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### Research Spotlights

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### What's in a "Username"? The Effect of Perceived Anonymity on Herding in Crowdfunding (p. 1)

Yang Jiang, Yi-Chun (Chad) Ho, Xiangbin Yan, Yong Tan

This research investigates whether and how predecessors' usernames—as evaluated from a perspective of perceived anonymity—affect successors' herding momentum through the varying extent of perceived source credibility. Using a unique data set collected from a leading debt-based crowdfunding platform, the authors classify lenders' usernames as either anonymous or real-seeming, with the latter referring to usernames that seem to reveal one's legal name. The authors find that successors demonstrate weaker herding momentum toward predecessors who are presented with real-seeming usernames than anonymous ones. This finding, which the authors attribute to a lower extent of perceived credibility resulting from a nonconforming behavior, challenges the conventional wisdom that considers anonymity a negative factor for source credibility. Further, the authors demonstrate the importance of risk-related factors, in that the uncovered positive effect of perceived anonymity on herding is accentuated in the early stage of the fundraising period. Their findings provide actionable insights for platform owners to utilize the user heterogeneity with respect to perceived anonymity and hence perceived credibility in herding. These findings are also informative for borrowers who desire to exert effort to encourage participation from the crowd.

### Creative Appeals in Firm-Generated Content and Product Performance (p. 18)

Jifeng Mu, Jonathan Zhang, Abhishek Borah, Jiayin Qi

Creative and original message appeals stimulate customers, generating arousal through novelties, meanings, associations, inspirations, human emotions and connections, and the degree to which the message appeals resonate and get the attention of the customers. Hedonic appeals imbue desirability around a product, endowing it with mystery or coolness, subtly invoking intentions, anticipation, and agency. Firms should highlight more about the hedonic rather than utilitarian features of products with high quality,

highly consistent, or less complex firm-generated messages to persuade consumers to purchase. High-quality content is original and virtuosic, novel and compelling, curated and accurate, insightful and relevant, relatable and credible, authentic and immersive, and engaging and resonating with customers. Message goal consistency calls for alignment to central brand guidelines (i.e., what the brand stands for, its value proposition, and its purpose) and adherence to the brand DNA regarding look and feel, tone and manner in content creation. Writing clearly and concisely in a novel approach creates intrigue by making firm-generated content communications stick. Excellent writing and easy readability make for easy comprehension and consequently better persuasion. Firms stand to gain more by devoting resources, such as employee training for content creation and technology acquisition in getting high quality, easy-to-comprehend, and goal consistent messages to customers.

### Racial Bias in Customer Service: Evidence from Twitter (p. 43)

Priyanga Gunarathne, Huaxia Rui, Abraham Seidmann

Detecting and reporting systemic racial bias is an essential step toward the eradication of racial discrimination in our society. Doing so not only requires society members to voice and share their anecdotal experiences, but also relies on researchers to document systematic statistical evidence of racial bias. This paper documents the first large-scale evidence of business-to-customer racial bias on digital platforms on which the perpetrators are individual employees who act on behalf of a company and the victims are customers. This is in contrast to existing studies of racial bias on digital platforms that focus on peer-to-peer marketplaces in which both the perpetrators and the victims are individuals acting independently and on their own behalf. By analyzing more than 57,000 social media customer complaints to U.S. airlines and leveraging a variety of analytics techniques, including text mining and facial recognition, the authors present quantitative evidence that African American customers are less likely to receive a response when they complain than otherwise similar White customers. Furthermore, their deep learning-based falsification

test shows that the bias is absent without the race-revealing visual cue. This study offers a practical yet powerful recommendation for companies: conceal all customer profile pictures from their employees while delivering social media customer service.

**Functional IT Complementarity and Hospital Performance in the United States: A Longitudinal Investigation** (p. 55)

Abhay Nath Mishra, Youyou Tao, Mark Keil, Jeongha (Cath) Oh

For healthcare practitioners and policymakers, one of the most challenging problems is understanding how to implement health information technology (HIT) applications in a way that yields the most positive impacts on quality and cost of care. The authors identify four clinical HIT functions which they label as order entry and management (OEM), decision support (DS), electronic clinical documentation (ECD), and results viewing (RV). The authors view OEM and DS as primary clinical functions and ECD and RV as support clinical functions. Their results show that no single combination of applications uniformly improves clinical and experiential quality and reduces cost for all hospitals. Thus, managers must assess which HIT interactions improve which performance metric under which conditions. Their results suggest that synergies can be realized when these systems are implemented simultaneously. Additionally, synergies can occur when support HIT is implemented before primary HIT and irrespective of the order in which primary HITs are implemented. Practitioners should also be aware that the synergistic effects of HITs and their impact on cost and quality are different for chronic and acute diseases. Their key message to top managers is to prioritize different combinations of HIT contingent on the performance variables they are targeting for their hospitals but also to realize that technology may not impact all outcomes.

**Ghosts in the Machine: How Marketing and Human Capital Investments Enhance Customer Growth When Innovative Services Leverage Self-Service Technologies** (p. 76)

Terence J. V. Saldanha, Abhishek Kathuria, Jiban Khuntia, Benn R. Konsynski

Rapid improvements in underlying technologies coupled with the diminution of contact-based interactions are resulting in a commensurate increase in the supply and demand of contact-free commerce, necessitating firms to offer innovative electronic services over self-service technologies (SSTs). This raises critical questions regarding value creation as prior research suggests mixed effects of SSTs on customers and unclear implications of SSTs for firm customer growth. These complexities are accentuated when

firms offer innovative electronic services because of customers' unfamiliarity with the services. In turn, this dynamic raises questions about (a) how SSTs influence firm customer growth, particularly when the firm's electronic services are more innovative, and (b) what complementary investments help firms achieve customer growth from SSTs and innovative electronic services. In this study, the authors argue that innovative electronic services on SSTs aimed at bringing the enterprise to the customer will only be beneficial if managers enhance customers' awareness of, trust in, and experience of SSTs through complementary investments in marketing and human capital. The authors use data from more than 3,800 credit unions in the United States and find support for their arguments. The findings can help managers improve the success of their digital transformation efforts of offering digital services on SSTs.

**How IT Investments Help Hospitals Gain and Sustain Reputation in the Media: The Role of Signaling and Framing** (p. 110)

Torsten Oliver Salge, David Antons, Michael Barrett, Rajiv Kohli, Eivor Oborn, Stavros Polykarpou

Understanding how IT investments help organizations to build and sustain reputation is of particular relevance for healthcare practitioners and policy makers because patients are often unable to assess the quality of care, relying instead on the reputation of health service providers in the media, such as newspapers. As information intermediaries, journalists detect, aggregate, and translate the weaker signals for quality, such as state-of-the-art IT, that a hospital emanates. The authors' analysis of 152 hospital organizations in England, complemented by interviews with healthcare journalists, shows that journalists write less negatively about hospitals when healthcare organizations' IT equipment investments are high. This implies that investments in IT equipment can buffer hospitals from negative press, thereby helping them to gain and maintain a strong reputation in the media. Practitioners and policy makers may incorporate the reputational effect of IT when making investment decisions and further amplify such IT investment through press releases, corporate reports, and media interactions.

**The Welfare Impact of Targeted Advertising Technologies** (p. 131)

Veronica Marotta, Yue Wu, Kaifu Zhang, Alessandro Acquisti

The paper analyzes the welfare impact of data collection and sharing, in the context of targeted advertising, by modeling the interaction between consumers, advertising firms, and an intermediary platform. Whereas online targeted advertising has often been claimed to create economic value for the different

players involved, this paper suggests that the outcome for the players can be vastly different depending on the type and amount of consumer information used in the targeting process. More specifically, the findings suggest that the overall welfare impact of targeting on consumers can be positive or negative depending on the type of information available and used, as well as the degree of consumer heterogeneity. Additionally, the type and amount of information that would allow the intermediary to maximize its economic interest can be different from the type and amount of information that would maximize advertisers' interests or consumers' welfare, implying that an intermediary platform may decide to adopt strategies to increase its expected payoff to the detriment of the other players involved. Hence the findings reveal the existence of a conflict of economic interests among the players and poses a critical challenge for policymakers to evaluate.

**Modifying Transactional Databases to Hide Sensitive Association Rules** (p. 152)

Syam Menon, Abhijeet Ghoshal, Sumit Sarkar

Although firms recognize the value in sharing data with supply chain partners, many remain reluctant to share for fear of sensitive information potentially making its way to competitors. Approaches that can help hide sensitive information could alleviate such concerns and increase the number of firms that are willing to share. Sensitive information in transactional databases often manifests itself in the form of association rules. The sensitive association rules can be concealed by altering transactions so that they remain hidden when the data are mined by the partner. The problem of hiding these rules in the data are computationally difficult (NP-hard), and extant approaches are all heuristic in nature. To the authors' knowledge, this is the first paper that introduces the problem as a nonlinear integer formulation to hide the sensitive association rule while minimizing the alterations needed in the data set. The authors apply transformations that linearize the constraints and derive various results that help reduce the size of the problem to be solved. Their results show that although the nonlinear integer formulations are not practical, the linearizations and problem-reduction steps make a significant impact on solvability and solution time. This approach mitigates potential risks associated with sharing and should increase data sharing among supply chain partners.

**Know Thy Context: Parsing Contextual Information from User Reviews for Recommendation Purposes** (p. 179)

Konstantin Bauman, Alexander Tuzhilin

In this paper, the authors study an important problem of parsing contextual information from user reviews for recommendation purposes. First, the authors

study the ways contextual information is expressed in user reviews and obtain novel insights about it. Among other things, they demonstrate that such type of information tends to appear at the beginning of the review, in longer sentences, in the sentences written in the past tense or using gerund form, and in the sentences referring to some points in time. Second, they propose a novel context parsing method for systematically extracting contextual information from user-generated reviews that rely on the insights obtained in their study. The authors apply the proposed method to three different Yelp applications (restaurants, hotels, and beauty & spas) and demonstrate that it works well and leads to better recommendation performance than the baseline approaches. Their method systematically extracts more comprehensive sets of relevant contextual variables and corresponding phrases than the baselines. Their analysis also shows the importance of the newly discovered contextual information for recommendation purposes. The obtained results and the proposed method can help to get more comprehensive knowledge about contextual variables in a given application that leads to better recommendations.

**Achieving a Balance Between Privacy Protection and Data Collection: A Field Experimental Examination of a Theory-Driven Information Technology Solution** (p. 203)

Bailing Liu, Paul A. Pavlou, Xiufeng Cheng

Companies face a trade-off between creating stronger privacy protection policies for consumers and employing more sophisticated data collection methods. Justice-driven privacy protection outlines a method to manage this trade-off. The authors built on the theoretical lens of justice theory to integrate justice provision with two key privacy protection features, negotiation and active-recommendation, and proposed an information technology (IT) solution to balance the trade-off between privacy protection and consumer data collection. In the context of mobile banking applications, the authors prototyped a theory-driven IT solution, referred to as negotiation, active-recommendation privacy policy application, which enables customer service agents to interact with and actively recommend personalized privacy policies to consumers. The authors benchmarked their solution through a field experiment relative to two conventional applications: an online privacy statement and a privacy policy with only a simple negotiation feature. The results showed that the proposed IT solution decreased privacy concerns and increased consumers' information disclosure intentions and actual disclosure behavior. A post hoc analysis corroborated these findings, indicating that their design enhanced perceived procedural justice, interactional justice, and distributive justice among consumers and made them feel comfortable to disclose

their personal information in practice. Likewise, companies would be able to collect additional personal information from consumers, thereby contributing to a privacy-friendly environment.

### **An Economic Analysis of Rebates Conditional on Positive Reviews** (p. 224)

Jianqing Chen, Zhiling Guo, Jian Huang

In the prevailing e-commerce environment, conditional rebates have emerged as a common business practice on leading online platforms such as Taobao. Because rebates are only offered to purchasing consumers who post positive online reviews, a key concern is that it can easily induce fake reviews that might harm consumers. The authors theoretically analyze the seller's optimal conditional-rebate strategies based on heterogeneous consumers' online-review-posting behavior and derive three practically important findings. First, it is not always profitable for strategic sellers to pursue the conditional-rebate strategy. Blindly offering incentives may not help achieve the goal of review manipulation. Second, the conditional-rebate strategy does not necessarily result in fake reviews. Fake reviews occur only if consumers' moral cost is low and the review-posting cost is not too high. Third, under certain conditions, offering conditional rebates can even increase consumer surplus and social welfare. Platform owners or policy designers can help reduce social losses by offering transparent sales information and by appropriately controlling the platform review-posting cost to induce quality reviews. The authors' study offers new insights into the fake-review phenomenon induced by conditional rebates and sheds new light on the policy debate about whether platforms should completely ban incentivized reviews.

### **What Questions Are You Inclined to Answer? Effects of Hierarchy in Corporate Q&A Communities** (p. 244)

Jingchuan Pu, Yang Liu, Yuan Chen, Liangfei Qiu, Hsing Kenneth Cheng

Are employees willing to voluntarily share knowledge with their higher-ups? The existing studies show that the answer is no—employees are less likely to share knowledge with their higher-ups in the offline setting, corporate wikis, and online discussion groups. The authors answer the same question in a corporate question-and-answer (Q&A) community and argue that the answer can be yes. A potential-dyads approach and a quasi-natural experiment jointly demonstrate that employees are inclined to answer a question from their higher-ups and even exert more effort in those answers. Using an instrumental-variable design, the authors show that users who post more answers to higher-ranked individuals and who display greater effort in those answers are more likely to

get promoted in subsequent years, meaning that employees do not need to worry about their careers when sharing knowledge with their higher-ups in corporate Q&A communities. The authors' research, together with research on other contexts, are useful for companies to take the role of the managers into account when considering which type of online community to adopt. Community designers can use their findings to better motivate knowledge sharing by considering users' different job ranks.

### **Seeker Exemplars and Quantitative Ideation Outcomes in Crowdsourcing Contests** (p. 265)

Tat Koon Koh, Muller Y. M. Cheung

Crowdsourcing ideation contests allow solution-seeking firms (seekers) to solicit ideas from external individuals (solvers). Contest platforms often recommend seekers to provide examples of solutions (i.e., seeker exemplars) to guide and inspire solvers in generating ideas. In this study, the authors delve into solvers' ideation process and examine how different configurations of seeker exemplars affect the quantitative outcomes in solvers' scanning, shortlisting, and selection of ideas. Results from an online experiment show that solvers generally search for, shortlist, and/or submit fewer ideas when shown certain seeker exemplars. In addition, solvers who submit fewer ideas tend to submit lower-quality ideas, on average. Thus, a key insight from this study is that showing seeker exemplars, which contest platforms encourage and seekers often do, could negatively affect quantitative ideation outcomes and thereby impair idea quality. To help mitigate these adverse ideation outcomes, the authors propose a few areas of which seekers should be mindful. They also suggest ways that contests' platforms can contribute to the idea generation process that solvers undertake.

### **Extending Digital Ventures Through Templating** (p. 285)

Jimmy Huang, Ola Henfridsson, Martin J. Liu

A powerful way of growing digital ventures is templating. Templating involves the generation and use of generic solutions across business areas to reduce cost and increase speed. There are three main processes with which ventures can improve templating: concepting, generalizing, and porting. This paper describes these processes and proposes implications for managers engaged in growing their digital venture.

### **The Digital Undertow: How the Corollary Effects of Digital Transformation Affect Industry Standards** (p. 311)

Susan Scott, Wanda Orlikowski

Digital transformation research shows how waves of digitalization produce strategic changes within and

across firms, enabling new forms of value creation. The authors argue that different but no less important processes of digital transformation are generated by the undertow produced by these waves. Digital undertow, a corollary effect of waves of digitalization, profoundly influences how firms operate by transforming the industry standards that coordinate and regulate their core business activities. This is producing what the authors refer to as digital displacement, a process that is significantly challenging the capacity of standards to effectively manage industry operations in the digital age.

**The Role of Vendor Legitimacy in IT Outsourcing Performance: Theory and Evidence** (p. 337)

Carol Hsu, Jae-Nam Lee, Yulin Fang, Detmar W. Straub, Ning Su, Hyun-Sun Ryu

Information technology outsourcing (ITO) relationships today are facing increasingly turbulent environments. This research examines ITO performance by focusing on client firms' perceived legitimacy of vendors, termed "vendor legitimacy," consisting of pragmatic, cognitive, and moral dimensions. Based on the authors' surveys with executives and managers at 200 ITO client firms, the study's findings present the imperative to actively manage vendor legitimacy for achieving and sustaining ITO performance. Specifically, at the strategic level, clients' perception of vendors as mutually aligned, long-term-oriented, tightly integrated partners is critical. At the operational level, clients should collaborate with vendors to design and establish interorganizational routines that undergird vendor legitimacy. At the managerial level, clients' relational governance plays a pivotal role in attaining procedural justice, ethical standards, and fairness in the interorganizational collaboration. In

sum, the authors' study suggests that creating a dedicated corporate function or unit for continually overseeing and assessing a portfolio of vendors and swiftly identifying and responding to potential issues and crises related to vendor legitimacy would be a worthwhile investment.

**Sponsored Data: Smarter Data Pricing with Incomplete Information** (p. 362)

Xiaowei Mei, Hsing Kenneth Cheng, Subhajyoti Bandyopadhyay, Liangfei Qiu, Lai Wei

With the development of data-intensive internet services, the world has witnessed explosive growth in mobile data consumption during the last couple of years. The upcoming generation of 5G-capable phones and networks will continue and even accelerate that process. At the same time, consumers are becoming more conscious about their data consumption because their monthly caps of mobile data plans can be easily exhausted by premium content, such as high-definition videos and virtual-reality games. In response, the mobile network operators (MNOs) have proposed a new business model, the so-called sponsored data plans, to subsidize consumers by transferring at least part of the data bills from consumers to content providers. Although industry practitioners claim that sponsored data plans increase consumer welfare, the authors' analysis reveals that the impact of sponsored data on consumer surplus depends crucially on whether the MNO has complete information of the consumers' valuation of mobile data. Our analysis helps provide a clearer picture of the impact of sponsored data on consumer surplus while reconciling the conflicting views from scholars, digital rights groups, and the network carriers.