USING DATA TO PREDICT MORTALITY

THE HIDDEN COSTS OF OUTSOURCING

THE BENEFITS OF ONBOARDING ROOKIES
Maryland Smith Research is published annually by the Robert H. Smith School of Business at the University of Maryland, College Park. Articles summarize papers published in the in the top 50 business journals, according to the Financial Times research ranking.

Interim Dean
Ritu Agarwal

Senior Associate Dean for Faculty & Research
Michael Ball

Department Chairs
Martin Loeb
Accounting & Information Assurance

Michael Fu
Decision, Operations & Information Technologies

Russell Wermers
Finance

Martin Dresner
Logistics, Business & Public Policy

Kathryn M. Bartol
Management & Organization

David Godes
Marketing

Editor
Daryl James

Contributors
Carrie Handwerker, JOUR ’02
Karen Johnson
Gregory Muraski

Graphic Design
Chris Decker
Jessica Smith, JOUR ’10

Photography
Tony Richards

Contact
Robert H. Smith School of Business
Office of Marketing Communications
3570 Van Munching Hall
University of Maryland
College Park, MD 20742-1815
301-405-7282
rhsmith.umd.edu/research

Copyright ©2019
Robert H. Smith School of Business
This publication is produced by the Office of Marketing Communications.

MARYLAND SMITH FACULTY ARE CONVERSATION STARTERS. PEOPLE TALK ABOUT THEIR RESEARCH BECAUSE IT MATTERS.

—RITU AGARWAL, INTERIM DEAN
## Table of Contents

### FEATURES

<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Subtitle</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Using Data to Predict Mortality</td>
<td>Unlocking the Power of Predictive Tools To Make a Difference</td>
</tr>
<tr>
<td>14</td>
<td>Slow and Steady Avoids the Crash</td>
<td>Traders Win by Staying Under the Radar</td>
</tr>
<tr>
<td>20</td>
<td>Beware of CFOs with Large Signatures</td>
<td>Autograph Size Predicts Narcissism and Related Problems</td>
</tr>
<tr>
<td>26</td>
<td>The Benefits of Onboarding Rookies</td>
<td>For Growing Firms, Rookies Make the Best Recruits</td>
</tr>
<tr>
<td>32</td>
<td>Warding Off the Dark Side of Creativity</td>
<td>Moral Identity Keeps Divergent Thinkers in Check</td>
</tr>
<tr>
<td>38</td>
<td>Killing Demand for Counterfeits</td>
<td>Consumers Blush When Caught With a Fake</td>
</tr>
</tbody>
</table>

### TOPICS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data &amp; Machine Learning</td>
<td>6</td>
</tr>
<tr>
<td>Finance &amp; Investment</td>
<td>14</td>
</tr>
<tr>
<td>Governance &amp; Ethics</td>
<td>20</td>
</tr>
<tr>
<td>Workplace Culture &amp; Inclusion</td>
<td>26</td>
</tr>
<tr>
<td>Innovation &amp; Design</td>
<td>32</td>
</tr>
<tr>
<td>Retail &amp; Consumer Psychology</td>
<td>38</td>
</tr>
</tbody>
</table>

### NEWS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith Bookshelf</td>
<td>44</td>
</tr>
<tr>
<td>Rising Stars</td>
<td>45</td>
</tr>
<tr>
<td>Accolades</td>
<td>46</td>
</tr>
</tbody>
</table>
The University of Texas at Dallas tracks publications in 24 leading business journals. Maryland Smith professors were featured in 16 of those journals in 2018 for a total of 41 publications. Overall, the school ranks No. 17 in the world and No. 15 in the United States in a rolling five-year average, based on the UT Dallas database. Maryland Smith 2018 publications include:

- Academy of Management Journal
- Information Systems Research
- Journal of Finance
- Journal of Financial Economics
- Journal of Marketing
- Journal of Marketing Research
- Journal on Computing
- Management Science
- Manufacturing and Service Operations Management
- Marketing Science
- MIS Quarterly
- Operations Research
- Organization Science
- Production and Operations Management
- The Review of Financial Studies
- Strategic Management Journal
Scholars from around the world gathered earlier this year in Austin for the American Marketing Association Winter Academic Conference. Among the honored guests was Maryland Smith professor Michel Wedel, who received the 2019 Irwin/McGraw-Hill Distinguished Marketing Educator Award. The accolade recognizes sustained contributions to marketing over an extended period of time, and only 35 educators have made the cut since the inaugural presentation in 1985.

Having one winner on the faculty is impressive—but Wedel is not alone. Past recipients of the career achievement award include Smith professor Roland Rust, recognized in 2012, and University of North Carolina professor Valarie Zeithaml, who received her MBA and PhD from Smith.

New AMA research rankings confirm our marketing depth. The school jumped to No. 2 in the world on the premier AMA journals list in 2018—the first public institution ranked in the top 5 since 2015.

This marketing prowess is matched in other disciplines. Smith finance professor Albert “Pete” Kyle, for example, won the 2018 CME Group-MSRI Prize in Innovative Quantitative Applications. Past recipients of the award, established in 2006, have included Nobel laureates.

Kyle, the author of landmark research on market microstructure, helped modernize Nasdaq in the 1990s as a federal consultant. Traders handled orders by phone at the time, which created job security for market gatekeepers. But Kyle pushed for automation. Other Smith finance professors have led pioneering studies on mutual funds and stock options.

Smith information systems scholars, meanwhile, continue to unpack the economic and societal impacts of the powerful digital transformations that are fueling businesses globally. Smith places No. 4 in the world for publishing in the information systems journals included in the University of Texas at Dallas research ranking.

Faculty members from all departments appear regularly in the top 24 journals in the UT Dallas research ranking, as shown in the graphic on page 4. Articles in this issue of Maryland Smith Research provide a sampling of their work from 2018. Additional faculty insights are available at the school’s Maryland Smith Research website and the weekly Maryland Smith Brain Trust digital newsletter.

As interim dean, I am honored to work with so many passionate and creative scholars. They are leaders in their fields who never stop learning, growing and exploring ideas.

Above all, they are conversation starters. People talk about their research because it matters.

Ritu Agarwal, Interim Dean
Data are powerful. But how can you use data to offer a more-informed prognosis to cancer patients? New research from Smith’s Margrét Bjarnadóttir offers a road map.

In their work, Bjarnadóttir and three co-authors developed a new predictive app that culls medical data to offer a better answer to a cancer patient’s top question: “What’s my prognosis?”

It aims to help patients choose the treatment or care that will work best for them, and helps doctors and hospitals make smarter recommendations and treatment plans.

The researchers explored a comprehensive dataset from all colorectal cancer patients in California, choosing that disease because of its prevalence—the third most common cancer in the U.S.—and its varying treatment options and outcomes.

Bjarnadóttir and her co-authors used the data to create predictive models to estimate short-term and medium-term survival probabilities for patients based on their clinical and demographic information. Currently,
almost half of colorectal cancer patients receive no prognosis information from their doctors, and the predictions they do receive are often inaccurate or biased, according to the researchers.

They contend that using predictive modeling and visualization tools makes prognosis information easier for doctors to present and patients to understand.

They say having accurate information about their prognosis helps patients make better decisions about their course of care, and increases their satisfaction with their doctors.

The researchers also say using predictive tools can save health care dollars by reducing the tendency many doctors have to overprescribe and overtreat conditions that likely won’t see any benefit from those actions. Typical colorectal treatments include surgery, chemotherapy and radiation, which have risks and often-severe side effects, but may not improve outcomes for a patient.

Hospitals can also use the predictions to anticipate loads on their systems, adjust staffing levels accordingly and make better resource allocations for things like surgical facilities, beds and equipment.

The researchers say their app is a user-friendly tool to help doctors and patients have better conversations about treatment options and outcomes, and a solution that could be applied to many other types of cancer and medical diagnoses.

The app takes a patient’s information and displays both predicted survival curves and the actual survival data for the 20 most similar patients in the database. This helps patients understand the possible range of outcomes so they can make better, more informed decisions about their treatment.

The study provides “a road map for modeling disease outcomes based on existing data,” the researchers say. “These models may provide an unbiased view of the likely trajectory of a patient’s disease, offering patients and providers a base for data-driven decision-making that personalizes treatment and improves quality of care.”

“Predicting Colorectal Cancer Mortality: Models To Facilitate Patient-Physician Conversations and Inform Operational Decision Making” is featured in Production and Operations Management.

Margrét Bjarnadóttir
Decision, Operations & Information Technologies
New Algorithm Helps Stretch Ad Dollars

As featured in *Journal of Marketing Research*

A new algorithm developed at Maryland Smith allows companies to stretch their budgets and optimize results when buying online display ads. “The method gives campaign managers an edge when bidding for limited advertising space on desired websites,” says Smith assistant professor Courtney Paulson. “It also works ahead of a campaign as a budget-setting tool.”

**THE ALGORITHM WORKS AHEAD OF A CAMPAIGN AS A BUDGET-SETTING TOOL.**

Paulson and two co-authors from the University of Southern California, including Maryland Smith PhD alumna Lan Luo, start with a common challenge that companies face when launching online campaigns.

Millions of websites sell advertising space 24/7, and humans cannot keep pace with all the options. “Advertising automation has become inevitable,” Paulson and her co-authors write.

A common solution involves demand-side platforms, which tap into private auctions for ad placement in real time. Prices fluctuate based on supply and demand while targeted consumers browse the internet. Artificial intelligence makes the process possible, but available platforms have two main drawbacks. They are proprietary, which shrouds the process in secrecy. And they are rule-based, which tends to isolate each ad impression and treat it singularly. “As a result, existing bidding algorithms often follow some sort of simple rubric for making the bidding decision, rather than optimizing over the entire set of advertising opportunities,” they write.

Their proposed method addresses both limitations. It is non-proprietary, which adds transparency. And it complements the rule-based approach with a publisher-centric strategy, which adds flexibility.

Rather than treating ad impressions singularly, the tool considers viewership across websites that may charge different rates to reach the same potential customers. ComScore Media Matrix data, for example, show a significant correlation in the viewership of Businessweek.com and Reuters.com. “In such cases firms can benefit greatly from strategically placing more bids for impressions at the more cost-effective website of the two,” the authors write.

“Efficient Large-Scale Internet Media Selection Optimization for Online Display Advertising” is featured in Journal of Marketing Research.

---

**Courtney Paulson**
Decision, Operations & Information Technologies
Can Robots Create Better Movie Trailers?

As featured in *Journal of Marketing*

It takes just a few seconds for a movie or series trailer to grab you—or to lose you. Netflix and other content studios know this. It’s the reason why those micro-previews begin to autoplay when you hover your mouse over a title on menu screens for Netflix, Hulu or Amazon’s Prime Video.

Those few seconds can convey so much if done right.

In recent research, Maryland Smith marketing professor Michel Wedel, working with co-authors at Netflix, Harvard Business School and Santa Clara University, sought to develop a method that marketers can use to create the most optimal movie clips and, as a result, draw bigger movie-watching audiences.

“It’s not enough to simply lift the first few scenes of the trailer,” says Wedel, a distinguished university professor and PepsiCo Chair in Consumer Science. “But that’s what many content creators have been doing.”

The co-authors conducted extensive field experiments using a web-based facial expression tracking system to study the emotional responses of volunteers in real time while they watched comedy movie trailers.

They used the data to predict how likely viewers were to see the film. The results were illuminating. The findings not only helped researchers detail what key elements are contained within the most effective trailers, they also helped the authors calibrate a highly effective model for slicing trailers into short but compelling video clips of just 10, 20 or 30 seconds.

It is the first known research to develop a model for editing trailers to produce short promotional clips. While not all moments in the trailer or clip are expected to have a huge impact, the trajectory of audio and emotions matters. Happy, happier, happiest is the best order for scenes in a comedy trailer, they say, finding that a positive trend in happiness results in higher watching intentions and larger success at the box office.

The paper, “Video Content Marketing: The Making of Clips,” is featured in *Journal of Marketing*. 

Michel Wedel
Marketing
The Hidden Costs of Outsourcing

As featured in *Journal of Operations Management*

As global companies tap manufacturers and suppliers in emerging markets to save money on making their products, they often overlook the hidden costs of stretching their supply chain to immature economies.

Problems crop up when companies outsource production to far-off places without on-the-ground supervision. Outsourcing to emerging markets contributes to product recalls and poor inventory performance, finds recent research, but setting up shop in those markets helps reduce those problems.

Smith professor *Adams B. Steven* worked with Rodrigo Britto of the Universidad de los Andes School of Management in Colombia to look at data from large public firms in the U.S. manufacturing sector from 2011 and 2012. The pair studied how entering an emerging market impacts a company’s inventory and product recalls. The researchers looked at how these things are impacted based on whether a company establishes a presence in an emerging market, outsources production there, or starts selling in emerging markets.

The research reveals that problems with inventory and quality are less prevalent when a company moves its operations to an emerging market. Maintaining a physical presence in an emerging market allows manufacturers to reap the benefits of low production costs while keeping a close eye on quality.

The researchers find that outsourcing production to suppliers in emerging markets results in more product recalls, costing firms not just money spent on the recall process, but also the hit to future sales a brand often suffers after a recall.

The researchers also looked at how cheaper manufacturing in emerging markets can boost a firm’s inventory stockpiles, but not necessarily to the benefit of their bottom line. Holding less in inventory can free up funds that a firm can then put to better use, ultimately improving profitability for the firm.

Retailers face a range of dilemmas when setting prices for trendy items like consumer electronics gadgets and fashion apparel. A new robust optimization model developed at Maryland Smith can help store managers make better decisions about when to offer discounts and how low they should go.

“Time-sensitive products have short selling seasons and long supply lead times, so retailers cannot simply wait until supplies run low and then order more,” says Smith professor Zhi-Long Chen, co-author of the study.

“No inventory replenishment is possible during the compressed selling season.”

Unlike common household products like groceries, cleaning supplies and appliances, which have a long product life cycle and hence quite predictable demand, little historical data are available for the latest cameras, smartphones or designer bags. Store managers must make educated guesses instead about demand.

One tool available to maximize profit while facing demand uncertainty is dynamic pricing. “The decision maker needs to sell a given amount of inventory of each product by periodically adjusting prices over the selling season,” the authors write.

Additional complexities arise when consumers have substitute choices available side by side on store shelves. “Products do not exist in isolation,” Chen says. “Some products are similar in nature, so price adjustments to one product can affect demand for another.”

Existing dynamic pricing models account for this effect. But they overlook a second type of substitution that occurs over time, when demand shifts during different periods within the selling season.

Chen and a co-author at California State University, Long Beach, account for both types of substitution. “Our model is much more practical than most existing multi-product dynamic pricing models. We consider both interproduct and intertemporal demand substitutions.”

“Robust Dynamic Pricing with Two Substitutable Products” is featured in Manufacturing & Service Operations Management.
Information technology firms can never rest. Speedy startups constantly emerge from the entrepreneurial ecosystem with novel products and services.

One strategic response could be a preemptive investment in research and development. But a new Maryland Smith study shows the opposite usually occurs. “Incumbent IT firms on average reduce their R&D spending when they face high new entry threats,” authors Anandasivam Gopal, Peng Huang and Yang Pan write in Information Systems Research. Pan, a professor at Louisiana State University, is a Maryland Smith PhD alumna, while her co-authors are Smith professors.

Prior research has produced contradictory predictions about the response to new entry threats in the IT space, where fast clock speed drives economic growth.

“Some may choose to increase their investments in R&D, in the hope of establishing advantage in technological and process capabilities,” they write. On the other hand, incumbents may hold off on R&D spending, where the payoffs are uncertain. “They may choose, instead, to either conserve their cash in anticipation of acquiring technology licensing later from pioneers, or invest in complementary capabilities like marketing, distribution and manufacturing that can help the incumbent compete more effectively should the anticipated threats materialize,” the authors write.

To draw their conclusions, the authors first had to develop a valid instrument for measuring threats from new entrants. Such an instrument has remained elusive, largely because the central question involves speculation about future activity.

Researchers must quantify threats that don’t yet exist, but may materialize later. “Notwithstanding the importance of new entry threats in theoretical work, the absence of an established measure represents a significant gap in the literature,” Pan, Huang and Gopal write. The authors tackled the challenge using text mining. They started with product descriptions filed by incumbent firms with the Securities and Exchange Commission from 1997 to 2013, and then looked for overlapping words and phrases in business descriptions of entrepreneurial ventures that received first-round funding from venture capitalists during the same period. “The presence of VC funding makes them credible threats, while also signaling quality,” they write.

Many startups at the first-round stage are still years away from selling products
or services. But several tests confirm the validity of the instrument that they developed. Related insights also emerged. “We show that firms facing high new entry threats are likely to experience greater turbulence in the forms of layoffs and bankruptcies in the future, dynamics consistent with prior theory,” they write. “Storm Clouds on the Horizon? New Entry Threats and R&D Investments in the U.S. IT Industry” is featured in Information Systems Research.

**Anandasivam Gopal**  
Decision, Operations & Information Technologies

**Peng Huang**  
Decision, Operations & Information Technologies

**ACCURATE CALCULATION OF SENSITIVITIES IS ARGUABLY EVEN MORE IMPORTANT THAN CALCULATION OF PRICES.**

Examples include the setting of pricing financial derivatives, analyzing queuing systems, performing inventory control and management, doing statistical process control, and managing supply chains, manufacturing plants, transportation systems, communications networks or service systems such as banks, amusement parks and retail stores.

Fu says prices can often be observed in the market, but their sensitivities cannot. “Accurate calculation of sensitivities is arguably even more important than calculation of prices,” he says. “A New Unbiased Stochastic Derivative Estimator for Discontinuous Sample Performances with Structural Parameters” is featured in Operations Research.

**Michael C. Fu**  
Decision, Operations & Information Technologies

---

As featured in *Operations Research*

Numbers can be a tricky business. Maryland Smith professor **Michael C. Fu** and three co-authors recently studied ways to boost accuracy when simulating complex systems involving big data.

Their paper, “A New Unbiased Stochastic Derivative Estimator for Discontinuous Sample Performances With Structural Parameters,” introduces a new method that can handle discontinuous sample performance measures—an open research problem with various practical applications.

The estimator the researchers formulated is unbiased and has an analytical form, and the general framework addresses many derivative estimation problems.
Wall Street traders make the most money when they do their best to stay under the radar of other traders by making their trades slow and steady. This strategy also keeps the market from crashing, according to new research from Maryland Smith. Albert “Pete” Kyle, the Charles E. Smith Chair Professor of Finance, and two co-authors wanted to pinpoint the best trading strategies to achieve equilibrium in the market.

They determined that gradual movement toward a target inventory is the optimal strategy.

Kyle says traders, trying to make the most money on their transactions, typically spread their buying and selling out over a period of hours, days or weeks to stay under the radar of other traders.

Traders assume their counterparts are also taking this slow-and-steady approach. But most are so confident that they have better information that they make price adjustments accordingly while continuing to trade.

Kyle explains that a trader’s target inventory changes based on a stock’s price and the information he or she has about the stock. If the price falls, a trader can up his target because he can buy it more cheaply.

Traders determine how fast to buy or sell based on how far the price is from
what they think the asset is worth. Kyle points to Warren Buffett as the most obvious example of this mentality, buying the same stock for very long periods of time—sometimes months or even years—to avoid moving the price too much.

Problems occur when traders do not play by these rules. “If you don’t try to stay under the radar and you trade rather quickly to your target inventory, the other traders in the market would assume that you had some fantastically big information and the price would react very violently if you tried to do that: a flash crash,” Kyle says.

This is what happened in the 2010 Flash Crash, a 36-minute stock market crash where markets plunged 998.5 points, then rebounded. The research explains that stock prices are set by how much traders have bought in the past, affecting the price through permanent price impact. But the price is also a function of the rate at which traders are buying currently.

Buying a lot today will push the price higher today, but if traders stop buying at the end of today and don’t buy tomorrow, the stock will fall back down and probably open lower the next day, called temporary price impact.

“We’re hoping that this model will make it a much more accepted idea that temporary price impact is something you should worry about,” Kyle says.

“We think that most smart institutional traders appreciate that temporary price impact is an important component of transaction costs—maybe the main component.”

The research advocates for the slow-and-steady trading strategy, which Kyle says most sophisticated large traders are already implementing.

“Smooth Trading with Overconfidence and Market Power” is featured in the Review of Economic Studies.

Albert “Pete” Kyle
Finance
Speed matters on Wall Street, but information processing delays can range from nine minutes to nearly five days when news triggers a revised earnings estimate for a publicly traded company. Smith research explains the range in revision processing times and confirms the value of companies that collect information from individual analysts and distribute consensus estimates to investors.

“Three broad groups of variables explain the activation delays,” says Smith professor Musa Subasi, co-author of the paper.

Using data from the Thomson Reuters Institutional Brokers’ Estimate System, the study examines nearly 1 million forecast revisions covering U.S. publicly listed companies between 2003 and 2013. Time stamps on each forecast revision allow the authors to measure the gap between its announcement by the analyst and activation on Thomson Reuters products.

One major factor that influences revision processing times is investor demand. Larger firms with more investors tend to get higher priority treatment. “There’s more pressure to process these firms first,” Subasi says. “It’s based on a ranking in the queue.”

The second factor is processing difficulty. Estimates can be based on generally accepted accounting principles (GAAP earnings) or actual earnings that exclude nonrecurring items like layoffs and restructuring. “How big is the surprise?” Subasi says. “When the difference between actual earnings and GAAP earnings is large, analysts need more time to reach a consensus.”

Major one-time events like stock splits, mergers and acquisitions also add complexity and correlate with longer activation times for revised earnings estimates.

The third factor relates to the limitations of human resources. Analysts and investors get stretched to capacity when several companies report major events at the same time. “You end up with a bottleneck,” Subasi says.

The cross section of commodity returns

Theories abound about the most useful ways to look at commodity prices. Which asset pricing models are capable of reconciling the cross-sectional properties of commodity futures returns, at both the portfolio and individual commodity levels? What is a possible explanation for the positive average returns of the commodity carry and momentum factors? How are the commodity pricing factors related to innovations in economic variables? How should one interpret the behavior of the commodity factors over the different stages of the business cycle?

Research by Smith professor Alberto Rossi, and former Smith professors Gurdip Bakshi and Xiaohui Gao Bakshi, seeks to answer those questions.

The team examined commodity futures returns over a 42-year period, beginning in 1970. They studied baseline portfolios, managed portfolios and individual commodities, and found that a three-factor model—driven by an average factor, a carry factor and a momentum factor—delivered the best results.

“One- and two-factor models that feature only the average and/or carry factors are rejected,” the authors write.

They found the carry strategy performs poorly when global stock volatility increases, and innovations in global equity volatility can price portfolios sorted on carry. “The economic intuition is that investors dislike these adverse changes in the investment opportunity set and require positive average returns to carry as compensation,” they say.

They had a harder time explaining commodity momentum because no traditional macroeconomic variable appeared to explain the returns on such strategy. The researchers did find, however, that the momentum strategy performed well when aggregate speculative activity increases, and innovations in aggregate speculative activity can price portfolios sorted on momentum.

Because commodity speculators are known to follow momentum strategies, the researchers viewed the finding as evidence that whenever more agents in the market behave as momentum traders, momentum strategies self-perpetuate.

The paper, “Understanding the Sources of Risk Underlying the Cross-Section of Commodity Returns,” is featured in Management Science.
Don’t show your bias or slack off in your reports if you’re an analyst at an investment bank and want to move up in your career, finds new research from Maryland Smith.

The research, from visiting finance professor Oya Altinkılıç, finds that analysts who issue negligent reports—characterized as overly optimistic or too bold with recommendations, or those that simply piggyback on earlier reports or corporate news—jeopardize their careers.

“We find analysts issuing negligent reports are less likely to be promoted and they are more likely to move down,” says Altinkılıç. “We also find that top banks, which have a higher reputation capital to protect, punish such analysts more than other banks.”

Securities analysts at investment banks have long been seen as critical players in capital markets for the reports they issue. The reports provide recommendations to buy, sell or hold particular securities, or offer predictions when forecasting company’s earnings. But Altinkılıç’s previous research contradicts the idea that analysts actually move markets.

She and her co-authors found that 98% of the reports simply piggyback on corporate news and don’t offer new information.

“We don’t find that analysts actually move the prices of securities when they issue reports.”

Altinkılıç’s new research looks at how the reports impact the career outcomes for analysts, who are most often employed by investment banks. The banks monitor the analysts because the analysts put their bank’s reputation on the line when they issue recommendations and make earnings forecasts.

“They have always cared,” Altinkılıç says. “If you are hiring investment analysts in-house and your bank’s name is associated with their reports, you are going to monitor that employee.”

But this research is the first to look at that monitoring and the bonding effect of reputation.

The Cost of Privatization

As featured in Management Science

While privatization comes with benefits—like not being beholden to market speculation or a chorus of diverse shareholders—it also carries risks. Privately held companies, for instance, have limited access to public equity markets, which complicates their ability to keep operations afloat when cash is tight.

Research by Smith professor Hanna Lee further demonstrates why privately owned companies are risky investments. She and three co-authors analyzed a sample of public bonds to determine how the cost of public debt differs between privately and publicly owned companies. Their research revealed that, after controlling for factors that affect the cost of debt (including firm fundamentals, bond characteristics and the firm’s information environment), the cost of public debt issued by privately owned companies—as captured by ratings and yield spreads—is significantly higher than that issued by publicly owned companies.

The paper, “Private Ownership and the Cost of Debt: Evidence from the Bond Market,” is featured in Management Science.

Navigating the Mutual Fund Maze

As featured in Review of Financial Studies

With so many mutual funds out there and so many pricing options, how should an investor choose? Past returns aren’t the most insightful guide, says Maryland Smith’s Nagpurnanand R. Prabhala. He and two co-authors created a new classification method for funds and found that investors are better served finding a high-performing fund with lower levels of competitive intensity.

Their system gives each fund its own set of competitor funds. The competitive intensity is the number of close rivals with a similar investing orientation. A fund could have just 25 rivals, for example, or as many as 150.

Prabhala says it is possible to more accurately measure a fund manager’s skill by comparing the performance with the fund’s customized rivals.

The researchers defined a metric, the customized peer alpha (CPA), which measures the performance of a fund relative to its close competitors.

And they asked two essential questions: Could the historic CPA of a fund predict future returns? And does competition affect the ability of high-CPA funds to generate high returns in the future?

The answer to both, the researchers found, was yes. Past CPA predicts future fund performance.

But it does so only for funds with fewer customized competitors.

“Our research thus helps investors by providing objective measures of historical performance and suggesting which outperforming funds might repeat in the future,” Prabhala says.

“Mutual Fund Competition, Managerial Skill, and Alpha Persistence” is featured in the Review of Financial Studies.

Hanna Lee
Accounting & Information Assurance

Nagpurnanand R. Prabhala
Finance
BEWARE OF CFOS WITH LARGE

As featured in *Journal of Accounting Research*

John Hancock rallied a nation with his large autograph on the Declaration of Independence, but Smith research shows that signature size on corporate financial statements can signal far less noble intentions.

The paper finds that chief financial officers with large signatures are more willing to exploit others and bend the truth in their favor. Authors include Smith accounting professor Nick Seybert and 2015 Smith PhD graduate Charles Ham—along with co-authors from Rice University and the University of North Carolina at Chapel Hill.

Specifically, the size of CFO signatures on notarized documents filed with the Securities and Exchange Commission predicts the likelihood that companies will inflate their earnings and relax internal controls.

“Most importantly,” Seybert says, “financial restatements are more likely to be needed.”

The researchers were not so much interested in signature size for its own sake, but rather as an outward measure of narcissism.

Ham, now a professor at Washington University in St. Louis, says the first barrier to studying the personalities of corporate executives is access.

“In an ideal setting, you would be in direct contact with executives and have them take a personality test,” he says. “But that’s not usually possible.”

WE DIDN’T PREDICT SIGNATURE SIZE WOULD ONLY RELATE TO DARK ELEMENTS OF NARCISSISM. BUT THAT’S WHAT WE FOUND.

Other researchers have tried using proxy indicators, such as the size of photographs in executive biographies, but senior leaders do not usually control such things.
“A signature comes directly from the executive,” Ham says. “We used two laboratory tests to establish the link between signature size and narcissism.” Ham says many people consider narcissism an advantage in the C-suite. “When people think of narcissism, their first thought is Steve Jobs,” Ham says. “They think of it as a good trait.”

Narcissism includes seven dimensions, including potentially positive attributes such as self-confidence.

But the research connects signature size only to the dark dimensions of narcissism, such as exploitation.

“We’ve looked for that silver lining,” Ham says. “And we haven’t found it.”

Seybert says the outcome came as a surprise. “We didn’t predict at first that signature size would be related only to the dark elements of narcissism,” he says. “But that’s what we found.”

The team reached its conclusions after analyzing the signatures of more than 500 CFOs.

Researchers drew a rectangle around the extreme points of each autograph and measured the area per letter.

Using notarized SEC statements worked well because the documents are public and provide a standardized canvas for comparison purposes.

“We controlled for factors such as gender, tenure and corporate history,” Seybert says. “We also measured the size of CEO signatures to determine the interplay.”

Although CEO narcissism can hurt corporate performance—something the same authors measured in a 2013 study—they found that CFOs have the greatest influence on a company’s financial reporting decisions.

“CFO Narcissism and Financial Reporting Quality” is featured in the Journal of Accounting Research.
Leaders might deserve dismissal when they behave badly or underperform, but some can lose their jobs for simply having the right skills at the wrong time when market conditions shift.

“Over time, changes in business conditions may call for a change of top management to seize new opportunities,” Maryland Smith finance professor M. Cecilia Bustamante and her co-authors write in the *Journal of Finance*.

Adopting new production techniques, for example, might require someone with technical or manufacturing skills. Expanding overseas might require someone with global experience. Bringing diverse teams together during a merger or acquisition might require a master communicator.

“If the incumbent lacks the vision or skills necessary to implement such transformations, the appointment of new management is the only way for the firm to successfully pursue its course,” the authors write.

Bustamante says growth-induced turnover complicates the process of creating optimal incentive packages for executives.

If leaders anticipate that their tenure will be short—especially in high-growth industries—they will resist deferred compensation, a standard feature of incentive contracts designed to reduce firm costs.

Instead, managers will demand generous signing bonuses and other features to front-load their contracts.

“Thus the firm may face a dilemma,” the authors write. “By changing management to adapt to evolving business conditions, it may increase the costs of incentive provision.”

In some cases a firm might actually be better off skipping growth opportunities and saving the costs of inefficient terminations. Bustamante and her co-authors present a model that predicts these dynamics and offers guidance to firms facing the dilemma.

“The optimal dynamic contract may grant partial job protection whereby the firm insulates its managers from the risk of growth-induced dismissal and forgoes attractive opportunities when they come after periods of good performance,” they conclude.

The paper, “Agency, Firm Growth and Managerial Turnover,” is featured in the *Journal of Finance*.

---

**M. Cecilia Bustamante**

Finance
Power to the People

As featured in *Journal of Financial Economics*

Institutional investors, economists and policymakers have pushed for reforms that strengthen shareholder rights in publicly traded companies. An issue of particular concern is shareholder oversight of boards of directors.

Under the current plurality voting system used by most U.S. firms, shareholders can cast votes in support of directors, but they cannot cast negative votes against directors. The only way shareholders can voice dissent is by withholding their votes. Do votes in these routine elections even matter?

Yes, according to research from Smith finance professor **Nagpurnanand R. Prabhala** and co-authors at Georgetown University. Together, they looked at more than 80,000 director elections between 2003 and 2014.

Despite the limited outlet to express dissatisfaction, the research finds that directors who face dissent from shareholders are more likely to depart boards or be removed from important committees they are on.


---

Why Men Avoid Gender Parity Conversations

As featured in *Organization Science*

How can companies make strides toward gender equality? One key is to summon the involvement of the entire workforce, Maryland Smith professor **Subra Tangirala** says.

But when it comes to gender initiatives, male colleagues often keep quietly to the sidelines. Tangirala and Smith School PhD graduate Elad N. Sherf explored why that is.

From four correlational and experimental studies, the researchers found that men hold back because they feel they lack psychological standing. In other words, they don’t believe they have a legitimate claim to participate in the conversation.

“This explanation held even when other possible explanations, such as prejudicial attitudes or sexism on the part of men, were taken into account,” they wrote.

The research shows that without male participation, gender parity initiatives often get marginalized as “women’s issues” and fail to resonate with stakeholders.


---

**Nagpurnanand R. Prabhala**
Finance

**Subra Tangirala**
Management & Organization
THE BENEFITS OF BENEFITS
How Better Benefits Affect the Bottom Line

As featured in *Journal of Business Ethics*

Unemployment benefits are critical for out-of-work individuals who need to make ends meet while searching for a new job. But the safety net those benefits provide can lower productivity, Maryland Smith research shows.

The study pinpoints a way for companies to mitigate the problem and increase productivity. The key is to offer additional benefits that entice employees to work hard.

“With unemployment benefits, employees might slack off a bit because they know if they do need to find a new job, the benefits are there,” Smith professor Emanuel Zur says. “But if you make your company really appealing for employees and give other benefits they cannot necessarily get in another company—unlike unemployment benefits—then you’ll make them more productive. You will make them want to stay in your company.”

Zur conducted the research with Heedong Kim, a Smith PhD graduate now at Baruch College, and Masako Darrough at Baruch College. They looked at changes in state unemployment benefits programs and how the benefits correlated with firms’ productivity. They also measured how firms’ other employee benefits affected productivity.

Their finding: Offering better benefits makes employees happier, less likely to leave and more productive in their current jobs, Zur says.

Good work/life balance benefits—such as flexible work schedules, longer maternity leave and telecommuting policies—provided the biggest boost to employee productivity and a company’s bottom line.

Companies should take note: “You need to be above the market because the moment everyone has the same thing, employees think they can always go out and look for another job,” Zur says.

Business Gets Personal for CFOs

Is a senior executive more likely to sugarcoat how well the firm is doing if that person sits on the company’s board of directors?
Professor Emanuel Zur finds that the executive’s status with the board of directors does indeed have an impact.
Zur and his co-authors studied the effect of personal litigation risk on disclosure and accounting decisions, using the Gantler v. Stephens case from the Delaware Supreme Court as a basis for the experiment.
The court’s ruling says that corporate officers who don’t serve on the board can be held liable for breaching their fiduciary duty to the firm.
The study tests the interplay between busyness and connectivity. “Multiple directorships may enhance firm performance through board connections, but may also hinder firm performance through time constraints,” the authors write.
Overall, the authors find that firms benefit when a board member suddenly has more time to focus on the specific needs of that firm. However, the benefits fade when a highly connected or central figure at the target firm suddenly gets displaced following a merger or acquisition.
“Too Busy or Well-Connected? Evidence from a Shock to Multiple Directorships” is featured in The Accounting Review.

An Upside to Having Busy Board Members

Companies want smart, experienced board members. Unfortunately, the best candidates are in high demand, and some serve on multiple boards simultaneously.
No firm gets their undivided attention, which limits the potential benefits of landing a big name. Research co-authored by professor Emanuel Zur explores another factor that works in the opposite direction.
“The busiest directors are also the best connected,” Zur says. “Multiple directorships can foster these connections and facilitate the flow of information and resources across boards.”
The study tests the interplay between busyness and connectivity. “Multiple directorships may enhance firm performance through board connections, but may also hinder firm performance through time constraints,” the authors write.
Overall, the authors find that firms benefit when a board member suddenly has more time to focus on the specific needs of that firm. However, the benefits fade when a highly connected or central figure at the target firm suddenly gets displaced following a merger or acquisition.
“For firms losing access to relatively more board connections, the negative effects of the loss of access to board resources and information cancel out the benefits of the decrease in busyness,” the authors conclude.
“Too Busy or Well-Connected? Evidence from a Shock to Multiple Directorships” is featured in The Accounting Review.
WORKPLACE CULTURE & INCLUSION

THE BENEFITS OF ONBOARDING ROOKIES

For Growing Firms, Rookies Make the Best Recruits

As featured in *Strategic Management Journal*

Companies looking to inject new life often add a new member to the top management team. Top management team members set a firm’s strategic direction, so the capabilities and knowledge that each member brings is critical.

Conventional wisdom says firms are better off hiring people with prior experience and skills that mirror the job. But new research from Maryland Smith finds that many firms benefit from hiring rookies who are new to the top management level.

**Rajshree Agarwal**, the Rudolph P. Lamone Chair and Professor in Entrepreneurship, and two co-authors studied the wireless telecommunications industry from its inception through its maturity.

They examined instances where firms recruited new top management team members and what kinds of advantages and disadvantages each of them bring.

The researchers looked at whether the top management team’s new recruits should come from a rookie population—middle managers that don’t have experience at the top level—or from top management veterans from other companies. The researchers also considered other factors in the new hires: What type of experience do they bring? Are they from within the firm and being promoted internally? Are they from industry competitors from rival firms, or are they people who are coming from outside the industry?

To make the best hiring decision, Agarwal says a top management team needs to carefully weigh its options, based on the industry and what the firm needs.

For new and growing industries, operational knowledge becomes much more important because the existing strategies that are working in other industries might not apply to the new industry.

New outside rookies—those new to top management and the firm—bring higher firm growth than other types of executives. They bring useful knowledge of the operations of competitors and other firms, and they are easier to socialize and integrate with the existing team.

Seasoned outsiders—those with prior top management experience, but in a different industry—contribute to growth.
only when the existing top management team has a long tenure.

Typically, says Agarwal, seasoned top managers have their own set ways of thinking about managing. Only a longstanding top management team can weather the disruption to internal power dynamics when adding a seasoned newcomer to see the potential benefits.


---

**Rajshree Agarwal**
Management & Organization
Self-disclosure in the workplace is becoming more popular and commonplace. And perhaps for a good reason: Decades of research on self-disclosure suggest that sharing personal information tends to foster goodwill among others.

In the work environment specifically, demonstrating vulnerability endears colleagues to one another and can improve team performance, organizational behaviors and turnover.

But new research from Maryland Smith professor Jennifer Carson Marr indicates that sharing personal information is not always in an employee’s best interest. Marr and two co-authors found that when it comes to self-disclosure, the information that’s shared matters just as much as who’s doing the sharing.

They discovered that when a higher status individual discloses a weakness, the receiver’s perception of the individual is negatively affected. Relationship quality and task effectiveness are compromised. What could be construed as weakness varies from organization to organization and from team to team. Generally, it is any personal information that “makes salient a personal shortcoming.”

Moreover, a weakness might not be inherently negative. It could also be neutral or positive, for example a woman disclosing her age or that she’s pregnant. The research shows that peer status individuals do not face the same self-disclosure conundrum. When peers disclose weaknesses, the receiver’s perception of that person remains the same. As a result, the peer’s influence, potential for conflict and relationship quality are unaffected by revealing weakness at work.

With the lines between professional and personal lives blurring—and with colleagues interacting more frequently on social media—the likelihood of revealing one’s shortcomings and weaknesses increases.

For higher status employees, a key takeaway from Marr’s research is to weigh the pros and cons of displaying vulnerability in the workplace.

“When Sharing Hurts: How and Why Self-Disclosing Weakness Undermines the Task-Oriented Relationships of Higher Status Disclosers” is featured in Organizational Behavior and Human Decision Processes.

Jennifer Carson Marr
Management & Organization
The Ripple Effects of a Good Boss

A good boss can overcome the effects of a bad one, leaving employees feeling autonomous and confident when they work on multiple teams with different supervisors, new research shows.

The study, co-authored by management professor Gilad Chen, examines the ripple effects of empowering leadership. Bosses inspire high performance when they delegate authority, provide coaching, share information and seek input. But many employees work on multiple projects with different supervisors. What happens when one boss is more controlling than another? “We found that a leader’s empowering behaviors in one team spilled across team boundaries to increase empowerment and proactivity in the other team,” they write. “In fact, this happened even when the other team leader did not display any empowering leadership behaviors.”


---

Why Mood Matters in the Workplace

Sure, people’s moods factor in to how their workday goes. But a new study co-authored by Maryland Smith professor Myeong-Gu Seo shows how emotions and moods play into an organization’s overall climate.

“Moods and emotions affect big-picture organizational relationship-building, productivity, creativity and reliability performance,” Seo says.

Organizational climate has long been recognized as a critical component of organizational effectiveness. And a big factor that determines an organization’s climate is “employee affect,” an umbrella term encompassing employees’ moods and emotions, say the researchers.

Seo and his co-author identified six mood-based climates—ranging from workplaces that suppress positive, negative or any display of emotion, to those that welcome positive, negative or all authentic emotional experiences and expressions—and how each can impact organizational outcomes. They offer advice for how company leaders and managers can meet certain strategic goals by developing specific emotional climates that support them.

“The Role of Affect Climate in Organizational Effectiveness” is featured in the Academy of Management Review.
Starting Your Day With Rude-Colored Glasses

A Single Exposure Can Taint Perceptions

As featured in *Journal of Applied Psychology*

Workers who witness incivility in the morning often spend the rest of the day wearing "rude-colored glasses" that taint their perceptions of the world. New research shows that a single exposure to unkind or thoughtless behavior can trigger the effect.

"You don't even have to be the target of the bad behavior," says Trevor Foulk, management professor at Maryland Smith and co-author of the paper. "Rudeness is contagious and can spread to uninvolved third parties."

The paper draws conclusions from daily self-reporting of 81 business professionals exposed to video simulations over a 10-day period.

Although many people think about rudeness in clear terms—the incident either happened or it didn’t—the authors explain that most social interactions at work are somewhat ambiguous and open to interpretation.

Most observers would agree that sending an abrasive email or ridiculing a colleague in a public meeting counts as rudeness. But what about leaving a mess in the breakroom for somebody else to clean up, failing to say “hi” in the hallway or neglecting to share credit for group accomplishments?

“Witnessing rudeness can activate a rudeness filter, and this activation can bias subsequent judgments,” Foulk says. “We call it 'rude-colored glasses' because the observed event changes the way people perceive their social interactions throughout the day.”

Once people perceive rudeness, they typically throw up defense mechanisms that lead to psychological withdrawal and lower performance. The paper also measures the effect of core self-evaluation, a trait that makes some people less susceptible to the negative effects of rudeness. It involves the ability to show kindness to oneself during moments of self-reflection and internal dialogue.

People with this trait feel confident, successful and satisfied with their own performance, and they project these attitudes onto others—seeing benign intentions where others see rudeness.

“Rude Color Glasses: The Contaminating Effects of Witnessed Morning Rudeness on Perceptions and Behaviors Throughout the Workday” is featured in the Journal of Applied Psychology.
Think your boss is a jerk because he or she treated you unfairly? It’s possible your manager just has too much to do.

Recent research finds that many managers are just too busy to be fair. They are juggling so many responsibilities that fairness often falls by the wayside.

“Everybody wants to be fair, but they just can’t because being fair is not very easy,” says author Vijaya Venkataramani, a management professor at Maryland Smith. “It takes up a lot of personal resources. To be fair, you have to act consistently, you have to be respectful, and it’s very difficult when you have 10 other things also demanding your attention.”

Venkataramani says the onus to change is on organizations, not managers. Most organizations—even those that say they value fairness—often evaluate or reward managers on task-oriented factors such as hitting sales goals or production targets. And managers can’t do everything well.

Organizations should want to change, she says, because when employees are treated fairly, they perform better, are less likely to do things like steal or cheat, and are less likely to quit.

Venkataramani conducted the research with Maryland Smith PhD graduate Elad N. Sherf, now at New York University, and Ravi S. Gajendran of Florida International University. The researchers conducted field experiments and daily tracking surveys of 130 managers for 10 days.

The researchers say to really change behavior, organizations should send a clear message by offering incentives to managers. “It’s only when organizations very consciously reward fairness as part of performance reviews that this kind of mentality could change,” Venkataramani says.

WARDING OFF THE DARK SIDE OF CREATIVITY

As featured in Journal of Business Ethics

Creative people are great at generating ideas to solve problems. Unfortunately, the same people are also great at generating clever justifications to excuse their rule-breaking at work. Deviant behavior often results.

New research from Maryland Smith confirms the dark side of creativity but also identifies a key boundary condition that keeps some out-of-the-box thinkers in line.

“Not all creative thinkers cause trouble,” says Smith management professor Hui Liao, co-author of the study. “Moral identity moderates the effect of creativity, helping some unconventional thinkers avoid ethical lapses.”

Liao says moral conduct is regulated by two major controls. The first is social sanctions. Fear of punishment or loss of reputation in society prevents some rule-breaking. But most unethical behavior goes undetected by others, which means social sanctions have limited deterrent power.

Internal sanctions play a more central role in preventing conduct like theft, fraud, withholding effort, physical and verbal aggression, sexual harassment, substance abuse, destruction of property and poor attendance.

“Individuals usually do not conduct immoral or unethical behaviors unless they are able to find reasons to justify these actions,” Liao says.

Rigid or unimaginative thinkers lack the ability to see problems from diverse perspectives, so they have less room to roam within the ethical landscape.

“Creative employees tend to have high levels of cognitive flexibility,” Liao says. “They can arrive at any conclusion they..."
want to arrive at, so they are better at finding self-serving justifications for potential deviant behaviors.”

However, not all creative employees are the same. “Those with a high level of moral identity who value and strive to maintain a positive or honest self-view are less susceptible to moral disengagement,” Liao says.

She and her co-authors base their findings on two field studies in two industries, using different designs, samples and measures. In the first study they asked employees at a large bank to report their levels of moral identity and more disengagement, while supervisors rated employees’ creativity.

The second study involved surveys at a large manufacturing company. Employees reported their levels of moral identity, while supervisors rated employees’ creativity.

Seven months later in a second wave of surveys, employees rated their levels of moral disengagement and workplace deviant behavior. Participants in both studies were ensured anonymity to reduce fear of detection for hidden deviant behaviors. Liao and her co-authors also controlled for variables, such as gender, age and experience.

“Both studies confirmed that creative employees are susceptible to rule-breaking only when their moral identity is low,” Liao says. “Divergent thinkers who know how to set boundaries for themselves—who aspire to high levels of moral identity—are better equipped to resist self-serving justification.”

In the technology world, what’s old is rarely new again. Outdated models are regularly discarded in favor of the latest gadget. This cycle can be problematic for original equipment manufacturers who find themselves selling new generation models only to be left with returned merchandise from older generations.

Moreover, customers migrating to newer generations of products are often unsure about how to dispose of their older but functional devices. Online liquidation auctions have emerged as a potential solution, operating as secondary marketplaces where used equipment can be bought and resold.

Along with a team of co-researchers, Maryland Smith professor Wedad Elmaghraby collaborated with a large U.S.-based wholesale liquidator for IT equipment to explore the design of these liquidation auctions. They aimed to understand how the simultaneous sale of multiple generations of used iPads influences auction prices.

What Elmaghraby and her team discovered is that a complex interplay of demand and final prices exists across iPad generations. The researchers’ study suggests that by changing the starting prices across iPads of varying generations and quality, it’s possible to direct demand toward specific products and increase the final prices.

Most importantly, Elmaghraby and team find that the current strategy of setting starting prices low across all products is not always advisable.

In the used iPad auction setting, it’s possible that reducing the average price distance between the lower market’s prices and those of the higher quality market make the higher quality product more attractive by providing higher quality-per-dollar value.

“Our experiments indicate that, by manipulating starting prices, B2B auctioneers can enhance their recovery rates from auctions on any given day, without in any way changing their cost structures,” they write.

Pitching Novel Ideas to the Boss
As featured in *Academy of Management Journal*

Having a great idea is not enough. Employees must also sell the innovation to decision makers who allocate resources.

“There is a filter that things don’t get through,” says Maryland Smith professor Kathryn M. Bartol. “It’s a combination of managers being busy and focused on other things. And there’s the fact that there is a certain amount of risk involved in implementing new ideas, and it’s not easy to recognize the value of them.”

Bartol and Smith professor Vijaya Venkataramani, working with Smith Ph.D. candidate Shuye Lu and two co-authors from universities in China, studied ways to get past the boss’s filter.

Step one, they say, is to make the idea concrete with a demo, PowerPoint presentation, prototype, mock-up or simulation. “You can’t be too abstract about it,” Venkataramani says.

Step two is to help the manager understand the implications. “Explain the rationale, connect it to things the supervisor values, ask for feedback from the supervisor, and offer to help implement the idea,” she says.

Their paper, “Pitching Novel Ideas to the Boss: The Interactive Effects of Employees’ Idea Enactment and Influence Tactics on Creativity Assessment and Implementation,” is featured in the Academy of Management Journal.

---

Kathryn M. Bartol  
Management & Organization

Vijaya Venkataramani  
Management & Organization
The Link Between Research and Innovation

As featured in Research Policy

If you want to ignite fresh innovation in technology, there are worse places to start than Washington, D.C. That’s because research funded by the federal government has a tendency to spark breakthrough inventions.

Professor Brent Goldfarb and two co-authors show federal funding affects both the rate and direction of inventive activity, in part by investing in technological areas that private corporations eschew. The research demonstrates that government funding stimulates particular areas, sometimes over long periods of time, leading to an increased rate of inventive activity and supporting areas of research that “would otherwise be orphaned or neglected by the private sector.”

Overall, government-funded patents spur approximately 51% more influence than comparable corporate-funded patents.

“Federal Funding and the Rate and Direction of Inventive Activity” is based on an analysis of 4,311 federally funded patents from 2001 to 2004 across multiple agencies.

Harnessing the Power of the Crowd

As featured in MIS Quarterly

Harnessing the collective wisdom of online communities has become a critical source of knowledge and funding. Just look at the popularity of crowd-sourced online review sites, like Yelp, and funding platforms, like Kickstarter.

Now companies are coming up with ways to tap crowds online for innovative ideas, product support and better ways to connect with their customers. And there is a right way to do it, Maryland Smith professors Peng Huang and Sunil Mithas and their co-author conclude.

To be successful, employees must roll up their sleeves and participate in the crowd-based knowledge-sharing community the company creates. The researchers study a practice called “knowledge seeding,” and point to how any investment in it can go a long way to encourage more user contributions in online communities.

They examined the online knowledge-sharing community created by SAP, a leading enterprise software vendor.

Its platform includes forums, expert blogs, articles, e-learning catalogs and a code-sharing gallery. SAP devotes significant resources to the platform, with full-time employees providing free technical support to users by answering questions posted in discussion forums, a practice that leads to significant increases in user contributions on the platform.

“We show that firms can optimize their community management efforts by making smart investments at the right time and to the right target user groups, and we highlight the conditions under which their investments receive the greatest payoff,” the researchers write.

They also find that companies see greater returns when they promote their online communities in countries with higher levels of information technology infrastructure, as users in those regions are better at recognizing the value of new knowledge seeding, assimilating it and putting it to use.

“Platform Sponsor Investments and User Contributions in Knowledge Communities: The Role of Knowledge Seeding” is featured in MIS Quarterly.

Peng Huang
Decision, Operations & Information Technologies

Sunil Mithas
Decision, Operations & Information Technologies
Competition produces winners and losers. But game theory analysis shows how everyone comes out ahead when retailers and bankers cooperate to reduce finance costs for suppliers in China and other emerging markets. Consumers ultimately score when the savings get passed down the line.

Research from Maryland Smith professor Tunay Tunca calculates the benefits of a fairly recent supply chain innovation. Rather than leaving small suppliers on their own to obtain financing, influential buyers are stepping up as intermediaries. In effect they are functioning like loan underwriters, helping suppliers with limited credit histories get lower interest rates and mitigating their cash flow problems. The payoffs go three ways.

**PLAYER 1: SUPPLIERS**

Small suppliers celebrate when they land a big contract with an established retailer like JD.com, China's largest online retailer. But they face an immediate cash flow problem.

They must cover production and delivery costs up front and then wait weeks for payment while retailers assess product defects and accommodate customer returns.

Getting a loan with minimal credit history is hard for small suppliers, and the challenge is often more daunting in emerging markets. By backing the debt and assuming the risk, retailers like JD drive down finance costs for participating suppliers.

**PLAYER 2: RETAILERS**

Retailers have their own vulnerabilities. They sell thousands of products every day but don't manufacture anything, which leaves them dependent on suppliers for inventory.

Without reliable delivery and low wholesale costs, profits disappear. All of this gives retailers a strong incentive to keep their best suppliers in business.

**PLAYER 3: BANKERS**

The improved reliability allows big banks to enter the game in certain markets, like China, where regulators restrict high-risk activity. By backing the suppliers' loans, JD and other retailers bring interest rates to sufficiently low levels, so banks can provide the financing within their regulatory restrictions.

Suppliers win because financing costs go down. Buyers win because wholesale prices drop while the percentage of on-time deliveries rises. And banks win because supplier borrowing rises.

The paper, “Buyer Intermediation in Supplier Finance,” is featured in Management Science.
Luxury brands use legal threats and guilt campaigns to deter people from buying knockoff, or counterfeit, high-end luxury handbags. And it’s been to little effect.

Worldwide consumer demand for fake luxury products continues to outpace itself.

In new research, Maryland Smith marketing professor Yajin Wang reveals a better way to suppress demand: Let consumers know that no matter how convincing the impostor, other people can tell it’s a fake. After all, she says, the primary motivation for buying a luxury designer accessory is to impress others. If the knockoff has the opposite effect, the allure is lost.

“Consumer desire for counterfeit luxury goods is largely driven by social motives, such as signaling status, gaining social approval and communicating your identity to others,” Wang says.

Cartier, Chanel and other designers have used guilt campaigns in the battle against fakes—essentially admonishing consumers about the moral or legal implications of buying phony goods—but those campaigns have found limited success.

In surveys, half of respondents admitted to buying counterfeit goods despite believing that doing so is morally and legally wrong.

They often justify the purchases with some moral disengagement, Wang says, for example, by complaining that they couldn’t afford the real thing.

Such moral disengagement doesn’t end with the purchase of the phony merchandise, Wang says. It continues as the knockoff is used or worn in a social context.

“The act of buying a counterfeit luxury product is something done often in private and can be hidden,” Wang says. “But the use of a counterfeit product takes place in a social context, where that...”

As featured in Journal of Consumer Psychology
immoral behavior is visible for others to see and to judge.”

Wang, with co-authors Jennifer Stoner from the University of North Dakota and Deborah Roedder John from the University of Minnesota, conducted five studies that examine the impact of social interactions on moral disengagement and behavior among women.

In their field studies, they found that women experience heightened feelings of social anxiety when they suspect that their fake designer handbag has been outed as a phony. The experience reduced their level of moral disengagement and reduced their interest in buying a counterfeit product.

“We illustrate the usefulness of these findings by developing an anti-counterfeit advertisement with messaging based on our results regarding social anxiety and show this ad to be effective in reducing purchasing counterfeit luxury products,” the researchers write in their study.

The campaign zeroed in on that social anxiety, saying it’s easy for other people to spot counterfeits. Messages included:

**WHEN IT’S FAKE,**

WE ALL KNOW IT’S FAKE.

FAKE PURSES ARE EASY FOR OTHERS TO SPOT.

DON’T TAKE THE CHANCE.

BUY REAL.

“When it’s fake, we ALL know it’s fake. Fake purses are easy for others to spot. Don’t take the chance. Buy real.”

“Consistent with our prediction, women viewing the social anxiety advertisement were less interested in purchasing counterfeit luxury products than women viewing the control advertisement,” the study says.

“Counterfeit Luxury Consumption in a Social Context: The Effects on Females’ Moral Disengagement and Behavior” is featured in the Journal of Consumer Psychology.

Yajin Wang
Marketing
Opinions abound in cyberspace. But do online ratings and reviews actually help consumers make better decisions about doctors, hotels, schools, restaurants, movies and other things? The answer may be ‘no’ for inexperienced community members who have limited interactions in a specific domain.

Research co-authored by Maryland Smith marketing professor David Godes finds a learning curve in platforms like Amazon, TripAdvisor and Rate My Professors. “Using another person’s opinions to infer your own expected satisfaction may be difficult, especially if you aren’t familiar with the environment,” Godes says.

The challenge is compounded by the range of opinions expressed among individual posters and the different scales used at various sites. Does a four-star hotel rating on one travel site, for example, align with a similar score on another site? And what does it mean if the scores are widely divergent?

“Complexity in interpreting opinions may arise due to significant heterogeneity in ratings across different online communities, which would require learning and expertise-building on the part of new community members,” Godes says.

Over time, as community members connect the reviews they read online with their actual experiences, a type of mapping occurs. A “fresh” rating at Rotten Tomatoes, for example, actually means something to moviegoers after they see several films and map them to their personal Tomatometer. “You learn how expressed opinions match up with your own preferences,” Godes says.

The study is co-authored with Maryland Smith PhD alumnus Yuchi Zhang. They base their findings on an analysis of user experiences at Goodreads, a popular book review site.

“We follow the actions of new Goodreads users as they establish a social network and learn how to make use of the information their network makes available,” the authors write.

The paper, “Learning from Online Social Ties,” is featured in Marketing Science.
Switching Devices Affects How You Shop

What Retailers Don’t Know About the Way You Browse

As featured in *Journal of Marketing*

Online shopping has been steadily climbing each year. But retailers have long discounted the importance of mobile devices in the trend because the majority of consumers still use their desktops or laptops to make purchases. This misses the full picture of the shopping process, says **P.K. Kannan**, a marketing professor at Maryland Smith and co-author of new research that sheds light on consumers’ path to online purchasing.

The researchers find that consumers who switch from a smartphone to a less mobile device are much more likely to make a purchase than those who start out on a laptop or desktop. This switching effect is especially strong when the purchase seems more risky, for more expensive products, and when customers have never purchased from the retailer previously.

The paper, “Device Switching in Online Purchasing: Examining the Strategic Contingencies,” is featured in *Journal of Marketing*.

---

Blame It on Social Media

As featured in *Journal of Marketing*

Social networking sites like Facebook, Instagram and Pinterest drive significant traffic to online stores. But new research from Maryland Smith uncovers a potential downside for retailers.

Maryland Smith’s **Michael Trusov**, together with Smith PhD graduate Yuchi Zhang and two co-authors, finds that social networks can dominate a person’s online time, eclipsing interest in other internet activities that carry entertainment value, including shopping.

For marketers, understanding the online shopping habits of consumers and their use of social networks is key.

“For a significant share of web traffic that online stores receive, it’s unclear whether presence in social media and the traffic that companies get through social media are actually doing well in the storefront,” he says.

“Online Shopping and Social Media: Friends or Foes?” is featured in *Journal of Marketing*.
Among the many changes brought about by the evolution of social media is this one: Marketers now have a powerful tool for assessing consumer perceptions of products and brands.

Social tags are the keywords, hashtags and Pinterest pin labels that users create as they discuss or categorize topics on social media. And these tags can offer a qualitative and revealing look at consumers’ perceptions of products and brands, according to research from Maryland Smith professors Yogesh Joshi and P.K. Kannan, and Smith PhD alumnus Hyoryung Nam.

The researchers compared conventional techniques that brand managers use to determine consumer perceptions—tools such as brand concept maps and text mining. And they highlighted the added value of a technique that would employ more unconstrained, open-ended and synoptic information contained within social tags.

Then they analyzed and demonstrated how marketers might use the information in social tags to understand how people perceive a particular brand.

“The advent of user-generated content has revolutionized the art and science of marketing research by making available a significant amount of online data that reflect consumers’ opinions, attitudes and preferences for products, services and brands,” the study says.

Marketing scholars through the years have proposed a number of different methods for assessing brand perception, including internet search data, online reviews and microblogs.

Kannan says social tags could be among the most reliable metrics. Taken together, they can create a narrative about how people are perceiving the new product or the brand itself.

This research demonstrates, for example, that Volkswagen, prior to its emissions scandal, had certain words—“Quality,” “Engineering”—that would emerge with prominence from looking at the social tags. But when the topic modeling was done after the emissions news, the words that emerged had changed, reflecting the scandal.

“Using these social tags, we can see how brand is being perceived over time and how brand strength is changing over time,” Kannan says.

The paper, “Harvesting Brand Information from Social Tags,” is featured in the Journal of Marketing.
THE PERKS OF BEING A HOTEL GOER
How Hotel Amenities Impact the Bottom Line

As featured in Journal of Marketing Research

With the amount of choice in hotels, where to stay can come down to more than just price. Guest experience also matters. And the free amenities offered by a hotel can shape a guest’s experience. But how does offering those amenities add to the bottom line for a hotel?

The findings: To attract first-time guests, hotels should offer free WiFi. They can get them to come back again with free bottled water during their stay. The team looked at whether offering free amenities actually attracts more people to book rooms, whether those reservations offset the cost of offering the amenities, and if a hotel stopped doing so, whether it would save money in the long run.

The researchers came up with a methodology hotels can use to calculate the return on investment for specific amenities and identify pointless expenditures. They focused specifically on on-site fitness centers, free WiFi and complimentary bottled water. They found that the free goods in these categories paid for themselves for many hotel brands: the bottled water and WiFi within a year and the fitness center (a more expensive initial cost) over time. This study went further than most previous research to calculate ROI by looking at whether the amenities drew return visits from customers and how that played into profits.

“The findings underscore the importance of observing guests’ actual use of amenities before deciding to make them standard, rather than relying only on surveys of guests’ desire for and intent to use the amenities,” wrote the researchers.

The paper, “Return on Service Amenities,” is featured in the Journal of Marketing Research.

To attract first-time guests, hotels should offer free WiFi.
To get them to come back, hotels should provide free bottled water during their stay.

That’s the question asked by Maryland Smith marketing professors Roland Rust and Michel Wedel, working with co-authors at Georgetown and Cornell universities.
JUDGING EQUITY
The Fusion of Unclean Hands in U.S. Law

By T. Leigh Anenson

Strict enforcement of the law sometimes rewards dirty-dealing and hypocrisy, which bothered T. Leigh Anenson as a business litigator.


“I do not like the abuse of power, and the abuse of the law is very similar,” says Anenson, who now works as a business law professor at Maryland Smith.

“If you are going to exploit the right that you have in a way that is not intended, I just do not think people should get away with that.”

I DO NOT LIKE THE ABUSE OF POWER, AND THE ABUSE OF LAW IS VERY SIMILAR.

Courts allow for equitable defenses, which invite judges to set aside legal requirements and apply moral principles in cases where the law might not deliver a fair resolution. But Anenson searched as an attorney for guidance on the doctrines of equity and found almost nothing. Now that she has transitioned to academia, she is filling the gap.

“I am writing the book that I wanted to have when I was a lawyer,” she says.

BUBBLES AND CRASHES
The Boom and Bust of Technological Innovation

By Brent Goldfarb and David A. Kirsch

Financial market bubbles are recurring, often painful, reminders of the costs and benefits of capitalism. While many books have studied financial manias and crises, most fail to compare times of turmoil with times of stability.

Smith professors Brent Goldfarb and David A. Kirsch share insights into the causes of speculative booms and busts in “Bubbles and Crashes: The Boom and Bust of Technological Innovation” (Stanford University Press, 2019). They identify a class of assets—major technological innovations—that can, but does not necessarily, produce bubbles. This methodological twist is essential: Only by comparing similar events that sometimes lead to booms and busts can we ascertain the root causes of bubbles.

Using a sample of 88 technologies spanning 150 years, Goldfarb and Kirsch find that four factors play a key role in these episodes: the degree of uncertainty surrounding a particular innovation, the attentive presence of novice investors, the opportunity to directly invest in companies that specialize in the technology, and whether or not a technology is a good protagonist in a narrative.
Doctor of Philosophy Graduates, 2018

Bradford Baker  
*Organizational Behavior/Human Resource Management*  
**Advisors:** Gilad Chen  
**Dissertation:** “When and Why Voice Harms Team Performance: The Critical Role of Relationship Conflict and Trust”  
**Placement:** Georgia Institute of Technology

Heejung Byun  
*Strategic Management & Entrepreneurship*  
**Advisors:** Rajshree Agarwal  
**Dissertation:** “Essays on a Demand-Side Driver of Industry Evolution”  
**Placement:** Purdue University

Yi Cao  
*Strategic Management*  
**Advisors:** Shijun Cheng  
**Dissertation:** “Matchmaking or Information Leakage? Disclosure Benefits and Constraints of Corporate Job Advertisement Specificity”  
**Placement:** Chinese University of Hong Kong, Shenzhen

Justin Frake  
*Strategic Management & Entrepreneurship*  
**Advisors:** Rajshree Agarwal and Christine Beckman  
**Dissertation:** “Essays on Perception and the Unintended Consequences of Success”  
**Placement:** University of Michigan

Heedong Kim  
*Accounting & Information Assurance*  
**Advisors:** Rebecca Hann  
**Dissertation:** “Do State Taxes Play a Role in Corporate Investment Decisions? Evidence from Interstate Investment”  
**Placement:** The City University of New York-Baruch College

Che-Wei Liu  
*Information Systems*  
**Advisors:** Ritu Agarwal and Sunil Mithas  
**Dissertation:** “The Interplay Between Social Connections and Digital Technologies: Three Essays Examining Healthy Behaviors and Income Mobility”  
**Placement:** Indiana University

Camil Martinez  
*Supply Chain Management*  
**Advisors:** Martin Dresner  
**Dissertation:** “Supply Chain Risks, Resilience, and Firm Performance: An Empirical Study”  
**Placement:** Center for Latin America Logistics, MIT Scale

Xiaodan Pan  
*Supply Chain Management*  
**Advisors:** Martin Dresner  
**Dissertation:** “Retail Operations Management in Light of Consumer Stockpiling Behavior”  
**Placement:** Concordia University

Jared Watson  
*Marketing*  
**Advisors:** Amna Kirmani and Anastasiya Pocheptsova  
**Dissertation:** “Aspects of Online Reviews and Their Effects on Consumer Decisions”  
**Placement:** New York University
**ACCOLADES**

**MSI Young Scholars**
Maryland Smith marketing professor **Bobby Zhou** was named to the 2019 cohort of MSI Young Scholars. His colleague **Rosellina Ferraro** was named to the 2018 cohort. The Marketing Science Institute recognizes researchers expected to be “leaders of the next generation of marketing academics.”

**Lifetime Achievement**
Professor **Bruce L. Golden** received the 2018 George E. Kimball Medal from INFORMS, an international association for operations research and analytics professionals. The award recognizes distinguished service to the institute and to the profession.

**Finance Innovation**
Professor **Albert “Pete” Kyle** won the 2018 CME Group-MSRI Prize in Innovative Quantitative Applications. Past recipients of the award, established in 2006, have included Nobel laureates.

**Early Career Award**
Maryland Smith professor **Peng Huang** received the Sandy Slaughter Early Career Award from the INFORMS Information Systems Society during the group’s annual meeting in Phoenix. The award recognizes individuals on a path toward making outstanding intellectual contributions to the information systems discipline.

**Journal Co-Editor**
Professor **Wendy W. Moe** has been named co-editor of the Journal of Interactive Marketing. She is associate dean of master’s programs at Maryland Smith.

**Distinguished Alumna**
Interim Dean **Ritu Agarwal** received a Distinguished Alumnus Award from the Indian Institute of Management Calcutta on Nov. 14, 2018. The award represents the institution’s highest honor to alumni. The presentation was part of IIM Calcutta’s 58th Foundation Day in Joka, Kolkata.

**Marketing Award**
Maryland Smith professor **Michel Wedel** received the 2019 Irwin/McGraw-Hill Distinguished Marketing Educator Award at the American Marketing Association Winter Academic Conference in Austin, Texas. The award recognizes sustained contributions to marketing over an extended period of time.

**Impact in Africa**
Finance professor **Lemma W. Senbet** finished a five-year term as executive director and CEO of the African Economic Research Consortium in summer 2018. The nonprofit organization is the largest and oldest economic research and training network in Africa. During his tenure, Senbet visited and led missions to 25 countries. “The ultimate goal was to bring rigor and evidence to economic decisions,” he says.

**Scholar-Teacher**
Marketing professor **P.K. Kannan** was one of six University of Maryland Distinguished Scholar-Teacher award recipients for the 2018-19 academic year. The lifetime achievement award, launched in 1978, honors University of Maryland faculty members who excel in academic research and classroom instruction.

**Global Outreach**
A $1.2 million grant from the U.S. Department of Education will allow Smith’s Center for Global Business to expand its portfolio of programs through 2022. The school was one of 15 chosen for the Centers for International Business Education (CIBE) program, and “allows us to do things with other schools at a scale we wouldn’t be able to do otherwise,” says **Kislaya Prasad**, research professor and the center’s academic director.

**Influential Author**
Maryland Smith professor **Debra L. Shapiro** is among the 100 most influential authors in organizational behavior, human resource management, strategy and general management as cited in textbooks. The study, published by the journal Academy of Management Learning and Education, assessed 16,289 authors—putting Shapiro in the top 1%.

**Competitive Dynamics Keynote**
Late Maryland Smith logistics professor **Curt Grimm** delivered a keynote address at Queen’s University in Kingston, Ontario, in June 2018. Grimm and Smith PhD alumnus Ming-Jer Chen, now an endowed chair at the University of Virginia, were the featured speakers at the Competitive Dynamics Conference.

**U.S. Treasury Nominee**
Finance professor **Michael Faulkender** was nominated by President Donald Trump on March 19, 2018, to be Assistant Secretary of the Treasury for Economic Policy. In this role, Faulkender will advise the Secretary of the Treasury and the administration on economic developments in the U.S. and world economies.
Quick!

5 HOURS. OR 5 MINUTES?

MARYLAND SMITH BRAIN TRUST
Business moves fast. Keep up with your weekly knowledge boost.

SUBSCRIBE TODAY
rhsmith.umd.edu/smithbraintrust
#2 University Productivity, Premier Journals (World)
AMA DocSig, 2018

#2 Marketing Journal Publications (World)
UT Dallas, 2014-19

#4 Information Systems Journal Publications (World)
UT Dallas, 2014-19

#17 Research (World)
UT Dallas Top 100 Business Schools, 2018