limited edition products if the demand is large, or consumers have a strong preference for fashion, or the fixed cost of introducing new products is low. Furthermore, creating a luxurious brand image through premium pricing has the same benefits as marketing limited edition products. The results are robust as long as an infinitesimally small fraction of consumers do not believe that the firm can commit to future product release dates.

3. Yue Li Sequential Search with a Budget Constraint: An Asymptotically Optimal Algorithm [pdf]

Abstract: A decision maker faces a set of closed boxes with unknown values. She knows the value distribution of each box, the cost to open each box, as well as the price of each box. She is budget-constrained and can only buy boxes that are open. The problem is to decide which boxes to open, in what order, when to stop opening, and purchase which boxes. Applications include - a consumer inspecting and purchasing a variety of products, a marketing team optimizing its advertisement expenditure, a firm interviewing and hiring multiple workers, and a retailer choosing the product assortment of its store. Two important special cases of this model are the Pandora's problem and the knapsack problem. We propose the Ratio Index Algorithm and show that it approaches optimality when the ratio of the largest box price over the total budget shrinks.

4. <u>Yue Li</u>, Sriniketh Vijayaraghavan, Paola Mallucci, Paul R. Hoban "Understanding Hype: The Need for Resale Markets" [pdf]

Abstract: For many exclusive goods, there exists a vibrant secondary market in which prices consistently exceed those originally charged by the manufacturer. However, managers appear reticent to increase the quantity produced or charge higher prices to align supply and demand. We explore the interdependence between secondary markets and consumer preferences for exclusivity that is needed to generate hype. Under a rational expectations framework, we show that a monopolist can extract consumer value for hype only with an active resale market. In the absence of preferences for exclusivity or a secondary market, the firms optimal strategy reduces to that of the standard monopolist. Further, we show that a significant price gap exists between the primary and secondary markets and leads to an inefficient product reallocation. The manufacturer can reduce the gap by entering the resale market and reducing the cost to resell in the secondary market. We model this entry decision, identifying the conditions under which entry is optimal as well as its impact on social welfare. Interestingly, while the manufacturer can earn additional profits, this increased competition in the secondary market reduces consumer welfare. We show our results are robust to several alternative specifications.

#### WORK IN PROGRESS

5. Yue Li "The Electronics Right-to-Repair Movement and Product Innovations" [Link]

Abstract: Electronics manufacturers often monopolize their maintenance markets by forcing consumers to use original manufacturers' services. In recent right-to-repair (RTR) movements, consumers and policymakers have been pushing back for a competitive aftermarket for electronics. This paper analyzes the relation between the RTR movement and product innovations. We show that competitive repair markets decrease a firm's R&D investment, increases product development time, and lowers profit. While consumers enjoy a higher surplus from competitive repair prices, they may be harmed by smaller quality improvements across releases and updates. For policymakers, we show that competitive maintenance reduces electronic wastes, often at the cost of both the firm and consumers.

6. Moral Hazard and New Employee Training

#### TEACHING EXPERIENCE

(\*=excellent TA, <sup>‡</sup>= distinguished TA, <sup>\$\( \)</sup>=online, <sup>g</sup>=graduate level)

**Teaching Assistant**: Principles of Microeconomics $^{\diamond}$  (scheduled), Intermediate Microeconomics, Game Theory $^{\diamond}$ , Behavioral Economics $^{*}$ , Microeconomics I $^{g*}$ , Microeconomics II $^{g\ddagger}$ , Mathematical Economics $^{g*}$ 

Duties: teach weekly review sections (50 minutes of lecture per week per section, 2-5 sections per semester,  $\sim 25$  students per section), hold office hours ( $\sim 2$  hours per week), write supplementary notes and exercises ( $\sim 8$  pages per week), create problem sets and solutions, write and grade exams, manage course websites.

**Reader/Grader**: Intermediate Microeconomics, Game Theory, Law and Economics<sup>\display</sup>, Econometrics

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Duties: grade problem sets and exams.

### **PRESENTATIONS**

( $^c$ = presented by a coauthor,  $^\dagger$ = canceled due to COVID)

2018. WEAI International Conference

raghunath.rao@mccombs.utexas.edu

- 2019. WEAI International Conference, ISMS Marketing Science Conference<sup>c</sup>
- 2020. WEAI International Conference<sup>†</sup>, ISMS Marketing Science Conference<sup>c</sup>, POMS Annual Conference<sup>†</sup>, UW-Madison Department of Economics
- 2021. UW-Madison Department of Economics, POMS Annual Conference, UW-Madison Department of Economics Job Market Conference, ISMS Marketing Science Conference<sup>c</sup>, China Marketing International Conference ( $\times 2$ ), Midwest Economic Theory Conference (scheduled)

#### **MISCELLANEOUS**

Community Service	Volunteer at the Greater University Tutoring Service Resident manager board at University Apartments
Language	Chinese (native), English

#### REFERENCE

Marek Weretka (econ & teaching)	Kenneth Hendricks (econ)	Paola Mallucci (marketing)
Professor of Economics	Professor of Economics	Assistant professor of Marketing
UW-Madison	UW-Madison	Wisconsin Business School
mweretka@ssc.wisc.edu	hendrick@ssc.wisc.edu	& Amazon.com pmallucci@bus.wisc.edu
Raghunath Rao (marketing)	Paul Hoban (marketing)	-
Associate professor of Marketing	Assistant professor of Marketing	
UT-Austin	Wisconsin Business School	

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