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## Management Insights

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# Management Insights

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## **The Distinct Effects of Information Technology and Communication Technology on Firm Organization** (p. 2859)

[Nicholas Bloom](#), [Luis Garicano](#), [Raffaella Sadun](#),  
[John Van Reenen](#)

Do communications and Internet technologies drive us apart or bring us closer together? The authors study the impact of information and communication technology on worker and plant manager autonomy and span of control. Using a new data set of American and European manufacturing firms, the authors find indeed that better information technologies such as enterprise resource planning (ERP) for plant managers and computer-assisted design and computer-assisted manufacturing (CAD/CAM) for production workers are associated with more autonomy and a wider span. On the other hand, technologies that improve communication (like data intranets) decrease autonomy for workers and plant managers. The insight for management: The theory on computer and communication technologies is upheld; communications advances reduce autonomy, while computer technologies tend to increase it.

## **Yield Optimization of Display Advertising with Ad Exchange** (p. 2886)

[Santiago R. Balseiro](#), [Jon Feldman](#), [Vahab Mirrokni](#),  
[S. Muthukrishnan](#)

How should publishers plan their long-term advertising quality against short-term opportunities in the spot market? It is clear from the growing role of Ad Exchanges in the real-time sale of advertising slots that Web publishers are considering a new alternative to their more traditional reservation-based ad contracts. To make this choice, the publisher must trade off, in real-time, the short-term revenue from Ad Exchange with the long-term benefits of delivering good-quality spots to the reservation ads. The authors derive an efficient policy for online ad allocation in settings that trades off ad placement quality and exchange prices, effectively finding the Pareto-optimal point on the quality versus revenue curve. The insight for management: Based on real publisher ad inventory, the

authors confirm that there are significant benefits for publishers if they jointly optimize over both channels.

## **The Value of Operational Flexibility in the Presence of Input and Output Price Uncertainties with Oil Refining Applications** (p. 2908)

[Lingxiu Dong](#), [Panos Kouvelis](#), [Xiaole Wu](#)

What is the value of operational flexibility in oil refining? Refining is indispensable to almost every natural-resource-based commodity industry. It involves a series of complex processes that transform inputs with a wide range of quality characteristics into refined finished products sold to end markets. The authors take the perspective of a profit-maximizing refiner that considers upgrading its existing simple refinery to include intermediate-conversion flexibility, i.e., the capability of converting heavy intermediate components to light ones. They investigate the value drivers of conversion flexibility and the impact of input and output market conditions on its economic potential. Conversion flexibility adds value to refineries by either transforming a nonprofitable situation into a profitable one or improving profitability of an already profitable situation. The insight for management: The value of conversion flexibility to be significant, accounting for 40% of the expected profit with conversion, and the purchase benefit and unit revenue benefit are equally important.

## **Buy-It-Now or Take-a-Chance: Price Discrimination Through Randomized Auctions** (p. 2927)

[L. Elisa Celis](#), [Gregory Lewis](#), [Markus Mobius](#),  
[Hamid Nazerzadeh](#)

Does an informed consumer reduce the ability of sellers to price discriminate? Price discrimination is a long-followed strategy for sellers to increase profits through market segmentation and differentiated pricing. Increasingly detailed consumer information makes sophisticated price discrimination possible. The authors propose a new randomized sales mechanism for such environments. Bidders can “buy-it-now” at a posted price or “take-a-chance” in an auction where the top

bidders are equally likely to win. The randomized allocation incentivizes high-valuation bidders to buy it now. The authors analyze equilibrium behavior and apply their analysis to advertiser bidding data from Microsoft Advertising Exchange. The insight for management: The “take-a-chance” mechanism increases revenue by 4.4% and consumer surplus by 14.5% compared to an optimal second-price auction.

### **Mean Field Equilibria of Dynamic Auctions with Learning** (p. 2949)

[Krishnamurthy Iyer](#), [Ramesh Johari](#),  
[Mukund Sundararajan](#)

How does learning affect bidding over time in dynamic auctions? The authors study learning in a dynamic setting where identical copies of a good are sold over time through a sequence of second-price auctions. Each agent in the market has an unknown independent private valuation that determines the reward she obtains from the good; for example, in sponsored search settings, advertisers may initially be unsure of the value of a click. According to the authors, the agent has an optimal strategy where she bids truthfully. The authors discuss the implications of the auction format and design on the auctioneer’s revenue. The insight for management: The revenue equivalence of standard auctions is established, along with the optimal selection of reserve prices in dynamic auctions.

### **Capital Structure, Product Market Dynamics, and the Boundaries of the Firm** (p. 2971)

[Dirk Hackbarth](#), [Richmond Mathews](#), [David Robinson](#)

Are new markets better explored by a large incumbent or a small separate entity? The authors evaluate a new product market opportunity as an option and ask whether it is best exploited by a large incumbent firm (integration) or by a small separate firm (non-integration). The authors show that integration protects assets in place value, whereas nonintegration protects option value and maximizes financial flexibility. They show that increases in standard measures of cash flow risk predict exploitation of new opportunities by specialized firms, while increases in product market competition (e.g., the risk of competitive preemption) predict exploitation by incumbents. They also show that alliances organized as licensing agreements or revenue-sharing contracts sometimes better balance the sources of value and thus may dominate more traditional forms of organization. These organizational equilibria arise from the dynamic interaction of the new opportunity’s option-like features with realistic competitive forces. The insight for management: There are trade-offs between pursuing new markets with large or small companies.

### **What Death Can Tell: Are Executives Paid for Their Contributions to Firm Value?** (p. 2994)

[Bang Dang Nguyen](#), [Kasper Meisner Nielsen](#)

How much is a CEO worth? Maybe it’s easiest to tell if he or she passes on. Using stock price reactions to sudden deaths of top executives as a measure of expected contribution to shareholder value, the authors examine the relationship between executive pay and managerial contribution to shareholder value. Not surprisingly, they find that managers with high perceived contributions to shareholder value obtain higher pay. The executive pay-contribution relationship is stronger for professional executives and for executives with high compensation. The insight for management: The average top executive appears to retain 65%–71% of the marginal rent from the firm-manager relationship.

### **Bargaining Ability and Competitive Advantage: Empirical Evidence from Medical Devices** (p. 3011)

[Matthew Grennan](#)

How much is bargaining ability worth? In markets where buyers and suppliers negotiate, supplier costs, buyer willingness-to-pay, and competition determine only a range of potential prices, leaving the final price dependent on other factors such as bargaining ability. The author estimates firm bargaining abilities in the context of the coronary stent industry where different hospitals (buyers) pay different prices for the exact same product from the same supplier. The insights for management: (1) Variation in bargaining abilities explains 79% of this price variation, (2) bargaining ability has a large firm-specific component, and (3) changes in the distribution of bargaining abilities over time suggest learning as an important channel influencing bargaining ability.

### **Emergent Life Cycle: The Tension Between Knowledge Change and Knowledge Retention in Open Online Coproduction Communities** (p. 3026)

[Gerald C. Kane](#), [Jeremiah Johnson](#), [Ann Majchrzak](#)

How should online coproduction communities resolve the tension between changing and retaining the knowledge they have created? The authors conducted a case study of how one online coproduction community—the nine-year history of the Wikipedia article on autism—handles this tension. They find that the nature of the change–retain tension and the community’s response to it fluctuates considerably over the life of the community. These changes bear striking similarities to processes associated with traditional software development life cycles, despite the absence of traditional control mechanisms. What initially appear to be conflicts in the extant literature actually describe different roles and production focus at the different stages of development. Disruptive events signal the need for the community to

shift production focus, which often involves members joining and leaving the production process, rather than adopting new roles. The insight for management: Challenging decisions face the coproduction communities who walk the tightrope between current and open and accurate and stable information.

**Improving Penetration Forecasts Using Social Interactions Data** (p. 3049)

[Olivier Toubia](#), [Jacob Goldenberg](#), [Rosanna Garcia](#)

How much does popularity count? The authors propose an approach for using individual-level data on social interactions (e.g., number of recommendations received by consumers, number of recommendations given by adopters, number of social ties) to improve the aggregate penetration forecasts. They conduct a field study in collaboration with a consumer packaged goods company and a marketing research company and confirm that incorporating social interactions data using the proposed approach has the potential to result in improved aggregate penetration forecasts. The insight for management: Social interaction data can improve penetration forecasts.

**When to Sell Your Idea: Theory and Evidence from the Movie Industry** (p. 3067)

[Hong Luo](#)

When should you sell your idea? The author works with a novel data set from the market for original movie ideas and finds that buyers are reluctant to meet unproven sellers for early-stage ideas, which restricts sellers to either developing the ideas fully (to sell them later) or abandoning them. In contrast, experienced sellers can attract buyers at any stage, and they sell worse ideas sooner and better ideas later. The insight for management: Policy interventions that discourage buyer participation—such as stronger intellectual property protection—may diminish the market for ideas and hurt inexperienced sellers.

**Selecting the Best? Spillover and Shadows in Elimination Tournaments** (p. 3087)

[Jennifer Brown](#), [Dylan B. Minor](#)

Does being the champion indicate that you are the best? The authors consider how past, current, and future competition within an elimination tournament affects the probability that the stronger player wins. Using data from high-stakes tournaments, they find that shadow and spillover effects influence match outcomes and have already been priced into betting markets. The shadow effect is that the stronger the expected future competitor, the lower the probability that the stronger player wins in the current stage. The spillover effect is that previous effort reduces the probability that the stronger player wins in the current stage. The insight for management: Timing is everything; the best player does not always win the tournament due to a number of dynamics.

**Dynamic Commercialization Strategies for Disruptive Technologies: Evidence from the Speech Recognition Industry** (p. 3103)

[Matt Marx](#), [Joshua S. Gans](#), [David H. Hsu](#)

What did you say? Disruptive technology such as voice recognition can be a challenge for existing companies. When start-up innovation involves a potentially disruptive technology—initially lagging in the predominant performance metric, but with a potentially favorable trajectory of improvement—incumbents may be wary of engaging in cooperative commercialization with the start-up. Generally, it is perceived that disruptive innovation will lead to (exclusively) competitive commercialization and the eventual replacement of incumbents. The authors evaluate the automated speech recognition industry from 1952 to 2010 and confirm their main hypothesis. The insight for management: Incumbents should consider a dynamic strategy involving product market entry before switching to a cooperative commercialization strategy.