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## Professor Tat Chan

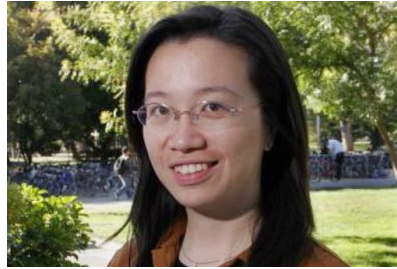


### **Title: Privacy Concerns and Protection: Evidence from a Large-scale Field Experiment**

**Abstract:** In the digital age, privacy concerns are escalating with the increased collection and use of personal information. Consequently, activists and regulators have increasingly pushed companies to make the use of personal information more transparent to users and protect consumers with more data protection policies. However, the impacts of these policies on user behaviors and welfare remain unclear. We investigate this issue through a large-scale, randomized field experiment on a leading global short-video social platform. In the experiment, treated users were offered a privacy protection option to disable a “People You May Know” (PYMK) recommender algorithm, through which their profiles and posts are revealed to other users, and control users were not informed nor allowed to disable the function. Counterintuitively, we find that treated users on average have decreased their video usage time by 0.78%; however, the usage time of those who chose to disable the function would increase by 56.56%. The results suggest that, on one hand, the privacy protection policy can raise users’ privacy concerns when they know their personal information has been used, and thus reduce their consumption and engagement; on the other hand, disabling the use of personal information will eliminate such concerns, leading to the increase of usage time. To evaluate the welfare effects of the policy, we estimate a structural model that describes users’ decisions of usage and disabling the PYMK function, and use the results to run counterfactuals of alternative policies. Results show that, by making the use of personal information transparent to users without protection policies, users will reduce their usage time and there is a marginal improvement in their welfare. By offering the privacy protection policy, the platform can significantly enhance users’ welfare; however, their usage time will still decrease because of the large “switching cost” of adopting the policy. If the platform can make the adoption easier and thus reduce the switching cost, users’ welfare and usage time will simultaneously and significantly improve. The welfare outcome is even better than the counterfactual under which regulators totally shut down the PYMK function. Our findings indicate that offering privacy protection policies can lead to a win-win scenario for both the platform and users.

**Bio:** Professor Tat Chan is the Philip L. Siteman Professor of Marketing in Olin Business School at Washington University in St. Louis. He received a Ph.D. in Economics at Yale University in 2001. His research interests are in empirical modeling various types of consumer and firm behaviors, offline and online, using econometric methodologies. He has conducted a wide range of research in the domain of economics and marketing. His research has been published in top economics and marketing journals. He currently serves as a senior editor at the journal *Marketing Science*.

## Professor Rachel R. Chen



### **Title: GenAI Assistance in a Professional Service Market: The Perish of Second Opinion**

**Abstract:** We investigate the impact of generative AI (GenAI) adoption in a market of professional services such as medical treatment and financial consulting where the product is a professional opinion. Providers of professional services often differentiate in their opinions. This allows consumers to benefit from seeking a second opinion, particularly when they are constrained from obtaining advice from a high-expertise provider. AI assistance improves the advice quality of a low-expertise provider, but has minimal impact on the advice quality of a high-expertise provider. Additionally, when two low-expertise providers both adopt AI assistance, their opinions become less diversified, reducing consumers' incentive to seek a second opinion. Considering a vertically differentiated market of professional services where a high-expertise provider and two low-expertise providers serve consumers with heterogeneous quality preferences, our study reveals important strategic implications of this opinion homogenizing effect of AI adoption. First, we show that after service providers adopt AI assistance, the high-expertise provider may enhance profit, despite quality improvement occurring to its low-expertise rivals but not to itself. In contrast, the low-expertise providers always suffer a severe drop in margins, although their total payoffs may increase under a sufficiently large benefit in corporate image associated with AI adoption. Two interesting regions arise: a “lose-lose” region, where AI adoption harms all service providers, and a “win-lose” region, where the high-expertise provider is better off but neither of the low-expertise providers. Second, we show that after providers' AI adoption, low-type consumers always enjoy a surplus gain but high-type consumers may suffer a surplus loss. Total consumer surplus declines if low-expertise providers are highly differentiated in opinions before AI adoption. Lastly, when the two low-expertise providers make endogenous decisions regarding whether to adopt AI assistance, equilibrium may arise where neither of them adopt AI assistance or only one adopts.

**Bio:** Rachel R. Chen is Professor at Graduate School of Management, University of California at Davis. She received her PhD in Management from the Johnson Graduate School of Management, Cornell University, in 2003. Her research focuses on pricing in markets with new technology, e-procurement and distribution in supply chains and service operations. She has been a member of INFORMS since 1999.

## Professor Weiwei Chen



### **Title: Optimizing Resource Allocation in Service Systems via Simulation: A Bayesian Formulation**

**Abstract:** Efficient resource allocation is vital for service systems balancing rising service expectations and operating costs. This talk focuses on a class of resource allocation problems where the service-level objective and constraints of the service systems are in the form of probabilistic measures and their performance evaluation relies on simulation models. We propose an optimal computing budget allocation formulation to select the optimal system design subject to random noises in simulation. This formulation takes a Bayesian approach to consider the prior knowledge and potential performance correlations on candidate solutions. The objective is to minimize the expected opportunity cost that penalizes based on the quality of the selected design. Convergence analysis and numerical experiments demonstrate the effectiveness of the proposed methodology.

**Bio:** Dr. Weiwei Chen is an Associate Professor of Supply Chain Management and Senior Director of MBA Programs at Rutgers University. He received his Ph.D. degree from University of Wisconsin-Madison, and the M.S. and B.S. degree from Tsinghua University, Beijing, China. Prior to joining Rutgers, he was a research scientist at GE Global Research, NY. He has extensive experience working with business and public sectors to improve service quality, strategic decisions, and operational efficiencies. He is an Associate Editor of several journals such as Service Science, INFORMS Journal on Applied Analytics, and IEEE Transactions on Automation Science and Engineering, and a Guest Editor of IISE Transactions, International Journal of Production Research, and Flexible Services and Manufacturing Journal. He served as the Chair of the INFORMS Service Science Section from 2020 to 2023.

## Professor Yeming Gong



### **Title: AI and Management Science: A Perspective of New Research Philosophy**

**Abstract:** AI is reshaping researching philosophies and methodology of management science. In empirical research, some researchers are asking: whether traditional empirical research based on sampling (compared with big data and AI-based full-size sample) is dying? In analytical modeling, AI-based “heuristics” methods are outperforming “optimal” methods, and scholars are worried whether the era of OR (Operations Research) has finished? In qualitative methods, new methods including robot-aided ethnography, AI archival research, AI-aided grounded theory, and new-generation text mining are developing. AI-based “mind-reading” or “face value”, already applied in bank borrower checking and human resource management, is science, or a new version of physiognomy? This seminar discusses new researching philosophies, new methodology, and new researching paradigms of “Artificial Intelligence and Management Science”. (1) I first study AI and foundations of management science. I examine new AI-relevant researching philosophies in Social Sciences and particularly study recent new researching paradigms in AI and economics. (2) Then I study new AI-based methods in MIS (Management Information Systems) and POM (Production Operations Management). (3) I present AI and Management Science from a view of Philosophy, including AI and Ontology, Epistemology, Axiology, and Methodology. (4) Then I present relevant research methodology organized by philosophical stances including Rationalism vs Empiricism, AI and Positivism, AI-based Post-positivism, AI-based Interpretivism, AI-based Phenomenology, AI and Constructivism, AI and Pragmatism, and Realism vs Relativism. Finally, I summarize a new AI-based research onion for management science.

**Bio:** I am head of AIM (Artificial Intelligence in Management) Institute and the director of the Business Intelligence Center (BIC). I am a Professor of Management Science, researching the interface of IT/AI and operations.

120+ “Web of Science Core Collection” scientific articles are published or accepted by 45+ indexed journals like MIS Quarterly, Production and Operations Management, Transportation Science, various IEEE Transactions, and ACM Transactions, including 31 papers in FT or A journals. I published two books in Springer and Erasmus.

In an MHI scientific report, I was listed as one of the top 10 warehousing and logistics specialists. By P Rank (Hamburg, Germany), I had ranked No. 1 of the Professors of Management in France based on publication during 01/2019-09/2020, and the result can be robust checked by different criteria in the UK, France, Germany and the Netherlands.

## Professor Xi Li

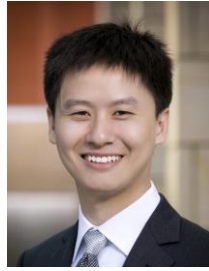


### **Title: Learning from Historical Prices**

**Abstract:** Recent years have witnessed a growing number of online platforms disclosing the historical prices of their products to consumers. While intuition suggests that disclosing historical prices will break the information asymmetry between sellers and consumers which will only benefit consumers, we find that the above “intuition” does not necessarily hold. More specifically, we consider a seller selling a product to consumers who arrive over time. Consumers are uncertain about the product’s quality and rely on past consumer reviews to make inferences. A positive review may stem from either the product being of high quality or being of low quality but having a low price. When consumers cannot observe historical prices charged for the product, they are unable to differentiate between the two possibilities, which gives the seller an opportunistic incentive to distort its prices downward to drive positive product reviews and subsequently manipulate future consumers’ perception of product quality. When consumers observe historical prices, however, they can differentiate between these two possibilities and correctly infer product quality, which eliminates the seller’s opportunistic incentive to drive down prices in an earlier period. In this sense, the transparency of historical prices drives up product prices, which may hurt consumers. Collectively, this study unveils the unexpected negative consequence of disclosing historical prices and cautions public policymakers to take it into consideration when regulating online platforms.

**Bio:** Xi Li is Professor of Marketing at Faculty of Business and Economics, University of Hong Kong. His recent research focuses on consumer protection in the digital economy. His research has appeared in such journals as Marketing Science, Management Science, Journal of Marketing Research, Journal of Consumer Research, MIS Quarterly, MSOM and POM. He is an editorial board member of Marketing Science and Production and Operations Management.

## Professor Anyan Qi



### **Title: Combating Excessive Overtime in Global Supply Chains**

**Abstract:** Suppliers operating in developing economies may resort to compelling their workforce to engage in excessive overtime, resulting in severe physical and mental health issues for workers and the potential for significant damage to the brand image of multinational enterprises (MNEs) if these practices are exposed to the public. In this paper, we develop a game-theoretic model of a dyadic supply chain to analyze a manufacturer's operational strategies to combat the use of excessive overtime by a supplier. These strategies encompass a stick strategy of auditing the supplier's practice (i.e., the auditing strategy) and carrot supplier-development strategies of subsidizing the supplier's capacity improvement initiative (i.e., the capacity-subsidy strategy) and cross-training the supplier's workers to increase their versatility (i.e., the cross-training strategy). When auditing stands as the sole viable strategy, it can effectively mitigate the supplier's violation behavior only when the auditing accuracy is significant. In the scenario where both capacity subsidy and auditing are viable, interestingly, capacity subsidy may be a complement for auditing, contrary to the naive belief that the strategies are always substitutes in combating excessive overtime. Compared to the case when auditing is the sole viable strategy, we find that capacity subsidy may backfire, increasing the expected degree of excessive overtime and decreasing social welfare, when capacity subsidy and auditing are substitutes. Furthermore, the capacity subsidy could lead to a social welfare level that is even higher than that in a centralized supply-chain benchmark without the capacity subsidy. In situations where both cross-training and auditing are viable, cross-training may also be a complement for auditing, driven by the enhanced flexibility of the labor force. However, similar to the capacity subsidy, cross-training may backfire, resulting in increased excessive overtime and decreased social welfare.

**Bio:** Dr. Anyan Qi is an Associate Professor of Operations Management at the Naveen Jindal School of Management at the University of Texas at Dallas. His primary research interests are in socially responsible operations, strategic procurement, and capacity management in modern supply chains, where he leverages cutting-edge tools such as stochastic dynamic programming, data-driven optimization, game theory, and behavioral experiments. He has been recognized for his outstanding work in several paper competitions. Anyan serves as an Associate Editor for Manufacturing & Service Operations Management, a Senior Editor for Production and Operations Management, a Guest Associate Editor for Management Science, and an Associate Editor for Decision Sciences. He has received several awards for his service contributions, including the Management Science Distinguished Service Award four times, the Management Science Meritorious Service Award once, and the M&SOM Meritorious Service Award six times. Before joining the Naveen Jindal School of Management, Anyan earned a Ph.D. degree in Technology and Operations from the Ross School of

Business, University of Michigan, a Bachelor' s degree in Automation from the School of Information Science and Technology, and a Bachelor' s degree in Economics from the School of Economics and Management in Tsinghua University.

## Professor Yuanguang Zhong

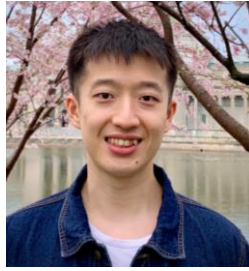


### **Title: The Value of Store Inventory Sharing in Coopetition Omnichannel Operations: Demand and Operational Benefits**

**Abstract:** In order to achieve fast delivery, some online retailers have recently adopted an inventory sharing strategy that considers offline retailers as front-line warehouses to fulfill online channel orders, allowing them to form a coopetition relationship. In this paper, we investigate the impact of the store inventory sharing on omnichannel operations in the coopetition partnership. We first develop a stylized model to analyze the impact of store inventory sharing (SIS) strategies on retailer operations and consumer behavior, and then examine whether and when the strategy benefits these two competing and complementary channels. We find that the inventory sharing strategy has channel transfer incentives and market expansion effects. Also, the inventory sharing strategy always benefits both retailers by adjusting the operational capabilities (the store density of the offline retailer and distribution efficiency of the online retailer) and the revenue sharing coefficient. In addition, the inventory sharing strategy encourages more customers to choose the online channel. However, in terms of the parameter domain dominated by the SIS strategy, the strategy is more valuable to the offline retailer than the online retailer. Considering the availability information that online retailers can provide, we find no complementary effects between the inventory sharing strategy and the availability information strategy. However, the availability information provided by online retailers does not harm the omnichannel system. Furthermore, we find that it is more profitable for offline retailers to prioritize offline demand when implementing inventory sharing strategies.

**Bio:** Yuanguang Zhong is a Professor at the School of Business Administration at the South China University of Technology. He has been supported by the National Science Fund for Distinguished Young Scholars. His research interest includes supply chain finance, sharing economics and the application of optimization on the supply chain management, including resource allocation, flexibility design and analysis, inventory control. His publications have appeared in *Management Science*, *Operations Research*, *Manufacturing and Service Operations Management*, *Production and Operations Management*, *IIE Transactions*, *European Journal of Operational Research* and other journals.

## Professor Ruihao Zhu



### **Title: Temporal Fairness in Learning and Earning: Price Protection Guarantee and Phase Transitions**

**Abstract:** Motivated by the prevalence of “price protection guarantee”, which helps to promote temporal fairness in dynamic pricing, we study the impact of such policy on the design of online learning algorithm for data-driven dynamic pricing with initially unknown customer demand. Under the price protection guarantee, a customer who purchased a product in the past can receive a refund from the seller during the so-called price protection period (typically defined as a certain time window after the purchase date) in case the seller decides to lower the price. We consider a setting where a firm sells a product over a fixed time horizon and characterize how the length of price protection period can affect the optimal regret of the learning process. We first establish a fundamental impossible regime with a novel refund-aware regret lower bound analysis. Then, we propose LEAP, a phased exploration type algorithm for Learning and EArning under Price Protection to match this lower bound up to logarithmic factors or even doubly logarithmic factors (when there are only two prices available to the seller). Our results reveal the surprising phase transitions of the optimal regret with respect to the length of price protection period. Specifically, when this length is not too large, the optimal regret has no major difference when compared to that of the classic setting with no price protection guarantee. Moreover, there exists an upper limit on how much the optimal regret can deteriorate when this length of price protection period grows large. Finally, we conduct extensive numerical simulations with both synthetic and real-world datasets to show the benefit of LEAP over other heuristic methods for this problem.

**Bio:** Ruihao Zhu is currently an Assistant Professor at the Cornell University SC Johnson College of Business. He works on using machine learning and optimization to inform decision-making under uncertainty with applications in online platforms and supply chain. Previously, he received his PhD degree from MIT and his bachelor degrees from the Shanghai Jiao Tong University and the University of Michigan.