Members of the Smith community recently came together to revise the school's mission statement. After vigorous discussion and multiple drafts, we agreed on 30 words that guide our programs, initiatives and centers of excellence:

“The Smith School’s mission is to create knowledge, promote a learning environment that fosters intellectual discovery, and equip current and future leaders to assess complex problems and deliver innovative solutions.”

The statement starts with a commitment to creativity. Many people recognize art, music and poetry as creative pursuits. But research — the pursuit of new knowledge — requires similar genius and discipline. Faculty and students set the tone for the whole Smith community when they ask questions, connect dots and fill knowledge gaps.

The school’s second pledge grows from this passion for research. We combine our discoveries with knowledge from other sources in a rich learning environment. We are a community of teachers and learners.

Our final pledge is to open this community to current and future leaders facing complex challenges in a fast-changing global economy. This includes undergraduate students preparing for their first jobs, graduate students returning to school, and working professionals looking to boost their careers in our executive education programs.

Combining our strengths as researchers and educators in an inclusive community of lifelong learners, we deliver innovative solutions that make the world a better place.

Articles in this issue of Research@Smith provide recent examples in the fields of marketing, management and organization, health care delivery and logistics.

As someone who has lived the Smith experience for nearly 20 years, I know how much meaning is packed into each of the 30 words of the revised statement. We are a school on a mission, and we invite you to come along.

Alex Triantis
Dean, Robert H. Smith School of Business
University of Maryland
Cleaning the Clutter
By Wendy W. Moe
Market research tool provides three filters to achieve fast, cheap and reliable social media intelligence.

Speak-up Cultures
By Subra Tangirala
Body language and other nonverbal cues can influence employees’ willingness to voice alternate viewpoints.

Going Forward to Go Backward
By Bruce Golden
Switch to electronic health records sometimes requires doctors to spend more time with computers, less with patients.

Having It All
Research by Tunay I. Tunca
A buyer’s guide to low cost and high quality: Designing reverse auctions to procure complex goods and services.

Research Briefs

Thought Leadership Profiles

Executive Profile: Victor Valdez, EMBA ’14
U.S. Securities and Exchange Commission
A social media forum is a terrible thing to waste. Yet market researchers rarely know what to do with the consumer commentary that abounds online. Some companies overreact, altering strategy based on the rants of a few unhappy customers. Other firms err on the opposite side, ignoring the feedback altogether because of its limitations.

A third alternative emerges in a new paper I co-authored, using data from social media strategy and analytics firm Converseon. Companies can navigate the noise that dominates the Internet and extract timely, inexpensive and accurate data when they control for basic human tendencies that shape online conversations.

The key is to apply the same rigor of traditional social science in the relatively young realm of Twitter, Amazon, Yelp and other virtual gathering spots. To clean the clutter effectively, online market analysts need to control for three main human effects.

**Extremity effect**

Traditional social scientists understand that people like to complain. When consumers take the time to fill out a comment card, or when they talk to their friends and co-workers about a product, usually they are venting about negative experiences. Market researchers understand this bias and control for its effect.

Something similar happens in social media, but with a twist. Extremely negative people go online to talk, but so do extremely positive people. The majority of consumers, the ones in the middle, usually keep quiet. Social media marketers can control for the extremity effect by using mathematical models to gauge public sentiment based on predictable patterns of human behavior.

**Venue effect**

Besides the need to express strong opinions, people also have a fundamental yearning to belong. Traditional social scientists know that when people converse offline, they tend to say things that they think their audience wants to hear.

They take care not to alienate themselves from the mainstream or to polarize the group. This means a person might express different opinions at work than at church or some other context. Over time, people gravitate to venues where their views are mostly embraced.

This effect translates online, where like-minded commenters cluster in different communities. Often the result is an echo chamber, where isolated groups reinforce each other’s views and grow increasingly confident in their extreme positions.

Savvy social media marketers understand that the choice of where to express an opinion is a function of the opinion itself. They control for the venue effect by monitoring a range...
Companies can navigate the noise that dominates the Internet and extract timely, inexpensive and accurate data when they control for basic human tendencies that shape online conversations.

**Topic effect**

A third effect that traditional social scientists have learned to manage involves people’s ability to distinguish the parts from the whole when forming opinions. A sports fan can hate a coach’s play calling but still love the team. A voter can dislike a candidate’s position on one political issue but still support the broader campaign.

Likewise in social media, people can express negative views on a particular topic but still have positive feelings toward the overall brand. Market researchers miss this nuance when they go online, gather all the comments related to a brand, rate the comments as positive or negative, and then draw general conclusions.

Companies that ignore the effects of human behavior and take social media comments at face value get mostly noise. The correlation to well-developed offline market research is almost zero (0.008 to be more exact). When companies control for known biases, the correlation to traditional data sources improves one hundredfold to over 0.8 – with 1.0 representing perfect alignment.

Social media then becomes a rich source of continuous data that companies can use in tandem with traditional research tools.

**Wendy W. Moe, PhD**, is an associate professor of marketing and director of the MS in Marketing Analytics at the University of Maryland’s Smith School of Business.

**READ MORE**

“Social Media Intelligence: Measuring Brand Sentiment from Online Conversations” by Wendy W. Moe appears in the August 2014 issue of Manufacturing & Service Operations Management. The paper is the 2014 winner of the Robert D. Buzzell Marketing Science Institute Best Paper Award.
Envision a project meeting where your coworker’s upbeat demeanor relaxes and emboldens you to interject a divergent viewpoint that alters your team’s groupthink. The momentum is energizing. The next morning you arise more eager than the previous day to tackle the next set of challenges.

But imagine the same work session when your coworker appears reserved – almost sullen. Instead of a creative focus on the project, you might read the nonverbal cues and wonder: “Is there a problem? Is there a distraction from home? Is it the team? Is it my behavior?”

Working with several colleagues, I investigated how workplace mood – especially that of high status coworkers – can influence whether or not employees voice ideas or suggestions that challenge a team’s direction or philosophy.

In one experimental study, we examined how part-time MBAs from two China universities responded to different scenarios presented to them. In these scenarios, we asked the participants to place themselves in the shoes of an employee who discovers relevant information from outside engineers during a firm’s solar power system design project. The new information suggests the company would be better served by a different approach than the one being championed by the team.

Not surprisingly, when coworkers displayed a positive mood, participants felt more psychologically safe to speak up and reported greater willingness to advocate against the course of action taken by their team.

Moreover, the participants were especially influenced by their coworkers’ mood when the coworkers had higher status in the team or when the participants felt that they did not have pre-existing relationships with such coworkers. We replicated these results in a second study that involved a survey of 155 bank employees.

A simple but vital lesson for leaders in any workplace is to be aware of how they appear to their employees, including when not speaking – whether in the conference room or one-to-one in an office setting.

You might be vigilant about watching your manners around your employees and consistently soliciting their input and feedback. But that’s not enough. Your facial expressions during silence could be daunting – especially if you appear grim and distant.
It is very human to look for nonverbal cues before speaking out about something in the workplace. This especially is the case when you have a neutral to poor relationship with your colleague or when your colleague possesses a higher status than you in the team (e.g., due to seniority or rank). This effect is heightened by the recent recession, which has fueled job insecurity across industries.

Your mood can influence your team members to be reserved, a function of a survival instinct or thinking that keeping quiet and just going with the flow is the safest way to advance your career. In this environment, ideas remain dormant and then die. Your facial expression can be the key to facilitating a candid exchange of ideas under your leadership.

Subra Tangirala, PhD, is an associate professor of management and organization at the University of Maryland’s Smith School of Business.

“A simple but vital lesson for leaders in any workplace is to be aware of how they appear to their employees, including when not speaking.”

“How and When Peers’ Positive Mood Influences Employees’ Voice” is accepted for publication by the Journal of Applied Psychology. In addition to Tangirala, authors include Wu Liu, Wing Lam and Rongwen Tina Jia from Hong Kong Polytechnic University; and Ziguang Chen from City University of Hong Kong.
RAND Corporation researchers painted a rosy picture in 2005 when looking forward to the widespread adoption of health information technology. They projected $81 billion in annual savings and thousands of deaths averted each year. The U.S. government responded in 2009, mandating that all health care providers implement electronic records systems by 2014.

Despite the optimistic projections, health care improvements have been slow to develop. In many cases, doctors are spending more time focused on their computer screens and less time with patients as hospitals scramble to improve efficiency. The quality of health care sometimes suffers as a result—even as patient processing times improve.

Yet if efficiency is the goal, new research shows promise in emergency room settings where outcomes most often hinge on rapid assessment and treatment. The study, which I co-authored with Smith School Ph.D. graduate David Anderson and other colleagues at the University of Maryland Medical Center, shows that emergency department efficiency gets worse initially but then improves following the transition to electronic health records.

We base our assessment on observations at two suburban hospital emergency departments during a 17-month transition period. We collected baseline data for seven months prior to implementation of electronic health records, and then measured changes in patient processing times in the 10 months that followed.

As expected, the shock of switching from paper to digital records caused initial delays in patient admit/discharge decisions and led to longer overall stays. Processing times slowed by an average of 8 percent during the first two months.

After this initial setback, however, processing times started improving. Within six months after implementation, the losses were erased and processing times had returned to baseline levels. By the end of our observation period, processing times had improved by an average of 5 percent from the baseline.

We saw no evidence of the efficiency trend diminishing toward the end of the study, leading us to predict a continuing but small long-term improvement. Emergency departments will likely reach a point of diminishing returns, but this did not occur within 10 months at the hospitals we observed.

We also saw something reassuring for hospitals worried about the ability of older, more experienced doctors to adapt to change. Although the new technology initially hindered these doctors more than their younger counterparts, the differences disappeared by the end of the study.

While hospitals facing the transition to electronic health records can find positive things in these results, they should take precautions to ensure that the initial disruption does not persist.
 affect the quality of patient care. The hospitals we observed added an eight-hour shift of daily provider coverage for the first week after the switch, which might not be enough for a transition that can last months.

We tested and recommend several measures for emergency department administrators to consider for offsetting the immediate negative effects of switching to electronic health records. These strategies include:

- Adding two or three staff hours in overnight shifts.
- Opening an additional triage unit for eight hours a day.
- Strategically placing or moving scribe programs around the department.
- Adding as many as six hours of physician assistant coverage to daily schedules.

These moves might increase costs in the short run, but they also can work to ensure patient care quality while protecting staff morale and reinforcing the investment in new technology. Most importantly, hospitals should remember that greater efficiency does not always translate to improved quality in health care.

Bruce Golden, PhD, is the France-Merrick Chair in Management Science at the University of Maryland’s Robert H. Smith School of Business.

“Hospitals should remember that greater efficiency does not always translate to improved quality in health care.”

Having It All

Individual consumers compete against each other in traditional online auctions. When the bidding stops, the highest price wins. The opposite happens when large-scale buyers use online auctions to procure goods and services for their companies.

Instead of multiple buyers driving up prices for one seller, multiple sellers undercut each other to woo one buyer. The winner of these reverse auctions is often the supplier with the lowest bid price, but not always.

In many cases corporate buyers must also control for quality—especially when procuring complex goods or services. The trick is finding the right balance between price and quality. New research, co-authored by Tunay I. Tunca, Professor of Management Science and Operations Management at the University of Maryland's Robert H. Smith School of Business, provides clues for closing the gap between these competing considerations. Using data from General Electric’s legal services procurement process, the researchers show how buyers can structure reverse online auctions to generate substantial savings for their companies when quality considerations exist. The process involves five basic steps.

The Hoberg and Phillips Data Library, updated in March 2014 to include data through 2011, has had more than 24,000 page views from more than 50 countries—an indication of the competitive insights available. Investors can apply the research in two ways:

1. Know what you want. Price matters most when procuring simple commodities or services that look the same regardless of the source. Motorists shopping for unleaded gasoline, for example, can find similar fuel at any reputable station. Quality matters most when products or services vary widely and the stakes are high. Art collectors, for example, must pay a premium for masterpiece paintings—the opposite of a commodity. Likewise, wealthy parents do not bargain shop for their children's education or health care. Most business transactions fall somewhere between these extremes. Price and quality both matter, which means corporate buyers need to understand their true preferences.

2. Be open about the procedure. When quality and price matter, buyers should let potential suppliers know that both considerations will shape the winner selection process. GE informs law firms vying for its legal services contracts that selection will be based on quality considerations such as specific personnel, relevant experience and availability, as well as economic considerations, such as suppliers’ bid prices and ability to comply with transaction-related policies.
3. **Stay flexible.** When quality considerations exist, buyers should announce up front that bidding results are nonbinding. Although GE sets clear scoring rules for its legal services sourcing, the company does not commit to necessarily award the contracts to the suppliers with the best scores. Instead, GE reserves the right to award contracts to the most suitable law firms after observing scoring results. This open-ended, two-stage award structure has several advantages over the traditional closed-ended approach, which binds buyers to select auction winners based on announced scoring rules. Significantly, an open-ended structure allows buyers to keep their true preferences for price and quality private. This can intensify competition, as discussed in the next step.

4. **Guard your preferences.** Although clear rules are needed, buyers who use an open-ended award structure do not need to disclose their true preferences, especially when quality considerations factor heavily. If bidders know that a company is willing to pay a premium, then high-quality suppliers have leverage to keep their prices inflated. If bidders know that price and quality both factor in the process — but not the extent that each variable is preferred — then high-quality suppliers must lower their prices to compete more aggressively with lower-quality participants.

5. **Open the playing field.** Successful implementation of online auctions hinges on the willing participation of qualified bidders. To encourage rigorous competition, buyers must take steps to ensure a fair process. Among other things, they must guard against an incumbency advantage. Newcomers will be turned off from participation if they perceive favoritism for long-term suppliers. Even if an incumbent or another high-quality supplier wins a new contract in the end, aggressive bidding from multiple players can help drive down prices.

“Price and quality both matter, which means corporate buyers need to understand their true preferences.”

---

**READ MORE**

**Five Steps to Foster Workplace Initiative**

Companies can spur proactive workplace behavior when they take five steps to build an initiative-friendly climate, new research from the Smith School shows.

Employees tend to respond and take initiative when their managers lead by example, provide coaching, allow participative decision making, keep team members informed and show concern.

Looking at data from hotel chains in the United States, Europe, Asia and Australia, the researchers explored ways that human resources managers, department managers and team leaders influence initiative-friendly climates.

The working paper, “What It Takes to Get Proactive,” was presented Aug. 4, 2014, at the Academy of Management annual meeting in Philadelphia. Co-authors include Smith Professor Hui Liao and recent Smith PhD graduate Joo Hun Han.

**IT Capability Translates to Higher Profitability**

Companies that invest heavily in information technology tend to perform better for shareholders than the broader market, new research from the Smith School shows.

Smith Professors Michael Kimbrough and Sunil Mithas presented their working paper, “Information Technology Capability and Stock Returns,” on Aug. 5, 2014, at the Academy of Management annual meeting in Philadelphia with a third author from the University of Illinois at Urbana-Champaign.

The researchers said that firms with advanced IT capabilities have access to better data and are able to respond more quickly to changing customer demands. All of this translates to higher profitability.

**Framing Feedback to Motivate Employees**

Some workers need positive feedback to keep them motivated, while others respond better to negative reviews. Regardless of the approach, research from Smith PhD student Elad Sherf shows the importance of framing feedback so that workers can see the personal consequences of their behaviors.


**Peer Pressure Sways Movie and Game Critics**

Movie and game critics influence each other in their reviews. But unlike stock market analysts, who tend to take safety in numbers, entertainment critics look for ways to differentiate themselves from their rivals.

“They tend to get more negative when they can see what other critics have to say,” said Daniel Olson, a Smith PhD student who presented his research Aug. 5, 2014, at the Academy of Management annual meeting in Philadelphia. “They face different pressures than stock market analysts because of the lack of objective criteria for ex-post evaluation.”

Olson prepared the paper, “Social Influence and Competition Among Critics,” with Smith Associate Professor David M. Waguespack.

**Shoppers: Beware of Your Mindset When Renting**

Commitment-shy shoppers carefully evaluate products before making a purchase, but new research from the Smith School shows that something different happens when the same people think about renting.

“They are less stringent about what they take home and how much they acquire,” said Smith Professor Anastasiya Pocheptsova. “They examine fewer options, invest less time gathering information and settle more willingly on second best alternatives.”

Pocheptsova’s study, coauthored with colleagues from Columbia and Yale universities, follows a recent surge in rental options. “Consumers today can rent almost anything, not just traditional big-ticket items such as houses, cars, furniture and appliances,” Pocheptsova said.
Social Media Cues from the Music World

Social media has become increasingly important for musicians to engage fans, promote output and subsequently lift record and concert sales – a dynamic analyzed in a recent study from the Smith School.

Marketing professors Yogesh Joshi, Liye Ma, William Rand, and information systems professor Louiqa Raschid, tracked Twitter activity for several rock bands for more than two years to study how this activity impacts consumer engagement and sales.

Their research shows important distinctions in the levels of engagement for customers of new bands and established bands. Information is stickier than emotion for an established brand, but emotion works better for a newer brand.

THOUGHT LEADERSHIP

Ritu Agarwal, professor and Dean’s Chair of Information Systems, was the keynote speaker at the Taiwan Summer Workshop on Information Management, and the City University of Hong Kong Information Systems Research Workshop.

Sean Barnes, assistant professor of operations management, has recently been named as a faculty affiliate of the new Center for Systems Engineering in Health at Johns Hopkins Medicine, which combines the Johns Hopkins University School of Medicine, Johns Hopkins Hospital and Health System.

Progyan Basu has been named a 2014 Undergraduate Studies Faculty Fellow. During the 2014-15 academic year, the Undergraduate Faculty Fellows will participate in a faculty learning community that will consider the challenges and opportunities in teaching large enrollment courses and seek to understand and define these courses as important for student success.

Gilad Chen, the Ralph J. Tyser Professor of Organizational Behavior and Management & Organization Department Chair, was recognized on Oct. 2, 2014, as a University of Maryland Distinguished Scholar-Teacher. He is one of six UMD professors to earn the award in 2015, and the 16th Smith School recipient since the program started in 1978.

Zhi-Long Chen, professor of operations management, recently gave a plenary talk on “Recent Developments in Dynamic Pricing Research” at the 13th International Conference on Information and Management Sciences from Aug. 3-8, 2014, in Zhangjiajie, China.

Larry Gordon, the EY Alumni Professor of Managerial Accounting and Information Assurance, was a featured speaker at Johns Hopkins University’s Cybersecurity Conference in October 2014. The topic of his talk was the “Gordon-Loeb Model for Cybersecurity Investments.”

Kathleen Hanley, visiting associate professor in the Smith School’s Center for Financial Policy, and Associate Professor Jerry Hoberg have been awarded a $300,000 National Science Foundation grant for their project entitled “EAGER: III: CIFRAM: Dynamic Identification and Interpretation of Emerging Systemic Risks Using Textual Analysis.” The proposal was funded by the Office of Financial Research through the NSF and is one of the first to be funded under this program.

Debra Shapiro, the Clarice Smith Professor of Management & Organization, delivered the welcome address at the Academy of Management’s annual meeting Aug. 1-5, 2014, in Philadelphia. Afterward, she officially started a one-year term as president-elect of the global organization.
Military veteran Victor Valdez, EMBA ’14, arrived at the U.S. Securities and Exchange Commission on Sept. 22, 2014. But already the new chief operating officer and managing executive of the agency’s Enforcement Division is looking toward the future.

“One of the principal parts of my job is to grow my successor – to grow the people who will replace me,” he says. “I want to make sure those people who work for me have a good idea of what it takes to move to the next level. It helps them perform their jobs better today, it helps their career development, and it shows that I am invested in their success.”

The long-term view that Valdez brings to the SEC also propels him forward in his own career. He says he has learned to think two or three moves ahead as a strategic planner, which is one reason he enrolled in Smith’s Executive MBA program.

“I wanted to learn how to understand and articulate return on investment for different projects that I was working on,” Valdez says. “But I also wanted more business education to support my long-term goal of moving to the private sector.”

After attending the U.S. Air Force Academy out of high school, Valdez served for more than 20 years as a military officer. During his varied assignments, he was a special agent with the Air Force Office of Special Investigations, responsible for researching criminal, terrorist and intelligence threats.

More recently he served with the Federal Deposit Insurance Corporation before joining the SEC. In his new role, he will oversee project management, information technology, human capital strategy and risk management, among other functions. He says he welcomes the challenge of supervising about 200 government personnel and 100 contractors.

“I like to be challenged,” says Valdez, a Los Angeles native. “I would get bored if I just stayed in a comfort zone. I would not feel like I was doing what I should be doing.”

He says attending Smith’s Executive MBA program while serving as deputy director of strategic planning and corporate programs at the FDIC challenged him – and his family – but he received support from his classmates and others in the Smith community.

“The ties that I have with my cohort are very strong,” he says. “And I anticipate those ties growing over time.”

Already his strategic planning has paid dividends at the SEC. “Vic brings an impressive breadth of management and planning experience to the critical position of managing executive,” says Andrew J. Ceresney, director of the SEC’s Enforcement Division. “I am pleased that he will take a leading role in the division’s ongoing efforts to improve our effectiveness.”
Recent titles from Smith School of Business faculty include:

**A Risk Professional's Survival Guide**
By Clifford Rossi, Smith Clinical Professor and Executive-in-Residence
Publisher: Wiley (Oct. 20, 2014)
Summary: The disasters of the recent financial crisis taught us that managing risk is an art and a science, and it is critical for practitioners to understand how individual risks are integrated at the enterprise level. Instead of focusing only on quantitative risk analysis or institutional risk management, this book takes a comprehensive approach.

**Leader of One**
By J. Gerald Suárez, Smith Clinical Professor in Systems Thinking & Design and Fellow at the Center for Leadership, Innovation and Change
Publisher: CreateSpace (June 4, 2014)
Summary: Many people spend time thinking about their future, yet it is something they rarely address in a formal way. In the book Suárez applies the interactive planning, systems and design thinking process for individuals to mobilize their dreams to action.

**RESEARCH@SMITH CALENDAR**


**Nov. 11, 2014**  ChangeTheWorld Symposium and Reception, 6 p.m., 2517 Van Munching Hall.
Contact: pbhullar@rhsmith.umd.edu

**Dec. 21, 2014**  Smith School commencement, 4 p.m., Xfinity Center

**Feb. 26-27, 2015**  Ashoka U Exchange at the University of Maryland with the Smith School's Center for Social Value Creation. Contact: rsteinbach@rhsmith.umd.edu

**April 22, 2015**  Cupid's Cup business plan competition, sponsored by Under Armour with the Smith School's Dingman Center for Entrepreneurship.

**ROBERT H. SMITH SCHOOL OF BUSINESS**

The Robert H. Smith School of Business is an internationally recognized leader in management education and research. One of 12 colleges and schools at the University of Maryland, College Park, the Smith School offers undergraduate, full-time and part-time MBA, executive MBA, online MBA, MS, PhD and executive education programs, as well as outreach services to the corporate community. The school offers its degree, custom and certification programs in learning locations in North America and Asia. More information about the Robert H. Smith School of Business may be found at [www.rhsmith.edu](http://www.rhsmith.edu).
IN THIS ISSUE
- Cleaning the Social Media Clutter
- Promoting a Speak-Up Culture at Work
- Navigating the Switch to Electronic Health Records
- A Buyer’s Guide to Low Cost, High Quality

Read More Online
This issue and previous issues of Research@Smith are available to read and download at www.rhsmith.umd.edu/research/ras.