Business Research in Action

Mays Business School, Texas A&M University

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Managing work-nonwork conflict ■

Studying alliances, innovation in the telecom industry ■

Shipping bundles of cash at just the right price ■

Taking a deeper look at SOX legislation ■

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Managing work-nonwork conflict
Study indicates insecurity on job blurs boundaries between work and family

Employees who feel the least secure about their jobs are more likely to stay engaged with their work colleagues than those who feel more secure, according to research from a team led by Mays Business School Management Professor **Wendy Boswell.**

The fallout from working virtually around the clock varies, from stress to burnout to work interfering with the home life.

In a recent study, Boswell and her colleagues on the project, Julie Olson-Buchanan of California State University, Fresno, and Brad Harris of University of Illinois (a former PhD student at Mays), focused on the role of the context in shaping how employees manage their work and family boundaries.

Boswell described the cycle in a simple illustration: Job insecurity leads to lower use of family support programs and more willingness to integrate work into an employee's personal life (i.e., blur boundaries). These behaviors in turn lead to higher burnout as well as more work-family conflict.

The study has been accepted for publication by the journal *Personnel Psychology.*

"Drawing on an adaptation perspective, we expect employees feeling greater job insecurity to engage in adaptive work behaviors, including less use of work-nonwork support programs and greater willingness to let work permeate into one's personal life, which in turn will associate with greater work-nonwork conflict and emotional exhaustion," Boswell explains.

Data were collected from employees within a large energy company at two points in time. Results support the model, offering important insight on employee behavioral responses to job insecurity and key mechanisms through which insecurity may foster diminished employee well-being. It also offers firms with important practical insights into how, when faced with job insecurity, employees may engage in behaviors that are ultimately detrimental to their well-being and long-term effectiveness. Boswell emphasizes: "It is during such unstable and stressful times when employees need to utilize organizational support resources the most and strike a balance among their multiple work and personal demands; yet our results suggest that employees may be hesitant to do so, likely out of fear of further risk to their job and a desire to be seen as a valuable - perhaps even indispensable - contributor."

Boswell's latest study is related to earlier research that focused directly on the role of communication technology in blurring the boundaries between work and family. Published in January 2012 in *Journal of Vocational Behavior*, "Communication technology: Pros and cons of constant connection to work" was one of the first studies to specifically examine the predictors and consequences of using communication technologies (e.g., email, cell phones) for work purposes "after hours." The findings revealed how employees who strongly identified with the job and/or were ambitious were particularly likely to stay connected after hours and that doing so associated with greater work-nonwork conflict.

Boswell's research targets managers and organizations by examining how to best manage and develop policies around the work-nonwork interface, although the topics of work-family boundaries, burnout and work-family balance are definitely interesting to individuals.

She says her interest in work-family issues began when she started a family a decade ago. "I know first-hand the challenges of balancing demands, but I also know there are tradeoffs and choices we all must make. Understanding how people make these choices, how they can be more effective in balancing demands, and the various outcomes (personally and for a firm) has real practical importance," she explains.

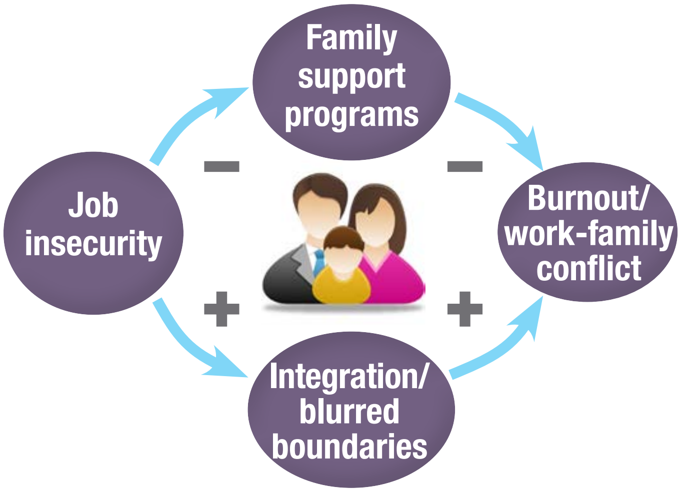
"I'm fascinated with how people manage multiple demands (and we have many in our lives!), and how individuals vary in managing different needs, preferences and goals. Certainly, technology has changed how and when we work, and I always like to ground my research in fairly practical and timely issues. "The stress of job insecurity and balancing one's life and work demands is a very practical, timely and important one for our society."

Boswell says she is interested in observing "somewhat counterintuitive things" and wanted to explore an area that the literature so far has not offered a clear answer for: Why would people who are stressed by their employment situation (e.g., feel insecure) work harder/more?

Tips for loosening electronic leashes

- Get clear direction early on of the supervisor's expectations for after-hour communications.
- Turn off cell phone at certain times of the day.
- Only SEND emails after hours. Wait until you return to work to read new ones.

"Much of the literature suggests insecurity should make you ticked off at your company, yet anecdotally, we were seeing employees put their heads down and dive in to work in the face of a poor economy," she explains. "And, then, what would be the longer-term outcomes of this - that is, isn't it likely that this behavioral adaptation to insecurity could actually have long-term deleterious effects for the individual?"



Boswell teaches courses on human resource management at the undergraduate, graduate (master's and doctoral) and executive levels. She is the holder of the Jerry and Kay Cox Endowed Chair in Business, and she received the 2004 Center for Teaching Excellence Montague Scholar Award.

Her research focuses on employee attraction and retention, job search behavior, workplace conflict and the work-nonwork interface. Her work has appeared in such journals as *Academy of Management Journal, Academy of Management Review, Journal of Applied Psychology, Personnel Psychology, Human Resource Management, Journal of Vocational Behavior,* and *Journal of Management.* She serves on the editorial boards of the *Academy of Management Review, Journal of Applied Psychology, International Journal of HRM,* and *Journal of Management*, and is an incoming Associate Editor for *Personnel Psychology.* She served as the 2012-13 Chair of the HR Division, Academy of Management.

Study of telecommunications industry alliances to inform policy, economic development

Management department colleagues

Michael Hitt and **R. Duane Ireland** at Mays Business School have been studying the effects of formal strategic alliances on firm innovation and subsequent acquisitions in the telecommunications industry. In Phase 2, the pair is also examining the ultimate effects of innovation and subsequent acquisitions on firm performance.

The Phase 2 research was funded by the Department of Defense (DOD) and the National Institute of Standards and Technology on behalf of the Defense Production Act Committee's (DPAC) Telecom Study Group, which is co-chaired by the DOD and the White House Office of Science and Technology Policy. Informing policy and economic development is a key objective of the research.

Hitt is a University Distinguished Professor at Texas A&M University and holds the Joe B. Foster Chair in Business Leadership. Ireland is a University Distinguished Professor and holds the Conn Chair in New Ventures Leadership.

Their research revealed that alliances provide firms with the opportunity to learn from partners. And, specific types of strategic alliances and their individual stock of knowledge (what a firm knows) have the potential to contribute to the firm's development of innovations. A strategic alliance is an agreement in which two or more parties agree to collaborate to reach a set of mutually beneficial objectives while remaining independent entities. Marketing and manufacturing alliances are two examples of the many types of strategic alliances. Some alliances provide firms with valuable information on partners and enable them to build relationships that lead to subsequent acquisitions. These acquisitions may, in turn, influence innovation outputs, and both innovation and acquisitions are likely to influence firm performance. The relationships among the variables the researchers studied are complex. In an overall sense, however, the results have the potential to inform the types of competitive actions U.S. firms can take to increase their competitiveness in technology-based markets.

Hitt and Ireland collected annual data on all major firms in the telecommunications industry from 1995-2011. During this period, significant macroeconomic and political events occurred that provided the foundation for the current industry players. Additionally, this period of time evidences heterogeneity among the rival firms and changes in the industry thereby yielding data that allow the development of future scenarios for the industry.

Hitt, Ireland and two PhD students from Texas A&M conducted the first portion of the two-part study with a team of finance and engineering experts. The second phase of the research, in which they are currently involved, examines the effects of informal connections between firms (e.g., interlocking boards of directors, networks of scientists) on innovation and firm performance.

The three teams of researchers (of which Hitt, Ireland and their PhD students are one) will integrate the results of their studies to provide input to the DPAC committee. Hitt and Ireland are pleased to examine interesting research questions, knowing that the results of their work may serve as input to policy decisions that are intended to support U.S. firms competing in the telecommunications industry. Given innovation's importance to performance for firms competing in this industry setting, policy makers can develop policies that facilitate U.S. firms' innovation-based outputs and their competitive position over time. The success of these firms will, in turn, contribute to U.S. economic development.

Michael A. Hitt

Duane Ireland

"Formal and Informal Alliances in the Telecommunications Industry and Their Outcomes" is a research project by Michael A. Hitt and R. Duane Ireland. It is funded by the Department of Defense (DOD) and the National Institute of Standards and Technology on behalf of the Defense Production Act Committee's (DPAC) Telecom Study Group, which is co-chaired by the DOD and the White House Office of Science and Technology Policy.

Research finds optimal pricing for a new service

Nothing costs money or time quite like inefficiencies.

Budgets bloat or pennies get pinched until a better system is put into place. Even the people producing currency sometimes have to find a way to save it, as was the case with the Federal Reserve System. In 2007, the Federal Reserve, or the Fed, passed a regulation addressing problems with the way cash was circulated between the Fed and the banks.

The regulation created a new policy allowing the Fed to penalize banks engaging in a practice known as cross-shipping. Each week banks send cash in bundles to the local branch of the Fed, where it is sorted into cash that is reusable and cash that cannot be put back into circulation.

The process, called, "fit-sorting," requires time and money as well as machinery. Cross-shipping occurs when banks request money while depositing bills that are fit for circulation. If a bank sends in 20 bundles to be sorted, requests 20 bundles of fit money, and 10 of the bundles originally sent in were already fit, that is 10 bundles of money that is fit for circulation. In other words, 10 bundles were cross-shipped.

"It was a free service for the bank," says **Chelliah Sriskandarajah**, professor of operations management and Hugh Roy Cullen Chair in Business Administration. "But the Fed said, we have a lot of operating costs, so now the banks can do it. It has improved the efficiency of the Fed, which is run by taxpayers' money."

With the new regulation, banks pay a $5 fee for every cross-shipped bundle, which might seem like chump change – except to banks, which are shipping thousands upon thousands of bundles every week. The Fed solved its inefficiency problems, but now banks faced the problem of figuring out how to fit-sort cash or pay up to the Fed; it had to be done efficiently and at a lower cost than the fees charged by the Fed.

"Some banks are doing it themselves," says Sriskandarajah. "They bought fit-sorting machines and they do it themselves. But some medium volume banks don't do it; it's too expensive for them to buy these machines."

Banks without the capital to invest in fit-sorting machinery needed to find a fit-sorting service provider, but there was no such thing. Third-party logistics providers who were already providing currency transportation for banks saw the business opportunity created by the new regulation.

"The purpose of the third-party logistic provider is to convince the bank, with the right pricing, they can save the banks money," says Sriskandarajah.

He and his colleagues – Mili Mehrotra from the University of Minnesota and Milind Dawande and Vijay Mookerjee from the University of Texas at Dallas – conducted research to help third-party logistics providers make the right pricing decisions regarding this new service. In order to win banks' business, logistics providers would have to price the new service at a price below the $5-a-bundle fee charged by the Fed.

"So what is the pricing scheme that is beneficial to both the bank and the third-party logistic provider, and how can they maximize profit, and at the same time show to the bank they can save money by using this service," says Sriskandarajah. "The data shows, depending upon pricing scheme proposed, maximum pricing at 30 to 40 percent of the fee, so 60 to 70 percent of that cross-shipping cost could be saved for the bank."

Some of the variables the researchers used in the optimization model they created were factors such as where the fit sorting facility was located, how many banks the provider would serve, and what kind of cash flow and fit sorting demand they could expect.

Sriskandarajah says he enjoyed working on this research partly for the opportunity to learn about the Federal Reserve and how cash is circulated, and he notes that even though people seem to be paying more frequently using electronic methods, cash demand is still on the rise.

"One has to deal with it whether you like it or not, so how do we make it more efficient for the bank," he says. "That is the theme of this research."

"Pricing and Logistics Decisions for a Private-Sector Provider in the Cash Supply Chain," was published in *Production and Operations Management*, and is authored by Chelliah Sriskandarajah of Mays, Mili Mehrotra of the University of Minnesota, and Milind Dawande and Vijay Mookerjee of the University of Texas at Dallas.

Research takes a deeper look at effects of legislation

The Sarbanes-Oxley Act, passed in 2002, was the most impactful regulation in terms of accounting and financial reporting since the 1930s. The act, often referred to as SOX, was passed in an effort to diminish the widespread fraud that had gripped the nation for the first part of the decade.

"It was a monumental piece of legislation," says Nate Sharp, accounting professor and Mays Research Fellow.

SOX tightened the reins on accounting firms that had begun to provide multiple services to their clients beyond auditing and left them with the ability to perform few services beyond external audits. Although the public was generally pleased with the move toward greater auditor independence, some in the profession argued the additional services offered by auditing firms had led to more thorough and effective audits.

"We tend to call that 'knowledge spillover,'" says Sharp. "If the audit firm is there doing other services, the argument is that they learn things about the client that then 'spill over' and can benefit the audit team when they perform the audit."

Others argue in favor of the strict regulations put into place by SOX, saying the many services offered by auditing firms had compromised the independence of the auditors; otherwise put, they believe there was enough money at stake to tempt auditors to overlook financial misreporting. In their paper "Internal Audit Outsourcing and the Risk of Misleading or Fraudulent Financial Reporting: Did Sarbanes-Oxley Get It Wrong?" Sharp and his colleagues - Douglas Prawitt and David Wood of Brigham Young University - looked into the effects, if there were any, of restricting audit firms from doing internal auditing for their clients, one of the services auditing firms had offered before SOX.

"We said, let's go back a few years prior to SOX before all of this came into effect to see whether companies that were outsourcing part of their internal audit function to their external auditor had financial statements that were either riskier or less risky," Sharp says of the idea behind the research. "In other words, if it's true that allowing the external auditor to participate in the internal audit compromises independence, then companies doing that should have riskier financial statements that appear to be aggressive."

Gathering information from the Institute of Internal Auditors, the researchers looked at financial statements from 159 firms in the three years leading up to SOX. The firms fit into one of four categories:

- The firm outsourced some of its internal audit function to the same Big Four accounting firm that conducted its external audit
- The firm outsourced some of its internal audit function to a Big Four firm that did not conduct its external audit
- The firm outsourced some of its internal audit function to a non-Big Four firm that did not conduct its external audit
- The firm kept the internal audit function completely in-house

Running the data through a sophisticated model, Sharp and his colleagues were able to determine which firms had riskier financial statements.

"What we found was financial statement risk was *lowest* when the company outsourced some of its internal audit function to its own external auditor, which is contrary to the assumptions behind the prohibition in SOX," Sharp says of the results. "Overall financial reporting quality was higher when the external auditor was also providing internal audit services."

The research was generally well received by both the academic and professional communities. Numerous conferences accepted the paper, and articles in *CFO Magazine* and *Compliance Week* cited its findings. Prior to its publication, this paper received the University of Oklahoma Price College of Business 2010 Glen McLaughlin Award for the best, unpublished research paper on accounting and ethics. The paper was later published in *Contemporary Accounting Research*, a highly respected journal in the field.

"By no means do we think lawmakers should change the law just because we found this," says Sharp, addressing those who did not receive the research well. "We're just trying to inform the debate."

"Internal Audit Outsourcing and the Risk of Misleading or Fraudulent Financial Reporting: Did Sarbanes-Oxley Get it Wrong?" was published in *Contemporary Accounting Research* and is authored by Nate Sharp of Mays, and Douglas F. Prawitt and David A. Wood of Brigham Young University.

Researchers help retailers understand shoppers

Not all customers are created equal. It's common to hear 20 percent of customers provide 80 percent of the profits. So the question arises, how does that 20 percent shop? Online? In-store? By catalog? Nowadays customers may shop using one or all of these channels.

"The prevailing wisdom was that the more channels a customer shops from, the more valuable that customer will be," says **Venkatesh Shankar**, Coleman Chair Professor in Marketing and director of research at the Center for Retailing Studies. "For us this was a research issue; rather than just take it at face value, we decided we needed to investigate it."

Shankar and his colleague – Tarun Kushwaha from the University of North Carolina at Chapel Hill, who worked on the research while pursuing a PhD at Mays – used data from 750 retailers over a five-year period to see which customers were the most profitable in 22 different product categories. Researchers looked at which channels had the most profitable customers depending on whether the products were high or low risk, or hedonic or utilitarian.

"Typically in a multichannel context, firms will have to allocate resources between bricks and mortar, online, catalogue, depending on how many channels they have."

"We also thought that multichannel customers would be the most valuable customers for any company, regardless of the product categories they bought," says Shankar of their expectations.

After analyzing the data, Shankar and his colleague were surprised to find that some non-multichannel customers were actually more valuable depending on the product categories they were buying from. For some product categories, the most valuable customers may shop in-store, and for other categories they may do most of their shopping online. For example, for high-risk utilitarian products like computers, web-only shoppers were the most valuable segment. For low-risk utilitarian products like office supplies, catalogue or store-only shoppers were the most valuable segment. The practical implications these findings have for retailers are significant.

"There are two ways in which companies, especially retailers, can use findings from this research," says Shankar. "Typically in a multichannel context, firms will have to allocate resources between bricks and mortar, online, and catalogue options, depending on how many channels they have."

Instead, retailers can more efficiently allocate those resources to their most profitable channels. The two key ways retailers can use the research are, first, that retailers can improve targeting by focusing on the right customers. And second, retailers can find ways to migrate customers to the more profitable channels.

"Retailers need to understand their cost structures, and these findings help them to understand not only which segments to target, but also how to move some of the segments so they can increase and improve profitability," says Shankar.

Shankar and his colleague also collected data from a specific retailer to test and support their findings. They collected data from a clothing/accessories retailer for three years, capturing every transaction, including returns.

"We wanted to test, by looking at one single retailer, whether the concept of the multichannel shopper would hold," says Shankar. "No matter how we sliced and diced it the answer was very consistent."

Shankar says the concepts apply in both the business-to-business setting as well as the business-to-consumer setting, and that it is the nature of the product category which decides what channels are the most profitable for any specific company.

"It has become a strategic necessity for all companies to understand how people are shopping, where they are spending more money, how they are using the channels, and where companies should allocate their resources; companies evolve through continuous learning," says Shankar.

"Are Multichannel Customers Really Valuable? The Moderating Effects of Product Category Characteristics," is forthcoming in the *Journal of Marketing* and was co-authored by Venkatesh Shankar of Mays and Tarun Kushwaha, assistant professor of marketing at the University of North Carolina at Chapel Hill.

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Mays Business School
Texas A&M University
4113 TAMU
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How we rank

Undergraduate Program

5th U.S. public (7th in the U.S.), Employer Survey, *Bloomberg Businessweek* (2013)

12th U.S. public (33rd in the U.S.), *Bloomberg Businessweek* (2013)

Tied **16th** U.S. public (tied 27th in the U.S.), *U.S. News & World Report* (2014)

Executive MBA Program

1st overall, Return on Investment, *The Wall Street Journal* (2008)

8th U.S. public (18th in the U.S.), *Financial Times* (2013)

10th U.S. public (26th in the U.S.), *Bloomberg Businessweek* (2013)

Recognized as a top worldwide executive MBA program, *Bloomberg Businessweek* (2013)

Full-Time MBA Program

1st U.S. public (11th in the U.S.), Placement after Three Months, *U.S. News & World Report* (2014)

14th U.S. public (30th in the U.S.), *Forbes* (2013)

9th U.S. public (29th in the U.S.), *Poets and Quants* (2010)

10th U.S. public (26th in the U.S.), *Bloomberg Businessweek* (2012)

14th U.S. public (35th in the U.S.), *U.S. News & World Report* (2014)

14th U.S. public, *Financial Times* (2013)

PhD Program

21st U.S. public (37th in the U.S.), *Financial Times* (2013)

Faculty Scholarship

17th U.S. public (35th in the U.S.), *Financial Times* (2013)

Business Research in Action illustrates the research conducted by Mays Business School faculty and its application to current and emerging business issues.

Editor: Kelli Levey, Writer: Kailah Gonzalez, Designer: Linda Orsi