THE UNIVERSITY OF
**ALABAMA**® | Culverhouse
College of Business

# 2021 IMPACT REPORT

*Culverhouse Dean Kay Palan gets a look at City Detect technology from co-founder Dr. Erik Johnson, left, and co-CEO Gavin Baum-Blake at an innovation showcase at The EDGE, Culverhouse's off-campus innovation center. More about City Detect on pages 8-9.*

# *A Letter from the Dean*

Conducting research that drives innovation and informs society is among our top priorities at the Culverhouse College of Business here at The University of Alabama. Our faculty embrace opportunities to make new discoveries, inform the public, advise and engage with policymakers, and establish new programs that make direct impacts in the community.

This work is all part and parcel of what we do as a b-school; however, when done amid the global and ongoing coronavirus pandemic, it is especially commendable.

In this issue, we focus on noteworthy stories of faculty excellence and achievement. For example, we discuss the groundbreaking technology to detect urban blight devised by Dr. Erik Johnson in a partnership with our hometown of Tuscaloosa, Alabama that offers public officials another tool to effectively address the issue.
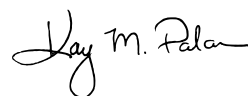
We also highlight a project led by Drs. Lou Marino and Theresa Welbourne to closely examine the challenges faced by Black entrepreneurs in Alabama. This work promises to identify strategies to close the success gap between Black-owned and other businesses in the state.

Furthermore, we showcase improvements made to the TIDE Lab, our behavioral research facility. TIDE Lab has been instrumental to the research activities of many of our faculty and campus partners, and this expansion means that more researchers can take advantage of its capabilities.

In other news, we officially opened Hewson Hall earlier this fall. The 108,000 square-foot facility features 22 classrooms, 31 team and collaboration rooms, and over 65 faculty and graduate student offices. The opening of Hewson Hall comes at a good time: our enrollment this fall is our largest ever with 9,641 undergraduate and graduate students, representing a 5 percent increase over last year.

In closing, I encourage you to contact Dr. James Cochran, our associate dean for research,t to learn more about our activities and events and how we support faculty at **rad@culverhouse.ua.edu** or by visiting our dedicated website at **research.culverhouse.ua.edu**.

Thanks, and Roll Tide!

Kay M. Palan, Ph. D.
Dean of the Culverhouse College of Business

# DATA-DRIVEN IMPACTS

The capacity to harness, analyze, and interpret vast amounts of data has become a vital and essential part of operations in almost every field. Technologies such as machine learning, deep learning, artificial intelligence, and virtual reality are examples of data-related innovations that may yield transformative changes offering a profound impact on daily lives (NIH, 2019).

Culverhouse's Institute of Data and Analytics (IDA) at The University of Alabama has established a center and lab incubator that provides a platform for new initiatives that are focused on using data and analytic methodologies to positively impact business and societal matters. These efforts are a main concentration for the Institute and are supported with meeting and event coordination; faculty, staff, and student collaboration; and financial backing.

The activities in each of these areas is consistent with the broader  mission of the IDA--to make a positive societal impact through the use of state-of-the-art data science.

## Institute of Data and Analytics

## Cybersecurity
Dr. Gregory Bott, Director

The Cybersecurity Initiative leverages the capabilities of the IDA to engage in activities that involve the collection, management, and analysis of a broad range of cybersecurity and cybercrime data.

The initiative's first two endeavors are to establish a cybersecurity clinic and a cybersecurity camp. The clinic provides opportunities for trained and certified university students, under faculty guidance, to assist small to medium-sized organizations, especially non-profits, to plan, prepare, and defend themselves against cyber-attacks. This undertaking is currently partnering with the United Way of West Alabama to identify organizations in need of such services.

The cybersecurity camp introduces middle school and high school students to cybersecurity. In the summer of 2022, we will host two CyberCamps: a standard camp for students with little or no cybersecurity experience and an advanced CyberCamp for those with more experience or who have attended the standard camp. Participants from both camps participate in a national cybersecurity competition.

## Human Trafficking

Dr. Nicholas Freeman, Director

Human trafficking refers to the recruitment, transportation, harboring, or obtaining of persons through force, fraud, and coercion for the purposes of exploitation. In the United States, the majority of documented human trafficking activities are related to sex trafficking. The STANDD (Sex Trafficking Analytics for Network Detection and Disruption) Initiative aims to develop novel analytic techniques for grouping ad data across popular sites and deploying products that law enforcement agencies can use to more effectively battle human trafficking.

The research team actively collaborates with law enforcement agencies at the local and federal levels and is piloting a web-based portal that authenticated agencies can use to access updated information regarding networks that are active in their area of jurisdiction. In addition to helping agents battling trafficking in the field, the initiative's research is also generating broad insights regarding the evolution of online advertising approaches in the wake of several government-supported actions to combat the industry.

## Business Intelligence Academy

Dr. Jef Naidoo, Director

Business intelligence (BI) leverages software tools and techniques to transform data into actionable insights that inform strategic and tactical business decisions. The typical BI life cycle incorporates four main phases: Data Collection, Analytics, Reporting and Visualization. IDA-trained students are expected to show competency in all phases of the BI life cycle.

The BI Academy spotlights the final phase of the BI life cycle by deploying a specialized training program that aims to develop all strands of proficiency relating to fluency in information visualization. This includes fostering conceptual understanding, strategic competence, and adaptive reasoning. The proposed training program offers the following salient value propositions:

- Provide students with transferable skills that will make them more competitive in the job market
- Establish in-house capability to assist the broader college research community to accelerate insight through effective information visualization

The academy was launched in spring 2021 with a current enrollment of six students. As part of their academic preparation, these students are pursing business intelligence micro-credentials to legitimize their competency in this domain.
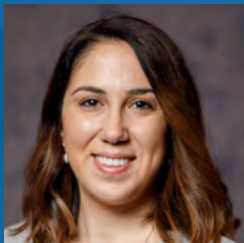
# Humanitarian

Dr. Irem Sengul Orgut, Director

Humanitarian and nonprofit organizations face unique challenges in their operations. This is mostly due to their limited resources, their nontraditional objectives such as the goal to maintain equity and maximize reach, and the uncertainties that they face in their environments such as unpredictable working conditions and high dependency on volunteers and donations. In this environment, using analytics methods to develop policies, solve problems, and provide recommendations that consider the underlying uncertainties becomes critical.

Our UPWARD (Underserved Populations Workgroup for Analytics Research and Development) initiative uses analytics methods and technologies to address problems faced by humanitarian operations and nonprofits. Specifically, its goal is to develop new methods, tools, and collaborations to utilize analytics approaches in order to improve the wellbeing of underserved populations and people in need. This initiative involves faculty members and students across disciplines collaborating to find solutions that are interpretable and easy-to-implement by these organizations.

As an example, one of our current ongoing projects focuses on developing a community-based socially intelligent nonprofit food rescue and distribution infrastructure that uses community resources to equitably serve food-insecure households.

This project is funded by the National Science Foundation and executed in collaboration with three food banks in Alabama and North Carolina, and brings together faculty and students in the areas of Operations Management, Management Information Systems, Computer Science, and Public Health Management.

# Health Informatics

Dr. Thomas English, Director

The Health Informatics Initiative aims to optimize systems to collect, manage, and analyze healthcare and medical information. The Initiative uses data to improve health outcomes with a focus on patient outcomes, access to care, and evidence-based care. Health Informatics Initiative faculty members engage in research, service, and educational initiatives that require or can be enhanced with healthcare data, medical data, and informatics-based interventions.

The IDA also offers our expertise with healthcare and medical data to UA and the community to facilitate research, community service, and quality improvement. We currently have access to a variety of healthcare data ranging from the AHA annual hospital data to the University of Alabama at Birmingham clinic data through a cohort discovery tool. We emphasize collaborative research that utilizes data we currently have access to at the IDA and seek opportunities to bring more healthcare data to the IDA. By keeping all of the data in a single secure system, we will be able to link data sets from a variety of sources.

**THE CULVERHOUSE COLLEGE OF BUSINESS** RECENTLY HIGHLIGHTED ITS INSTITUTE OF DATA AND ANALYTICS, WHICH PROVIDES THOUGHT LEADERSHIP, APPLIED RESEARCH, AND OPPORTUNITIES FOR COLLABORATION ACROSS THE UNIVERSITY OF ALABAMA CAMPUS, IN THE COMMUNITY, AND WITH EXTERNAL PARTNERS.

**READ THAT FEATURE HERE:**

# TRASH CAMS

Tuscaloosa, like most municipalities, frequently receives calls about overgrown grass, abandoned vehicles, litter, illegal parking, and appliances or furniture left outside of homes.

Early in 2021, The University of Alabama and the City of Tuscaloosa collaborated to create an Artificial Intelligence (AI)-driven system that can automatically detect blighted areas in a community, helping to prevent issues from escalating into costly repairs for property owners. And its founders have established a company named City Detect to market it.

The inventors of the technology are Dr. Erik Johnson, assistant professor of economics in the Culverhouse College of Business, and Brendan Moore, executive director of urban development for the City of Tuscaloosa.

City Detect uses images of property captured by cameras mounted on city vehicles, particularly garbage collection trucks, which feed into a computer model trained to spot blighted properties and nuisances. The model provides an assessment and information on potential remedies.

"Efforts to address blight are not new or distinct to Tuscaloosa," Moore explained, "but it is a constant problem that is difficult to appropriately staff and address. This technology allows us to create early, equitable interventions that can enhance communities, prevent neighborhood decline, and connect underserved populations to social services to generate long-lasting change."

By placing the cameras on municipal garbage trucks, an entire city can be scanned each week, automating the initial inspections performed now by city staff. This contactless method can minimize potential confrontations between residents and city employees, Moore said.

Johnson developed and trained the artificial intelligence that powers the blight analysis using data and images of past blighted properties and code violations.

"This system helps to prevent neighborhood decline in an affordable way using a unique method to collect and analyze data on blighted properties," Johnson said.

"The ability of the model to determine exactly what part of the property is driving the blight score can help inform property owners and lead to low-cost interventions."

While the City Detect technology is still in its pilot phase, due to further testing and improvements in its AI underpinnings, its founders have now deployed it in Springfield, Illinois.

Phase one of the Springfield deployment was recently concluded, identifying 282 blighted properties in need of remediation and 20,000 other code violations across other land parcels. City Detect plans to add more pilot cities before it moves into a growth phase.

The company itself has also grown commensurate with improvements to its capabilities: it recently hired co-CEO Gavin Baum-Blake, a graduate of The University of Alabama School of Law and a tech entrepreneur, to help

scale the company and as well as a complete technical team to build up its back-end infrastructure. Comer Jennings has also been brought onboard as VP of client acquisitions.

For Johnson, City Detect is a collaboration and a way of driving economic development within the region,t "In addition to our partners with the City of Tuscaloosa, my colleagues in UA's Office of Innovation and Commercialization, the Alabama Entrepreneurship Institute, and at Culverhouse really helped us find a market for our product, identify funding, and provide sound advice. It's a team effort, for sure."

"Furthermore, it's exciting to grow a tech company here in Tuscaloosa and we have an incredible source for talent at UA. I would be hard-pressed to name another place that could offer something similar." ∎



*City Detect's founders Brendan Moore, left, the executive director for urban development at the City of Tuscaloosa and Dr. Erik Johnson, right, assistant professor of economics at Culverhouse, with a Tuscaloosa garbage truck outfitted with their company's innovative blight detection system.*

# A DAY FOR DATA

The Culverhouse College of Business and the Institute of Data and Analytics (IDA) hosted their annual Business Analytics Symposium on Oct. 15. The event comprised seven sessions in total with speakers representing companies that operate in various industries who emphasized the significance of data in everyday business decisions and five speakers from government agencies and The University of Alabama who spoke on the use of analytics to address social problems. Each of the presentations focused on different applications of data and analytics, which illuminated the expansiveness of the analytics space.

Dr. Jim Cochran, associate dean for research at Culverhouse, sees a bright future for those who pursue careers in the analytics field.

"I'm confident in saying that solving complex, real problems is never going to go out of style," said Cochran. "Those who are capable of solving real, consequential problems will always be important to society, to business, and to our economy."

Drs. Jason Parton and Dwight Lewis of the IDA teamed-up with Thera Tyner, Senior Managed Care Analyst with the Alabama Medicaid Agency, to walk the audience through how data and analytics are instrumental in improving the capacity of healthcare services for prospective patients. Parton, Lewis, and Tyner addressed the potential of automation in improving labor cost-efficiencies and growing the capacity for analytic work. The three described their revolutionary comprehensive analytic tool designed to do just that for the Alabama Medicaid Agency, which was recognized as a finalist for the INFORMS 2021 Innovative Applications in Analytics Award.

Drs. Burcu Keskin and Nikolas Freeman, who both teach in the Department of Information Systems, Statistics, and Management Science at Culverhouse, gave the final presentation. The pair, along with Dr. Gregory J. Bott, have been working with local, state, and federal law enforcement agencies to disrupt sex trafficking networks. Bott, Freeman, and Keskin developed a tool to apply advanced analytics to advertisement data collected from the internet. Their efforts have led to more than 70 arrests in Tuscaloosa alone since February 2021 and was recognized as a finalist for the 2021 Wagner Prize for Excellence in the Practice of Advanced Analytics and Operations Research. "It is extremely fulfilling to know we have had a measurable, positive impact on society," said Dr. Freeman.

Speakers from industry included Janine Johnson, vice president of predictive models for Visa; Jeremy TerBush, senior vice president of enterprise data and strategic analysis for Travel + Leisure Co.; Dr. Ilyas Iyoob, chief data scientist and distinguished engineer for IBM; Dot Green, manager of predictive analytics for the Delta Air Lines operations decision science team; and Matt Hall, Modeling Analyst on the Data Science Delivery team with USAA

Federal Savings Bank's Fraud and Central Operations organization and a two-time Culverhouse College graduate.

You can review the program and the abstracts and learn more about the speakers at the symposium's website at **ida.culverhouse.ua.edu/basymposium**. This website also features interviews with the speakers and participants as well as information on previous symposia and details on the 2022 Culverhouse Business Analytics Symposium, scheduled for Friday, Oct. 14.

In addition to providing a broad overview of the applications of analytics to a wide variety of problems in business and society, the all-day event gave students in the Manderson Graduate School of Business MBA program and specialized master's programs the opportunity to introduce each speaker to the audience and network with the speakers and other attendees from industry throughout the event.

Cochran, who served as moderator for the event, highlighted the strides that Culverhouse has made in the data and analytics field in his closing remarks.

"I hope this event has demonstrated to you how broad the Culverhouse College of Business is, and how its faculty and students display a remarkable range of skills and expertise in analytics and other disciplines," Cochran said. ∎

To watch interviews with the 2021 Culverhouse Business Analytics Symposium speakers, scan here:

23 Visa Data Science Overview | 2021
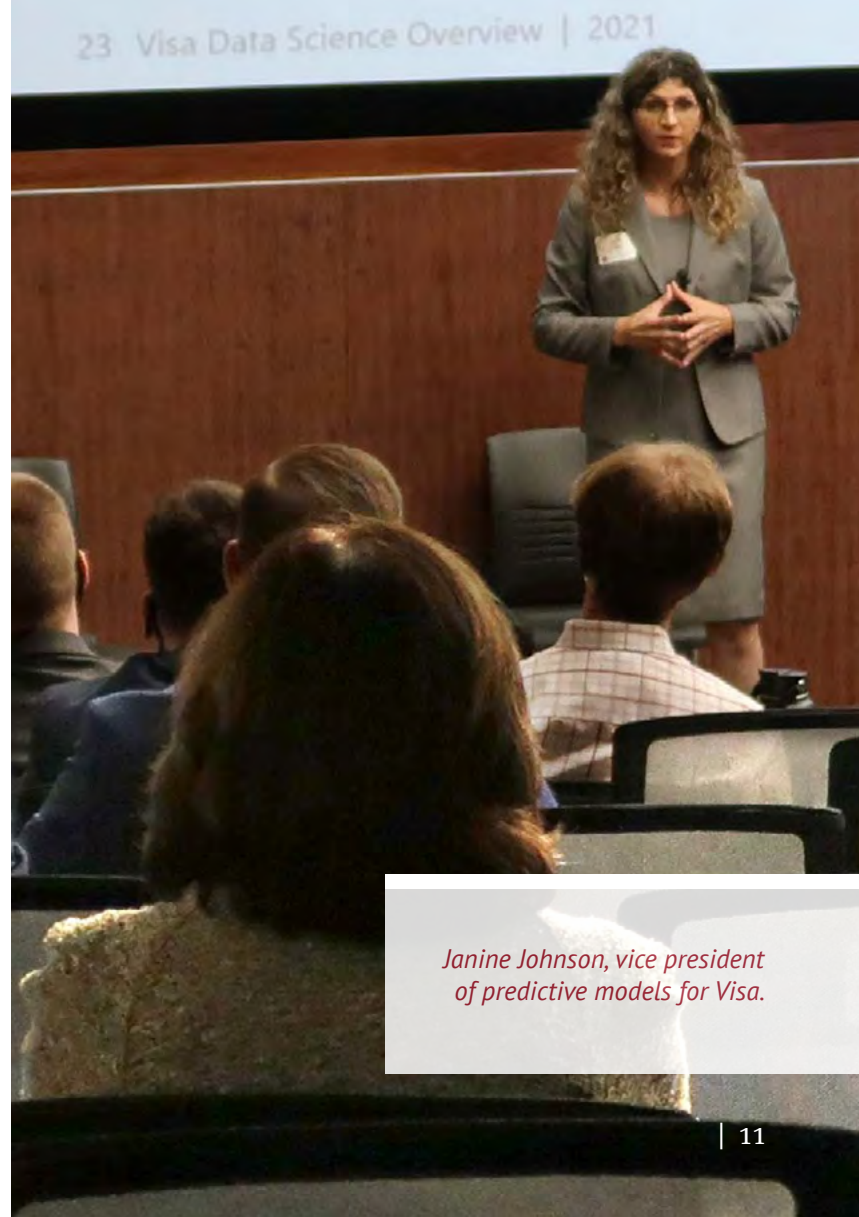
*Janine Johnson, vice president of predictive models for Visa.*

# RESEARCHERS TO STUDY THE STATE OF BLACK-OWNED BUSINESSES IN ALABAMA

A five-year research project will explore the status of Black businesses in Alabama, with the goal of pinpointing specific challenges they face and identifying strategies to help them thrive.

Led by The University of Alabama, the first study of its kind in the state will tap resources from three universities as well as other organizations in Alabama and beyond.

It will take a deep dive into identifying hurdles encountered by urban and rural Black businesses in Alabama, and how they differ from those encountered by other businesses, said lead researcher Dr. Lou Marino, Frank Mason Faculty Fellow in Family Business at Culverhouse and chair of the College's Department of Management.

"At the highest level, we're trying to understand the challenges faced by all entrepreneurs in Alabama and, especially, the unique challenges faced by Black businesses in Alabama, and the factors that lead to their success and their failure, their resilience and their growth," Marino said.

Partnering with UA are experts from Babson College in Massachusetts. The study will make use of Babson's highly regarded Global Entrepreneurship Monitor (GEM), a survey-based research system deployed by experts worldwide in studying business ecosystems. Marino said it's the first time the GEM system has been used to study business across an entire state.

"The GEM Project allows us to understand the total entrepreneurial activity in countries, and the ecosystems portion of the report allows us to see what factors within a specific region support or constrain entrepreneurship and small business startups," said Dr. Andrew Corbett, a

> **"AT THE HIGHEST LEVEL, WE'RE TRYING TO UNDERSTAND THE CHALLENGES FACED BY ALL ENTREPRENEURS IN ALABAMA AND, ESPECIALLY, THE UNIQUE CHALLENGES FACED BY BLACK BUSINESSES IN ALABAMA…**

professor of entrepreneurial studies at Babson. "The latest project in Alabama allows us to better understand what factors make a city or region in the state more attractive to, and more supportive of, entrepreneurs."

The study will involve students from UA and Stillman College who will gather data and conduct interviews with Black businesses and other pertinent sources. The Alabama Entrepreneurship Institute, led by executive director Dr. Theresa Welbourne, will develop programs that address the challenges identified in the study.

Other organizations expected to contribute to the research include Ignite!, an Alabama-based nonprofit focused on supporting minority- and female-owned businesses, and the Alabama State Black Chamber of Commerce. The study is supported by the Alabama Power Foundation.

"This is the first project of its kind that the foundation has supported," said Hallie Bradley, manager of the Alabama Power Foundation's Strategic Initiatives team. "Partnering with expert academic researchers, we hope to gain a holistic understanding of Alabama's entrepreneurs and specifically our Black business owners. And we will share what's learned with leaders across the state."

Marino said the study will go far beyond examining archival data and anecdotal evidence that indicates Black businesses in Alabama face greater hurdles than other businesses in the state. Prior research shows that nearly 80 percent of Black-owned businesses fail within the first two years. Research indicates that Alabama trails neighboring states Georgia and Tennessee in the number of Black-owned businesses, after accounting for the three states' demographic differences.

Marino said the primary research will not only look at Black-owned businesses, but more broadly at the state's entrepreneurial ecosystem to identify strategies, programs, and tools that can help close the gap in the success rate between Black-owned and other businesses in the state – lifting those businesses and Alabama's entire economy.

"Through systematic research and key strategic recommendations, we believe that it is possible to grow the ecosystem of Black businesses and, with it, the state economy as a whole," Marino stated in the study proposal. "With more than 124,000 minority businesses in the state of Alabama, our team believes that investing in Black-owned business can empower communities and help the state move forward and grow."

Results from the first phase of the research project should be available early next year, with additional information to follow. Plans call for an annual conference to discuss findings and recommendations as the study proceeds.

*A version of this article originally appeared on the Alabama News Center, which is presented by Alabama Power.* ∎

*Dr. Cary Deck, TIDE Lab director, in the shopper insights lab.*

# TIDE LAB PRODUCES WAVE OF RESEARCH

The Interactive Decision Experiment or TIDE Lab is Culverhouse's human research laboratory where scholars study business relevant issues from asset market pricing to emotional connections with brands, from front line customer interactions to common value auctions, and from inventory management to risk attitudes. TIDE Lab consists of multiple computer labs, a virtual reality lab, a shopper insights lab, breakout rooms and a large group room as well as other equipment and props for faculty and students across the business school to use in their research.

Since its opening in 2018, use of the TIDE Lab has grown steadily to the point that it has been operating at near capacity. Given the high demand from scholars in the college, TIDE Lab is expanding to include two new research spaces. One of the spaces is a larger group room that can be used for a variety of hand-run studies as well as research presentations and project development sessions. The other spaces is an additional computer lab. This new computer lab will be used for study development and testing as well as overflow space for the main lab, but it will also operate as a drop-in lab where students can stop by between classes and complete short surveys or other studies to be eligible to receive cash or other prizes. With this expansion, TIDE Lab will have 52 computer workstations spread across 4 separate spaces that are connected virtually and this will allow for large interactive studies.

The research that has been in conducted in TIDE Lab has been published in high quality academic journals. TIDE Lab faculty have recently published their behavioral research in *American Economic Review: Insights, Decision Analysis, Experimental Economics, International Economic Review, Journal of Business Research, Journal of Retailing*, and *Management Science*. TIDE Lab has also become a powerful recruiting tool for the college helping to bring in world class faculty. For example, Dr. Tigran Melkonyan, who recently joined Culverhouse's Department of Economics, Finance, and Legal Studies from the University of Warwick, said, "Access to a facility like TIDE Lab and the caliber of colleagues using the lab factored heavily into my decision to move to the University of Alabama." According to Dr. Cary Deck, TIDE Lab's Director, "Expansion of TIDE Lab will help keep Culverhouse among the elite centers for behavioral business research not only by providing world class infrastructure, but also by affirming the College's commitment to this type of scholarship and solidifying its global reputation." ■

# ANALYZING THE MARKET SHARE AND PROFIT RELATIONSHIP

Dr. Abhi Bhattacharya, assistant professor of marketing for the Culverhouse College of Business, published a paper in the *Journal of Marketing* exploring the driving factors behind market share profitability. He conducted the research with Drs. Neil Morgan and Lopo Rego, professors of marketing at Indiana University's Kelley School of Business.

The paper, titled "Examining Why and When Market Share Drives Profit," examines the reason for the market share-profit relationship and how this relationship may explain differences in the value of market share between firms across industries.

The authors found that growing market share is important for most firms, but the link between it and profit is not well-established. The paper goes in-depth in examining and validating that link.

The authors utilized a large longitudinal sample of firms operating in a wide variety of markets, measures of both revenue and unit share, different definitions of the firm's "market" in computing market share, and a number of different econometric approaches to provide the first direct empirical assessment of three primary causal mechanisms that have been theorized to link market share with firm profits: market

power (the ability to raise prices), firm efficiency, and signaling unobserved quality (reducing customer quality efficiency).

The variation in the impact that market share has on these three mechanisms accounts for the differing profit value of market share across firms and industries.

The researchers noted two cases in which market share and firm profits are negatively related— those of "niche" strategy firms and when firms "buy" market share. In their report, they demonstrate that the same three mechanisms can still explain the market share-profit relationship in these conditions where the relationship is negative.

Additionally, the researchers provided policymakers with insights regarding how to regulate market power and potential abuse that may arise from a firm's market share. Furthermore, the research shows that firm profits from market share arise via both quality signaling and learning-based efficiencies as well as market power.

"[…] Policymakers need to be careful not to directly equate market share and market power—we show

that while they are often related, they are far from synonymous," the researchers suggest.

These results provide a new understanding of the link between market share and profit that can
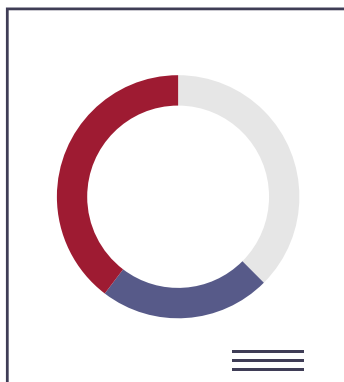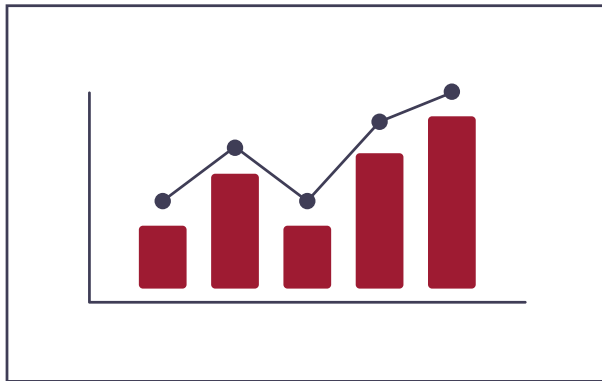
advise managers when to use market share as a measure of marketing performance to set goals, and when doing so may actually lead to lower firm profits.

This story was adapted from a press release issued by the *Journal of Marketing*. ∎

# DOES NUDGING CUSTOMERS MAKE A DIFFERENCE?

Digital service providers are increasingly utilizing a three-part tariff in assessing your usage fees. In such a system, you pay an access price for a predetermined usage allowance, and then you pay a high marginal price for your usage over this allowance. For example, cloud computing services such as Amazon's AWS data storage work in this manner–the user of the

AWS service pays a monthly fee (the access price) in exchange for a set amount of data storage (monthly allowance). Amazon then charges a high marginal fee for each unit of data storage beyond the monthly allowance.

If you receive service under a three-part tariff, do you find it difficult to gauge how close you are to exceeding your allowance toward the end of the service period? As a result, are you conservative in your use of this service? Do you tend to use far less service than is available to you under your allowance?

This is the problem that Culverhouse's Dr. Yuanyuan Chen and her coauthors (Dr. Ping Xiao of the Melbourne Business School, Dr. Anandhi Bharadwaj of Emory University, and Dr. Weining Bao of the University of Connecticut) address in their recent *Journal of Management Information Systems* article.

Specifically, this team considers the effect of information nudges on the behavior of consumers who receive digital services under three-part tariffs. An information nudge is a mechanism that subtly restructures the service environment to influence consumer choices and behaviors. Their article, "The Effects of Information Nudges on Consumer Usage of Digital Services under Three-Part Tariffs," considers two types of information nudges: full information provision and partial information provision of usage status. In the former, information nudges are

provided throughout the billing cycle, while in the latter, consumers receive information nudges only in the early period or the late period of a billing cycle. The team investigates the effects of these two types of information nudges on different consumer segments. They also examine the effects of timing of partial information provision.

Dr. Chen and her coauthors find that:

1. Information nudges can influence consumers' usage decisions and improve consumption efficiency

2. Consumer inattentiveness, consumer preference heterogeneity, contract allowance level, allowance balance threshold, and timing of nudging are essential factors determining the effects of information nudges

3. When only nudging through partial information is available, the timing of partial information nudging matters; nudging in the late billing cycle maximizes consumer welfare for those who do not keep track of their usage status (i.e., inattentive consumers)

These findings have broad managerial implications for the design of information nudging strategies and procedures. Based on their results, the authors propose a practical nudging procedure that helps digital service providers reduce marketing expenditures, improve customer retention, and increase customer lifetime value. ∎

*Charlie Hale, VP of IT and Operations at the Food Bank of Central & Eastern North Carolina, Lauren Davis, professor at NC A&T State University, Julie Ivy, professor at NC State University, Irem Sengul Orgut of Culverhouse.  | Image courtesy of Robert Lasson*

# GETTING FOOD TO WHERE IT'S NEEDED

In the United States, food insecurity is a major issue. In the country, 10.5 percent of the households were food insecure in 2019, and that number increased by 29 percent in 2020 with the spread of COVID-19, according to the Feeding America Covid-19 impact assessment. Yet, it is estimated that 30–40 percent of the food supply is wasted in the United States.

How do we provide hunger relief in the US by maximizing equitable access to safe food, while considering the food needs of food-insecure households, and simultaneously addressing redistribution of usable food that would otherwise be wasted? That is the problem to be addressed through a $2 million National Science Foundation grant by a team that is led by Culverhouse's Dr. Irem Sengul Orgut; Dr. Julie Ivy, Dr. Munindar Singh, and Dr. Leila Hajibabai of North Carolina State University; and Dr. Lauren Davis of North Carolina A&T State University. Dr. Dwight Lewis, Dr. Emmett Lodree, and Dr. Matthew Hudnall from Culverhouse will be supporting the project.

Working with two food banks in North Carolina and one in Alabama, each serving a range of counties—together with their associated networks of food-insecure households, food-secure households, other nonprofit organizations, and local businesses such as growers, supermarkets, restaurants, and other businesses in the service regions—this project team of academic and community partners is co-developing a community-based socially intelligent nonprofit food rescue and distribution infrastructure and platform to use community resources to equitably serve food-insecure households. The platform will more equitably serve food-insecure households by continually learning their preferences with feedback to upstream stages of the supply chain.

The research team is developing three tools that will work together to achieve the goals for this project:

1. **Smart Sociotechnical Information Capturer and Predictor:** This tool will improve understanding of the behavior of donors, beneficiaries, and volunteers by creating a socially-intelligent infrastructure that records data in real-time and learns evolving stakeholders' and end users' needs, preferences, and utilization over time.

2. **Tactical Supply Chain Planner:** This tool will design and optimize the community food sharing network in response to stakeholder behaviors by constructing a technology and data-driven supply chain framework that adapts to evolving stakeholder behaviors to best serve the hunger needs of food-insecure households within the community.

3. **Real-Time, Logistics Operations Optimizer:** This tool will satisfy beneficiary needs through communal self-renewal by simultaneously connecting food-insecure households to community-based supply options in real-time and optimizing real-time pickup and delivery logistics while adhering to food safety time windows. The proposed infrastructure will facilitate more effective food distribution aimed at reducing hunger while simultaneously enhancing sustainability.

The research team brings together expertise in a wide range of fields including operations management, data analytics, computer science, civil engineering, and public health. Through their decade-long collaboration with a food bank in North Carolina, Dr. Sengul Orgut, Dr. Ivy, and Dr. Davis

have developed tools and solutions to optimize food bank operations–the current project will build on the previous work to develop a systematic approach for rescuing food that would otherwise be wasted and distributing the food to people in need. This research promises to reduce food waste through food rescue and repurpose the food to effectively reduce hunger in a sustainable manner. ■
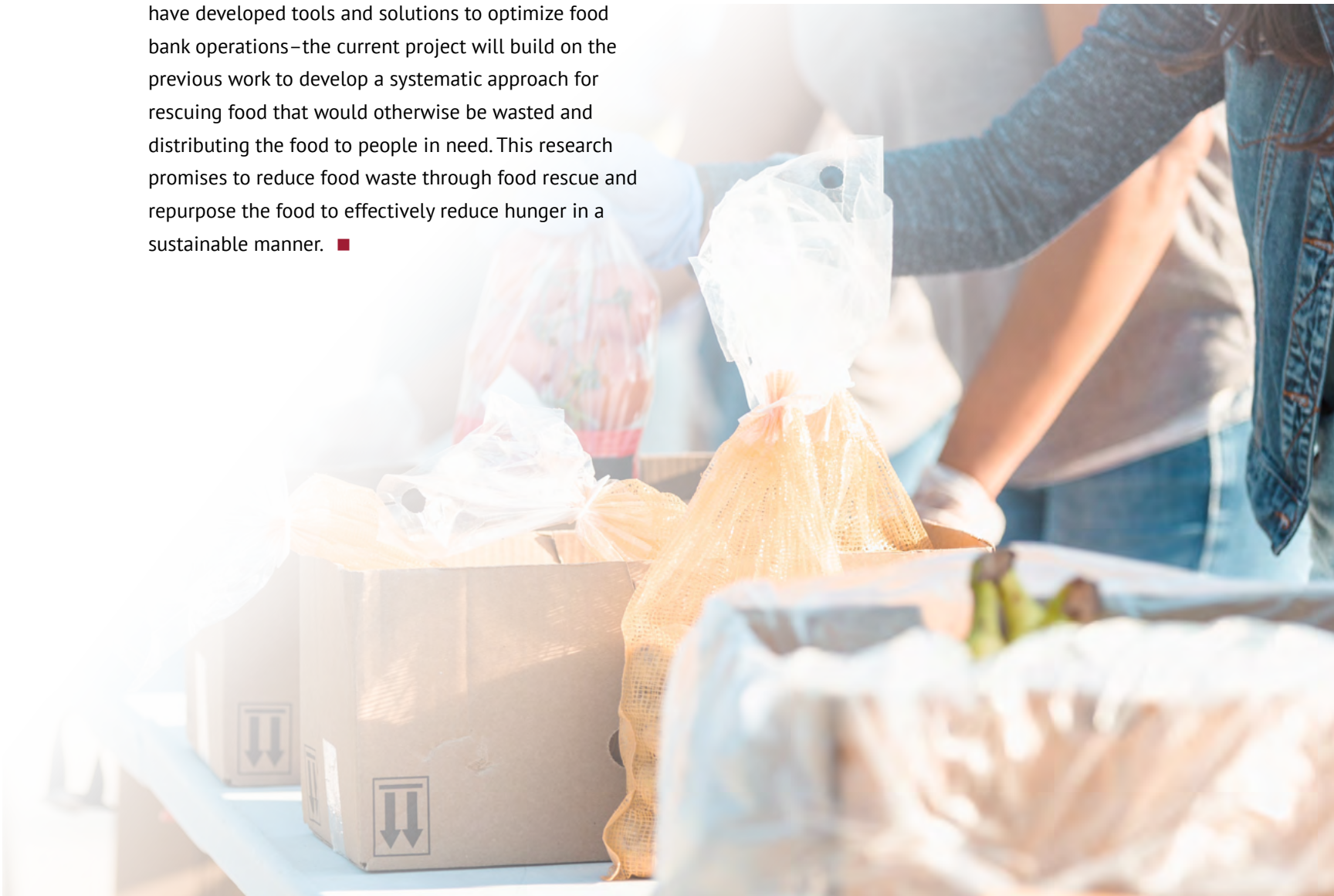
# TEAMING UP WITH THE ALABAMA MEDICAID AGENCY TO IMPROVE STATEWIDE ACCESS TO HEALTHCARE

The Alabama Medicaid Agency (AMA) is a state sponsored health insurer that services roughly one quarter of Alabama's population with annual expenditures in excess of $5 billion. In an ongoing project, AMA tasked The University of Alabama's Institute of Data and Analytics (IDA) with developing and implementing a geographical information sciences (GIS) framework that would allow AMA analysts to examine physical access to healthcare in the presence of factors unique to Medicaid populations. This framework would then be used to identify regions suffering from shortages or potential shortages of AMA licensed providers.

One important application of the analytic framework developed by the IDA is identification of regions in need or potential need of AMA-licensed dental care providers. As the coronavirus pandemic spread across the US, an

Alabama state mandate (which was endorsed by the American Dental Association) suspended the occurrence of non-emergent dental procedures and resulted in closure of many dental offices for 6-8 weeks. After the mandate expired, AMA analysts noted that dental care utilization patterns were slow to return to pre-pandemic levels. As a large proportion of the AMA's licensed dentists were near or at retirement age, this led the AMA to be concerned that older dental providers might be retiring more rapidly than the AMA may have anticipated before the pandemic. If this was actually occurring, it could greatly reduce access to dental care for many of AMA's youth beneficiaries.

AMA analysts used the IDA's analytic framework to assess the current state of physical access to dental care and to determine key locations for which improvement of utilization could bolster physical access to dental care for

AMA's enrollees. Findings from analyses using GIS floating catchment approaches suggested that the retirement of some aged dental providers would have a larger impact compared to other aged providers. Providers who were critical to access to dental care were identified, and their utilization profiles were reviewed. This process, along with several other important factors, allowed AMA administrators to strategically negotiate and produce a new dental fee schedule with reimbursement rates comparable to popular private insurance rates.

Forecasts suggest that once utilization patterns return to pre-COVID-19 pandemic levels, this new fee schedule will result in 10-15 percent increase in AMA sourced revenue for dentists that service Alabama's youth underserved populations. In addition, IDA researchers assisted the AMA in development of a prescriptive model that allows for more equitable physical access across Alabama to dental care at levels endorsed by the American Dental Association.

This project was a finalist for the 2021 Innovative Applications in Analytics Award that is presented by The Institute for Operations Research and the Management Sciences). AMA team members on this project included Thera Tyner, Niranjan Biligowda, Barry Cambron, and Kumari Seetala.

Culverhouse College team members on this project included Dr. Dwight Lewis Jr., Dr. Jason Parton, Ryan Tramp, Dr. Matthew Hudnall, Dr. Nickolas Freeman, Dr. Irem Sengul Orgut, Dr. Xin Thomas Yang, Dr. Thomas English, Dr. Marilyn Whitman, Steven Samsel, and Dr. James J. Cochran.

Other finalists included teams from Massachusetts Institute of Technology, Dynamic Ideas LLC, and Janssen Pharmaceuticals; Eindhoven University of Technology and MSD Animal Health; Cornell University and IndiaMART; the University of Michigan and the Naval Postgraduate School and U.S. Air Force Installation Contracting Center. ■

# CULVERHOUSE COLLEGE DISTINGUISHED RESEARCH SPEAKER SERIES

A banner year for illuminating talks,
in-person and virtual.

*Dr. Eva Lee, Director of the Center for Operations Research in Medicine and HealthCare, presenting in the Mary Hewell Alston Hall parlor on November 19.*

The first talk of 2021, as part of **Culverhouse Distinguished Research Speaker Series**, was given on February 12 by Dr. Sharlene Newman, Executive Director of the Alabama Life Research Institute at The University of Alabama. In her virtual talk, "Engaging with the Alabama Life Research Institute," Dr. Newman discussed the Alabama Life Research Institute (ALRI) mission, structure, and facilities. She also highlighted ways that faculty and students from a wide variety of disciplines can engage in research and scholarly activities with the ALRI and its affiliates.

On March 12, Culverhouse hosted Dr. David A. Schweidel, professor of marketing at Emory University's Goizueta Business School. In his virtual presentation, "Opportunities with Text Data," Dr. Schweidel explored the prospects that unstructured data produced by consumers and firms offer marketers and highlighted the opportunities for researchers in leveraging textual data.

Dr. Lise Vesterlund, Andrew W. Mellon Professor of Economics and Director of the Behavioral Economics Design Initiative and PEEL Experimental Lab with the University of Pittsburgh's Department of Economics, spoke virtually on April 9. Her talk, "Gender Differences in Work Assignments: Cause and Effect," reflected on her research on gender differences in work assignments.

In the first talk of the fall 2021 semester, Culverhouse hosted Dr. Herman Aguinis, the Avram Tucker Distinguished Scholar, professor of management, and chair of the Department of Management at The George Washington University School of Business. In Dr. Aguinis's September

10 talk (the first in-person talk in this series since the start of the COVID-19 pandemic), "Scholarly Impact: Finding the Holy Grail," the Academy of Management President discussed issues associated with measuring scholarly impact.

On October 8, Dr. Edward H. Kaplan virtually presented "COVID-19 Scratch Models to Support Local Decisions". Dr. Kaplan, the William N. and Marie A. Beach Professor of Operations Research, Public Health, and Engineering at Yale University's School of Management, elected member of the National Academy of Engineering and the National Academy of Medicine, INFORMS fellow, and 2016 INFORMS president, reviewed some simple analyses that were developed in real-time to support local decision-making on COVID-19 related issues.

Dr. Rajiv Kohli, the John. N. Dalton Memorial Professor of Business at William & Mary, visited Culverhouse on November 5 to present "Economic Rationality and Strategy: How Institutional Logics Explain Accountable Care Organizations' Pursuit of Healthcare Cost Savings." In this talk, Dr. Kohli discussed the role of accountable care organizations (ACOs) in lowering costs and improving quality of healthcare services in exchange for a share in the savings achieved from lower costs. He then presented results of an analysis of ACO performance for 2013-2019 and his findings that only about 37 percent of ACOs have generated cost savings and that performance for four performance categories – patient care services, patient experience, preventive services, and identifying at-risk patients – indicate that ACO improvements were inconsistent with the economic rationality of cost savings.

On November 19, Dr. Eva Lee, Director of the Center for Operations Research in Medicine and HealthCare and the first IE/OR engineer to be elected to the American Institute for Medical and Biological Engineering College of Fellows, presented "Optimizing And Transforming Healthcare Outcomes: Data-Driven Decision And Policy Making." Dr. Lee, a frequent collaborator with the Centers for Disease Control and Prevention on topics that have included defenses against pandemic and biological events, development of rapid responses to radiation exposure from the Fukushima Daiichi nuclear disaster, optimization of vaccines and design based on patient response, the early detection of chronic diseases, disparities in health,

and personalized treatment design for cancer, diabetes and other diseases, focused on evidence-based personalized clinical decision making – a complicated process since it requires physicians to infer information from a given case and determine the best treatment based on their knowledge. This research is a joint effort with the Care Coordination Institute, the American Medical Association, Kaiser Permanente, and Grady Health Systems.

Recordings of each of these talks that were given virtually are available at **https://vimeo.com/showcase/8124949**. ∎

Upcoming visitors who are scheduled to speak in the *Culverhouse College Distinguished Research Speaker Series* include:

| January 28, 2022 | **Dr. Min-Seok Pang**, associate professor of management information systems, Temple University: The Deterrent Effect of Ride-Sharing on Sexual Assault and Investigation of Situational Contingencies |
| --- | --- |
| February 11, 2022 | **Dr. Brian Denton**, professor and chair of the Department of Industrial and Operations Engineering, University of Michigan: Predictive Models for Optimizing Imaging Decisions for Detection of Metastatic Prostate Cancer |
| April 1, 2022 | **Dr. Laura Starks**, Charles E. and Sarah M. Seay Regents Chair in Finance and co-executive director of Social Innovation Initiative at the McCombs College of Business, University of Texas: Topic TBA |
| April 8, 2022 | **Dr. Andreas V. Georgiou**, visiting scholar, Amherst College and former (2010-2015) president, Hellenic Statistical Authority (ELSTAT), Greece: Democracy Demands Data - The Importance Of Statistical Ethics In The Cradle Of Democracy And Around The World |

The college is now assembling its slate of accomplished researchers who will speak in the Culverhouse College Distinguished Research Speaker Series during the 2022-2023 academic year.

The **Culverhouse College Distinguished Research Speaker Series** also features talks by several Culverhouse faculty on research that is supported by the college's Summer Excellence in Research for Faculty (SEiR-F) grant program that promotes high-quality research efforts for Culverhouse faculty by providing funding for their summer research. Recent and upcoming talks on SEiR-F grant-supported research include:

## JANUARY 2021

1/5/2021
Volodymyr Melnykov,
Professor of Applied Statistics:

**Detecting Anomalies in EuropeanTrade Data Using Directed Weighted Multilayer Dynamic Networks**

## FEBRUARY 2021

2/5/2021
Paan Jindapon,
Associate Professor of Economics:

**Optimal Design of Contests***

## MARCH 2021

3/5/2021
Christine Ringler,
Assistant Professor of Marketing and Coordinator of The Interactive Decision Experiment (TIDE) Lab:

**Mistakes Were Made: The Unintended Consequences of Lighting and Identity-Relevant Mistakes on Source Judgments***

3/19/2021
Steve Buchheit,
Roddy-Garner Professor of Accounting:

**Top-Level Gender Diversity: Are Public Accounting Firms Followers or Leaders?***

3/26/2021
Peter Brummund,
Associate Professor of Economics Department:

**How Do Restaurants Pay for the Minimum Wage?***

## APRIL 2021

4/16/2021
Xiaochun Liu,
Assistant Professor of Economics:

**On Policy-induced Macroeconomic Volatility Dynamics via Volatility Impulse Responses and Decompositions***

## MAY 2021

5/7/2021
Stacey Robinson,
Associate Professor of Marketing:

**It's Storytime: Measuring Depth of Narrative Processing of Brand Communication Using EEG Phase Synchronization***

## OCTOBER 2021

10/1/2021
Vishal Gupta,
Associate Professor and Fred & Martha Bostick Faculty Fellow:

**Female Representation in Top Management and Corporate Financial Fraud**

## NOVEMBER 2021

11/12/2021
Sugata Ray,
Associate Professor of Finance:

**Paying for Performance in Public Pension Plans**

## JANUARY 2022

1/21/2022
Daniel Henderson,
J. Weldon and Delores Cole Faculty Fellow, Professor of Economics:

**A General Proposal for Model-Free Difference-In-Differences**

## FEBRUARY 2022

2/4/2022
Iman Dayarian,
Assistant Professor of Operations Management:

**Equitable Workload Allocation in Crowdsourced Last-Mile Delivery**

2/18/2022
Byung-Cheol Kim,
Associate Professor of Economics:

**Addictive Platforms**

2/25/2022
Lixiong Guo,
Assistant Professor of Finance:

**Shareholder Primacy and Employee Health and Safety**

## MARCH 2022

3/4/2022
Youngsoo Kim,
Assistant Professor of Operations Management:

**Impact of Ransomware on Healthcare System**

3/25/2022
Nick Freeman,
Associate Professor of Operations Management; Assistant Director, Institute of Data Analytics; Coordinator for MSBA Program:

**Constructing Strong Networks Among Data Potentially Related to Sex Trafficking**

## APRIL 2022

4/15/2022
Sebastian Forkmann,
Assistant Professor of Marketing:

**Managing the Benefits and Risks of Services and Solutions Across Operational Processes in Manufacturing**

4/22/2022
Sandra Mortal,
Professor of Finance:

**Gender and Managerial Job Mobility: Career Prospects for Executives Displaced by Acquisitions**

## *Dr. Peter Brummund Awarded a Fulbright Scholarship to Visit the Vienna University of Economics and Business*

Dr. Peter Brummund of Culverhouse's Department of Economics, Finance and Legal Studies recently returned from WU Wien (Vienna University of Economics and Business), where he served as a visiting faculty member while on a Fulbright Scholarship. During his time in Vienna, Dr. Brummund investigated how the recent wave of immigrants into Austria fare in the labor market compared to previous waves of immigrants.

This project compares the competing effects of immigrant networks and geographic mobility. Brummund commented that, "Living in Vienna enabled me to interact directly with local scholars and immigrants, greatly increasing my understanding of the complexity of the situation I am researching."

While on his sabbatical in Austria, Dr. Brummund initiated a second research project centered around an interdisciplinary analysis of immigration. A collaboration with Dr. Michael D. Makowsky of Clemson University, the objective of this research is to identify the extent to which local amenities can explain the amount of labor market power workers experience. Using data from Indonesia, the researchers show that workers in the non-majority religion are paid lower wages to be in communities with more co-religionists.

Finally, Dr. Brummond developed and taught a new Ph.D. course on development economics while visiting the Vienna University of Economics and Business. This course provides an overview of the field of development and is designed to activate students towards their research careers. When asked about the potential impact of this course on her department and its students, Dr. Laura Razzolini, chair of Culverhouse's Department of Economics, Finance, and Legal Studies, said, "This new course will offer a unique new field of research to our Ph.D. students. Development economics is a relatively new area of study which emphasizes research that integrates theory with empirical work, as well as experimental and behavioral interventions in the field. As a result, the Ph.D. students will interact in more creative ways with the theory, econometrics, and behavioral groups within the Department."

# Dr. Mike Price Visits Australian National University

Dr. Mike Price of the Culverhouse College's Department of Economics, Finance, and Legal Studies is completing a sabbatical during which he has visited the Research School of Economics at the Australian National University (ANU) in Canberra, Australia. While at ANU, Dr. Price has served as the research director of the John Mitchell Economics of Poverty Lab, a collaborative effort among faculty at ANU and the Department of Economics at the University of Chicago. The John Mitchell Lab was established to combine field experiments and administrative data to understand the causes of poverty and inform the design of policies targeting poverty and inequality around the globe.

During his visit with ANU, Dr. Price has also been involved with a variety of research projects. In a project supported by the United Nation's Development Program, Dr. Price and ANU colleagues have tested the use of text messages and vignettes to promote social distancing and other measures to limit the spread of COVID-19 in rural and urban areas of the Khyber Pakhtunkhwa province in Pakistan. Based on the success of these interventions, the U.N. has funded a national advertising campaign using similar messages to promote vaccinations and continued adherence with measures to limit the spread of COVID-19.

Dr. Price has also engaged with ANU colleagues in a series of projects and partnerships designed to promote investments in early childhood development and evaluate the impact of such investments on a child's development and the well-being of their family. In one example, the team is working with the Minderoo Foundation (**www.minderoo.org**) on a project to measure what policy-makers believe about the benefits of investments in early childhood development and how these beliefs are shaped by empirical evidence. Other projects include (i) a collaboration with advocacy groups and a network of early childhood centers throughout Australia to develop metrics that can be used by the Commonwealth to evaluate the effectiveness of pre-K programs and predict a student's future academic performance and (ii) the design and evaluation of programs to encourage high quality teachers to move from high performing schools in urban areas to lower performing schools in rural areas.

## *Wang Elected Member of the International Statistics Institute*

Culverhouse's Dr. Qin Wang has been elected to the International Statistics Institute (ISI). Elected ISI membership is a major recognition of a nominee's substantial contributions to the statistical profession.

Dr. Wang's nomination cited his rigorous and wide ranging contributions to dimension reduction, variable selection, and multivariate data analysis as well as his contributions to interdisciplinary research efforts. He has published thirty articles in peer-reviewed journals including such highly regarded publications as *Computational Statistics and Data Analysis, Technometrics, Statistica Sinica, Journal of Multivariate Analysis, Biometrika, Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, The Journal of Pharmacology and Experimental Therapeutics, The American Journals on Addictions, Psychiatry Research: Neuroimaging, Journal of Antimicrobial Chemotherapy,* and *PLOS ONE.*

With the election of Dr. Wang, Culverhouse's Department of Information Systems, Statistics and Management Science now boasts four elected members of the ISI. ■

## *Venkat and Coauthors Awarded 2021 Moskowitz Prize*

Culverhouse's Dr. Parth Venkat and his coauthors Dr. Laura Starks (University of Texas at Austin) and Dr. Qifei Zhu (Nanyang Technological University, Singapore) have been awarded the 2021 Moskowitz Prize for research described in their paper, "Corporate ESG Profiles and Investor Horizons".

In this research, the team examines whether investor horizon, or the amount of time an investor holds securities on average, serves as a basis for environmental, social and governance (ESG) investment. They find that longer horizon investors tilt portfolios towards firms with high-ESG profiles, and that long-term investors behave more patiently toward the high-ESG firms in their portfolios (selling relatively less after negative earnings surprises or poor stock returns.)

The Moskowitz Prize is the premier global prize for quantitative research in sustainable and responsible finance. It is awarded each year to the authors of the paper that best represents outstanding research on sustainable and responsible investing and the financial implications of responsible business practices in capital markets.

As winners of the 2021 Moskowitz Award, Dr. Venkat, Dr. Starks, and Dr. Zhu have been invited to present to the 2022 Global Impact & Sustainable Finance Faculty Consortium. ■

# *Selected Culverhouse Faculty Publications*

Georgiadis, George, **Kim, Youngsoo**, and Kwon, Dharma
The Absence of Attrition in the War of Attrition under Complete Information
*Games and Economic Behavior*

Agarwal, Vikas, Lu, Yan and **Ray, Sugata**
Are Hedge Fund Managers' Charitable Donations Strategic?
*Journal of Corporate Finance*

**Pecorino, Paul, Solomon, Michael** and Van Boening, Mark
Bargaining with Voluntary Transmission of Private Information: An Experimental Analysis of Final Offer Arbitration
*Journal of Economic Behavior and Organization*

**Schneider, Mark** and Stephenson, Daniel
Bargains, Price Signaling, and Efficiency in Markets with Asymmetric Information
*Games and Economic Behavior*

Liu, Xin, Zheng, Xiaoming, Li, Ning, Yu, Yu, **Harms, Peter** and Yang, Jun
Both a Curse and a Blessing? A Social Cognitive Approach to The Paradoxical Effects of Leader Narcissism
*Human Relations*

Waites, Stacie, **Farmer, Adam** and Jones, **Carol Esmark**
Building Toward a Solid Foundation: The Effect of Thinking Concretely about the Future
*Journal of Consumer Affairs*

Choi, Daewoung, Cicero, David and **Mobbs, Shawn**
CEO Marketability, Employment Opportunities and Compensation: Evidence form Compensation Peer Citations
*Journal of Financial and Quantitative Analysis*

**Bachrach, Daniel**, Patel, Pankaj, Guedes, Maria Joao and **Harms, Peter**
CEO Narcissism, Top Management Team Transactive Memory Systems and Firm Performance: An Upper Echelons Perspective on CEO Admiration and Rivalry Narcissism
*European Journal of Work and Organizational Psychology*

Bragg, Anna, Crowe-White, Kristi, Ellis, Amy, Locher, Julie, Ard, Jamy, Studer, Matthew, Phillips, Frank, **Samsel, Steven** and **Parton, Jason**
Changes in Cardiometabolic Risk Among Obese Older Adults After a 12-Month Exercise and Diet Intervention: An Ancillary Analysis of a Randomized Controlled Trial
*Journal of the Academy of Nutrition and Dietetics*

**Freeman, Nickolas, Keskin, Burcu** and **Bott, Gregory**
Collaborating with Local and Federal Law Enforcement for Disrupting Sex Trafficking Networks
*INFORMS Journal on Applied Analytics*

Salterio, Steven, **Hoang, Kris** and Luo, Yi
Communication Is a Two-Way Street: Analyzing Approaches Undertaken to Systematically Transfer Audit Research Knowledge to Policymakers
*Accounting, Organizations & Society*

**Jindapon, Paan**, Liu, Liqun and Neilson, William
Comparative Risk Apportionment
*Economic Theory Bulletin*

Mack, Elizabeth, Bunting, Erin, Herndon, James, Marcantonio, Richard, **Ross, Amanda** and Zimmer, Andrew
Conflict and its Relationship to Climate Variability in Sub-Saharan Africa
*Science of the Total Environment*

**Deck, Cary**, Howe, Lance, Reimer, Matthew, Alevy, Jonathan, and Borash, Kyle
Contests for Shares of an Uncertain Resource
*Journal of Environmental Economics and Management*

Nazlioglu, Saban, Payne, James, **Lee, Junsoo**, Rayos-Velazquez, and Karul, Cagin
Convergence in OPEC Carbon Dioxide Emissions: Evidence from Panel Stationarity Tests with Factors and Breaks
*Economic Modelling*

Mahmoodian, Vahid, **Dayarian, Iman**, Gahsemi Saghand, Payman, Zhang, Yu, and Charkhgard, Hadi
A Criterion Space Branch-And-Cut Algorithm for Mixed Integer Bi-Linear Maximum Multiplicative Programs
*Informs Journal on Computing*

**Bhattacharya, Abhi**, Morgan, Neil, and Rego, Lopo
Customer Satisfaction and Firm Profits in Monopolies: A Study of Utilities?
*Journal of Marketing Research*

**Mills, Maura** and Sachdev, Aditi
Descriptives for Diversity: Harnessing the Potential of Table 1 to Further Inclusivity and Responsible Generalization in Psychological Research
*Industrial and Organizational Psychology: Perspectives on Science and Practice*

Verhoef, Peter, Broekhuizen, Thijs, Bart, Yahov, **Bhattacharya, Abhi**, Dong, John Qi, Fabian, Nicolai, and Haenlein, Michael
Digital Transformation: A Multidisciplinary Reflection and Research Agenda
*Journal of Business Research*

Farmer, Amy and **Pecorino, Paul**
Discovery and Disclosure in a Signaling Model of Final Offer Arbitration
*Journal of Legal Studies*

**Doxey, Marcus**, Lawson, James, Lopez, Thomas and **Swanquist, Quinn**
Do Investors Care Who Did the Audit? Evidence from Form AP
*Journal of Accounting Research*

Hanby, Martin, Fulmore, Anthony, Kanuri, Srinidhi and **McLeod, Robert**
Do State Pension Investments Generate Positive Alphas?
*Journal of Accounting and Finance*

Sharma, Bina, Adhikari, B, **Agrawal, Anup**, Arthur, Bruno, and Rabarison, Monika
Dodd-Frank Act, Credit Rating Agencies and Corporate Financing and Investment Decisions
*Journal of Financial and Quantitative Analysis*

Potipiroon, Wisanupong and **Ford, Michael**
Does Leader Humor Influence Employee Voice? The Mediating Role of Psychological Safety and the Moderating Role of Team Humor
*Journal of Leadership and Organizational Studies*

Dasborough, Marie, Ashkanasy, Neal, Humphrey, Ronald, **Harms, Peter**, Crede, Marcus, and **Wood, Dustin**
Does Leadership Still Not Need Emotional Intelligence? Continuing "The Great EI Debate"
*Leadership Quarterly*

Park, Hyunjun, **Tidwell, Alan**, Yun, Sungho and Jin, Changha
Does School Choice Programs Affect Local Housing Prices? Inter- vs. Intra- District Choice Programs
*Cities*

Bauer, Daniel and **Zanjani, George**
Economic Capital and RAROC in a Dynamic Model
*Journal of Banking and Finance*

Mirghorbani, Saeideh, **Melouk, Sharif,** and **Mittenthal, John**
The Effect of Adherence on Antihypertensive Therapy Plans in Patients with Diabetes
*IIE Transactions on Healthcare Systems Engineering*

Penmetsa, Praveena, Musaev, Aibek, **Hudnall, Matthew**, Sheini, PJ and Adanu, Emmanuel
Effects of the Autonomous Vehicle Crashes on Public Perception of the Technology
*IATSS Research*

Brodyt, Richard, **DeZoort, Todd**, Gupta, Gaurav and Hood, Michael
The Effect of Cognitive Bias on Fraud Examiner Judgments and Decisions
*Journal of Forensic Accounting Research*

Blum, Emily, **Hatfield, Richard** and **Houston, Richard**
The Effect of Staff Auditor Reputation on Audit Quality Enhancing Actions
*The Accounting Review*

**Henley, Jodi**
The Effect of Tax System Characteristics on Cross-Border Mergers and Acquisitions
*The Journal of International Accounting Research*

Xiao, Ping, **Chen, Yuanyuan**, Bharadwaj, Anandhi, and Bao, Weining
The Effects of Information Nudges on Consumer Usage of Digital Services under Three-Part Tariffs
*Journal of Management Information Systems*

**Doxey, Marcus**, Lawson, James and **Stinson, Shane**
  The Effects of Prefilled Tax Returns on Taxpayer Compliance
  *Journal of the American Taxation Association*

Hasnain, Tanzid, **Orgut, Irem Sengal**, and Ivy, Julie Simmons
  Elicitation of Preference among Multiple Criteria in
  Food Distribution
  by Food Banks
  *Production and Operations Management*

Purkayastha, Anish, Kumar, Vikas and **Gupta, Vishal**
  Emerging Market Internationalization Firms: Learning
  Through Internationalization to Achieve Entrepreneurial
  Orientation
  *Journal of World Business*

Thomas, Candice, **Mills, Maura**, Murphy, Lauren DeVonne and
Zhang, Jin
  Employee Lactation: A Review and Recommendations for
  Future Policy, Practice, and Research
  *Human Resource Management Review*

Lindsey-Warren, Tyrha and **Ringler, Christine**
  Empowered Storytelling? An Examination of Empowerment
  in Storytelling and Its Impact on Millennials
  *Journal of Cultural Marketing Strategy*

Ramezani, Somayeh Bakhtiari, Rahimi, Shahram, Amirlatifi,
Amin, **Hudnall, Matthew**, Pate, Jeremy, Parrish, Allen, Penmetsa,
Praveena, and Qian, Xinwu
  Empowering Compartmental Modeling with Mobility and
  Shelter-In-Place Analysis
  *Frontiers in Future Transportation*

Dimitriadis, Timo, **Liu, Xiaochen** and Schnaitmann, Julie
  Encompassing Tests for Value at Risk and Expected Shortfall
  Multi-Step Forecasts based on Inference on the Boundary
  *Journal of Financial Econometrics*

**Wang, Qin** and Xue, Yuan
  An Ensemble of Inverse Moment Estimators for Sufficient
  Dimension Reduction
  *Computational Statistics and Data Analysis*

El Hajj, Hussein, **Bish, Douglas** and **Bish, Ebru**
  Equity in Genetic Newborn Screening
  *Naval Research Logistics*

**Whitman, Marilyn, Matthews, Russell** and **Williams, Eric**
  Examining Employee Performance and Engagement through
  the Job-Demands Resources Framework
  *Health Services Management Research*

**Bhattacharya, Abhi**, Morgan, Neil and Rego, Lopo
  Examining Why and When Market Share Drives Profit
  *Journal of Marketing*

**Mobbs, Shawn**, Tan, Yongxian and Zhang, Shage
  Female Directors: Why Are Some Less Informed Than Others?
  *Journal of Corporate Finance*

**Mills, Maura**
  For the Love of It: The Overjustification Effect and Motivation
  Crowding Theory as the Missing Pieces in Discussions of BI's
  (A)Motivating Potential
  *Industrial and Organizational Psychology: Perspectives on
  Science and Practice*

Corgnet, Brice, **Deck, Cary**, DeSantis, Mark and Porter, David
  Forecasting Skills in Experimental Markets: Illusion
  or Reality?
  *Management Science*

Eke, Ransome, **Yang, Xin**, Bond, Kiersten, **Hanson, Courtney**,
**Jenkins, Caroline** and **Parton, Jason**
  Health Care Utilization and Medicaid Spending in Children
  with Type 1 Diabetes in the Alabama Medicaid Program
  *Population Health Management*

Lu, Yan, **Mortal, Sandra** and **Ray, Sugata**
  Hedge Fund Hold'em
  *Journal of Financial Markets*

Huang, Naqun, Li, Jing and **Ross, Amanda**
  Home Equity and the Timing of Claiming Social Security
  Retirement Income
  *Economic Inquiry*

Irwin, Kris, Gilstrap, Collin, McDowell, William, **Drnevich, Paul**
and Gorbett, Abigail
  How Knowledge and Uncertainty Effects International
  Business Strategic Investment Decisions: Implications for
  Cross-Border Mergers and Acquisitions
  *Journal of Business Research*

Cready, William, **Lopez, Thomas**, Sisneros, Craig and **Stinson, Shane**
　Implications of Tax Rate Assumptions for Nonrecurring Items
　*Review of Accounting Studies*

Hassandoust, Farkhondeh, Akhlaghpour, Saeed and **Johnston, Allen**
　Individuals' Privacy Concerns and Adoption of Contact Tracing Mobile Applications in a Pandemic: A Situational Privacy Calculus Perspective
　*Journal of the American Medical Informatics Association*

Hayes, Jameson, Brinson, Nancy, **Bott, Gregory**, and Moeller, Claire
　The Influence of Consumer-Brand Relationships on the Personalized Advertising Privacy Calculus in Social Media
　*Journal of Interactive Marketing*

**Jones, Carol Esmark**, Waites, Stacie and Stevens, Jennifer
　Influence of Social Media Posts on Service Performance
　*Journal of Services Marketing*

Pearson, Amber, Mack, Elizabeth, **Ross, Amanda**, Marcantonio, Zimmer, Andrew, Bunting, Erin, Smith, Audrey, Miller, Joshua, Evans, Tom and The HWISE Research Coordination Network
　Interpersonal Conflict Over Water Is Associated with Household Demographics, Domains of Water Insecurity and Regional Conflict: Evidence from 9 Sites across 8 Sub-Saharan African Countries
　*Water*

Farmarazi, Ashkan and **Bhattacharya, Abhi**
　Investigating the Effectiveness of Loyalty Program Introductions
　*Journal of Business Research*

Azimi, Mehran and **Agrawal, Anup**
　Is Positive Sentiment in Corporate Annual Reports Informative? Evidence from Deep Learning
　*Review of Asset Pricing Studies*

Guo, Xiaohu, **Gupta, Vishal**, **Jackson III, William**, and **Mortal, Sandra**
　Is There a Racial Gap in CEO Compensation
　*Journal of Corporate Finance*

Henderson, Alexandra, **Matthews, Russell**, McKersie, Sara and **Whitman, Marilyn**
　Leading When Overweight: The Influence of Supervisor Body Weight on Subordinates' Perceptions and Citizenship Behaviors
　*Journal of Business and Psychology*

Zuo, Lu, Lowman, Graham, **Bachrach, Daniel** and Hou, Ning
　Less Engaged Over Time? The Effect of Self-efficacy on Work Engagement Trajectory
　*Journal of Theoretical Social Psychology*

Baker, Amy, King, David, Nalick, Michael, Tempio, Melissa, **Gupta, Visha**l and Pierce, Charles
　Managers' Sexually-Oriented Behavior and Firm Performance: Linking Media Reports to Stock Market Reactions and Legal Risks
　*Journal of Strategy and Management*

Huffman, Ann Hergatt, Albritton, David, **Matthews, Russell**, Muse, Lori and Howes, Satoris
　Managing Furloughs: How Furlough Policy and Perceptions of Fairness Impact Turnover Intentions over Time
　*The International Journal of Human Resource Management*

Asilkalkan, Abdullah and **Zhu, Xuwen**
　Matrix-Variate Time Series Modeling with Hidden Markov Models
　*Stat*

**Zhu, Xuwen**, Sarkar, Shuchismita and **Melnykov, Volodymyr**
　MatTransMix: An R Package for Matrix Model-Based Clustering and Parsimonious Mixture Modeling
　*Journal of Classification*

**Sharma, Pratyush**, Daniel, Sherae, Chung, Tingting, and Grover, Varun
　A Motivation-Hygiene Model of Open Source Software Code Contribution and Growth
　*Journal of the Association for Information Systems*

Chung, Tingting, **Sharma, Pratyush**, Lee, Chih-Chen, and Pinto, Jonathan
　National Culture and Occupational Fraud Magnitude: The Moderating Role of Fraud Type
　*Journal of Forensic Accounting Research*

Nemirko, Anatoly and **Dula, Jose**
Nearest Convex Hull Classification Based on
Linear Programming
*Pattern Recognition and Image Analysis*

Mynbaev, Kairat, Martins-Filho, Carlos and **Henderson, Daniel**
Nonparametric Estimation of Unrestricted Distributions
and Their Jumps
*Canadian Journal of Statistics*

El Hajj, Hussein, **Bish, Douglas**, **Bish, Ebru** and Kay, Denise
Novel Pooling Strategies for Genetic Testing, with Application
to Newborn Screening
*Management Science*

Moon, James, Shipman, Jonathan, **Swanquist, Quinn** and
Whited, Robert
On Controlling for Misstatement Risk
*Auditing: A Journal of Practice & Theory*

**Zhu, Xuwen** and Melnykov, Yana
On Finite Mixture Modeling of Change-Point Processes
*Journal of Classification*

**Liu, Xiaochen**
On Fiscal and Monetary Policy-induced Macroeconomic
Volatility Dynamics
*Journal of Economic Dynamics and Control*

**Deck, Cary**, Jahedi, Salar and Sheremeta, Roman
On the Consistency of Cognitive Load
*European Economic Review*

Kraiger, Kurt, Fisher, Sandra, Grossman, Rebecca, **Mills, Maura**
and Sitzmann, Traci
Online I/O Graduate Education: Where Are We and Where
Should We Go?
*Industrial and Organizational Psychology: Perspectives on
Science and Practice*

El Hajj, Hussein, **Bish, Douglas** and **Bish, Ebru**
Optimal Genetic Screening for Cystic Fibrosis
*Operations Research*

Buckreus, Ramona, Aksu, Ridvan, Kisacikoglu, Mithat, **Yavuz,
Mesut** and Balasubramanian, Bharat
Optimization of Multi-Port DC Fast Charging Stations
Operating with Power Cap Policy
*IEEE Transactions on Transportation Electrification*

Smith, Claire, **Matthews, Russell**, **Mills, Maura**, Hong, Yeong-
Hyun and Sim, Stacy
Organizational Benefits of Onboarding Contingent Workers:
An Anchoring Model Approach
*Journal of Business & Psychology*

Whited, Robert, **Swanquist, Quinn**, Shipman, Jonathan
and Moon, James
Out of Control: The (Over)Use of Controls in
Accounting Research
*The Accounting Review*

Morgeson III, Forrest, Sharma, **Pratyush, Sharma**, Udit and
Hult, Tomas
Partisan Bias and Citizen Satisfaction, Confidence, and Trust
in the U.S. Federal Government
*Public Management Review*

**Yang, Xin, Yang, Ning, Lewis, Dwight, Parton, Jason** and
**Hudnall, Matthew**
Patterns and Influencing Factors of eHealth Tools Adoption
Among Medicaid and Non-Medicaid Populations from the
Health Information National Trends Survey (HINTS) 2017-
2019: Questionnaire Study
*Journal of Medical Internet Research*

**Yao, Yuhui** and **Chakraborti, Subha**
Phase I Monitoring of Individual Normal Data: Design
and Implementation
*Quality Engineering*

**Yao, Yuhui** and **Chakraborti, Subha**
Phase II Process Monitoring for the Balanced One-way
Random Effects Model
*Quality and Reliability Engineering International*

**Hochstein, Bryan**, Chaker, Nawar, Rangarajan, Deva, Nagel,
Duane, and Hartmann, Nathaniel
Proactive Value Co-Creation via Structural Ambidexterity:
Customer Success Management and the Modularization of
Frontline Roles
*Journal of Service Research*

Conlon, John and **Pecorino, Paul**
Public Goods Provision with Participation Costs
*Journal of Public Economic Theory*

Nagel, Duane, Giuipero, Larry, Jung, Hyeyoon, Salas, Jim and
**Hochstein, Bryan**
Purchaser Perceptions of Early Phase Supplier Relationships:
The Role of Similarity and Likeability
*Journal of Business Research*

Kimbrough, Erik, Porter, David and **Schneider, Mark**
Reference Dependent Prices in Bargaining: An Experimental
Examination of Precise First Offers
*Journal of Economic Psychology*

Goodwin, Kimberly, Kanuri, Srinidhi, and **McLeod, Robert**
Relative Performance of Real Estate Exchange Traded Funds
*Journal of Real Estate Portfolio Management*

Bharadwaj, Anandhi, **Chen, Yuanyuan** and Ping, Xiao
Reminders as an Information Disclosure Mechanism:
Examining Their Effects on Mobile Data Usage
*Journal of Management Information Systems*

Brookins, Philip and **Jindapon, Paan**
Risk Preference Heterogeneity in Group Contests
*Journal of Mathematical Economics*

Zhang, Jing, **Wang, Qin** and Mays, D'Arcy
Robust MAVE Through Nonconvex Penalized Regression
*Computational Statistics and Data Analysis*

**Bish, Douglas**, **Bish, Ebru**, El Hajj, Hussein and Aprahamian,
Hrayer
A Robust Pooled-Testing Approach to Expand COVID-19
Screening Capacity
*PLoS One*

El Hajj, Hussein, **Bish, Douglas**, **Bish, Ebru** and
Aprahamian, Hrayer
Screening Multi-Dimensional Heterogeneous Populations
for Infectious Diseases under Scarce Testing Resources, with
Application to Covid-19
*Naval Research Logistics*

Dur, Umut, **Hammond, Robert** and Kesten, Onur
Sequential School Choice: Theory and Evidence from the
Field and Lab
*Journal of Economic Theory*

**Chen, Yuanyuan**, Huang, Yuxin, and Tan, Chuan Hoo
Short-Term Rental and Its Regulations on
Home-Sharing Platforms
*Information & Management*

**Brummund, Peter** and Merfeld, Joshua
Should Farmers Farm More? Comparing Marginal Products
Within Malawian Households
*Agricultural Economics*

Farmer, Amy and **Pecorino, Paul**
Signaling in the 'Before' Model of Final Offer Arbitration
*Journal of Law, Economics and Organization*

Smith, Claire, Holliday Wayne, Julie, **Matthews, Russell**, Lance,
Charles, Griggs, Tracy and Pattie, Marshall
Stability and Change in Levels of Work-Family Conflict: A
Multi-Study, Longitudinal Investigation
*Journal of Occupational & Organizational Psychology*

Grotto, Angela, **Mills, Maura** and Eatough, Erin
Switching Gears: A Self-Regulatory Approach and Measure of
Nonwork Role Re-Engagement Following After-Hours Work
Intrusions
*Journal of Business & Psychology*

Lyngdoh, Teidorlang, Chefor, Ellis, **Hochstein, Bryan**, Britton,
Benjamin and Amyx, Douglas
A Systematic Literature Review of Negative Psychological
States and Behaviors in Sales
*Journal of Business Research*

Nazlioglu, Saban, **Lee, Junsoo**, Karul, Cagin, and You, Yu
Testing for Stationarity with Covariates: More Powerful Tests
with Non-Normal Errors
*Studies of Nonlinear Dynamics and Econometrics*

Stevens, Jennifer, **Esmark Jones, Carol**, and Breazeale, Mike
Title Redacted: The Impact of Negative Online
Review Censorship
*Journal of Product & Brand Management*

**Westjohn, Stanford**, Magnusson, Peter, **Franke, George** and
Peng, Yi
Trust Propensity across Cultures: The Role of Collectivism
*Journal of International Marketing*

**Ringler, Christine**
Truth and Lies: The Impact of Modality on
Customer Feedback
*Journal of Business Research*

Hogan, Robert, Kaiser, Robert, Sherman, Ryne and **Harms, Peter**
Twenty Years of The Dark Side: Lessons about Bad Leadership
*Consulting Psychology Journal*

Kassing, Francesca, Lochman, John, Vernberg, Eric and
**Hudnall, Matthew**
Using Crime Data to Assess Longitudinal Relationships
Between Community Violent Crime and Aggressive Behavior
among At-Risk Youth
*Journal of Early Adolescence*

Samsel, Steven, Tramp, Ryan, Orgut, Irem, **Freeman, Nickolas**,
**Parton, Jason**, **Hudnall, Matthew** and **Lewis, Dwight**
Visualizing Potential Effects of Dentist Retirements on
Accessibility to Dental Care Among Children in
Alabama, 2019
*Preventing Chronic Disease*

Kim, Jeong Ho and **Kim, Byung-Cheol**
A Welfare Criterion with Endogenous Welfare Weights for
Belief Disagreement Models
*Journal of Economic Behavior & Organization*

**Agrawal, Anup** and Lim, Yuree
Where Do Shareholder Gains in Hedge Fund Activism Come
From? Evidence from Employee Pension Plans
*Journal of Financial and Quantitative Analysis*

Hasford, Jonathan, Kidwell, Blair, Hardesty, David and
**Farmer, Robert**
Your Cheatin' Heart: How Emotional Intelligence and
Selfishness Impact the Incidence of Consumer Fraud
*Journal of Consumer Research*

# Culverhouse In The News

### StateScoop

**Tuscaloosa, Ala., tackles blight with garbage-truck cameras and AI**

February 11, 2021

"To remove unsightly rubbish and reduce the contact between city employees and the public during the pandemic, Tuscaloosa, Alabama, has partnered with the neighboring University of Alabama to develop technology that can automatically detect blighted properties.

The university's business college last month unveiled the technology, which uses cameras mounted on city vehicles — in particular garbage trucks — to collect images of properties throughout Tuscaloosa. A machine-learning model was trained on photos of blighted properties that had been collected by the city over more than a decade."

### KelloggInsight, a publication of the Kellogg School of Management at Northwestern University

**Companies Are Adding More Women to Their Boards. What's Driving the Change?**

May 3, 2021

"[Kellogg finance professor David] Matsa and his collaborators—Todd Gormley of Washington University in St. Louis, and Vishal Gupta, Sandra Mortal, and Lukai Yang of the University of Alabama—wanted to know if the Big Three [Vanguard, BlackRock, and State Street] really were moving the needle on boardroom-diversity efforts. And if they were, how did those efforts compare to government-enforced quotas in other countries?

The researchers found evidence that the Big Three were indeed driving boardroom gender diversity—and that these efforts led to women in more powerful board positions than those spurred by government quotas. Furthermore, by analyzing how firms responded to the Big Three's demands, the researchers shed light on why companies may be slow to appoint female board members in the first place."
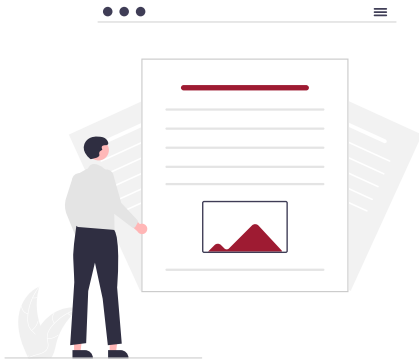
## AL.com

**Alabama's population is getting older. Here's what that means for the future**

March 20, 2021

"Alabamians - already older than the U.S. population on average - are getting older. That, coupled with a flattening and relatively low fertility rate, has big implications for the state's future.

"It's like a web of implications," said Nyesha Black, director of demographic research at the Center for Business and Economic Research at The University of Alabama, about aging populations. "[It] has policy and civic implications."

## Quartz

**How to take the politics out of vaccine mandates in the workplace**

September 29, 2021

"Biden has given companies "a shot in the arm," says Vishal Gupta, an associate professor at the University of Alabama's Culverhouse College of Business. But the government's mandate doesn't need to be the sole focus of a company's vaccination effort.

"Companies should continue with their policy of offering carrots to people for getting vaccinated," he says, because people are more likely to be compliant that way. It could be a gift card or extra time off, he notes. The reward doesn't have to be fancy to be effective."

*Hewson Hall's atrium is surrounded by 22 classrooms, 31 team and collaboration rooms, and over 65 faculty and graduate student offices .*

# *Welcome New Culverhouse Faculty*

**Inaiya Armeen**
Assistant Professor of
Management Information Science
Ph. D., Texas Tech University

**Glen Baigent**
Instructor of Finance
Ph. D., Kent State University

**Zach Chism**
Instructor of Accounting
M.S., The University of Alabama

**Michelle Daniels**
Assistant Professor of Marketing
Ph.D., Arizona State University

**Hasan Isomitdinov**
Instructor of Economics
Ph.D., The University of Alabama

**Jamie Hillman**
Instructor of Management
Information Science
M.S., The University of Alabama

**Alice Holloway**
Visiting Professor of Management
Ph. D., University of South Alabama

**James Karrh**
Instructor of Marketing
Ph.D., University of Florida

**Laney Lambert**
Instructor of Management
M.A., The University of Alabama

**Jessica Lloyd**
Instructor of Accounting
M.A., The University of Alabama

**Candace McCain**
Instructor of Marketing
Ph.D., Kennesaw State University

**Cherie Moman**
Instructor of Marketing
M.S., The University of Alabama

**Paul Willis**
Instructor of Management
Ph.D., The University of Alabama

**Jun Zhao**
Assistant Professor of Economics
Ph. D., Vanderbilt University

Read more about the latest
Culverhouse faculty hires at
**research.culverhouse.ua.edu**.

# *What Sets Us Apart*

### STEM and CREATE Path to the MBA

An incredibly unique program that allows high-achieving undergraduate students in engineering, science, and select creative majors to earn an MBA from the Manderson Graduate School of Business through concurrent enrollment in business courses and only one additional year of study.

### Marillyn A. Hewson Data Analytics Lab

Data analysis and business applications come together at this high-tech facility, where students collaborate on finding solutions to real-world problems. Faculty and researchers from all of our departments are involved in programs in the lab.
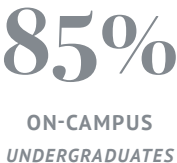
### Interactive Decision Experiment (TIDE) Lab

A behavioral research laboratory focusing on understanding various aspects of human behavior as it relates to business activities. It features a shopper insights lab and virtual reality technology.

### Capstone Student Investment Conference

Speakers from firms such as Goldman Sachs, Fidelity Investments, and Vulcan Value Partners discuss investing methodologies and careers with students and other professionals.

### Culverhouse Business Analytics Symposium

The science of data analysis and how it relates to the business world is at the nexus of this annual event, which features speakers from international organizations like GM, PBS, ESPN, and NASA.

---

## 151
PUBLICATIONS

## 80
GRANTS AWARDED

## $6.2
MILLION IN GRANT DOLLARS

---

## 9,641
TOTAL ENROLLED

**85%**
ON-CAMPUS
*UNDERGRADUATES*

**5%**
ONLINE
*UNDERGRADUATES*

**6%**
MASTERS
*ON-CAMPUS & ONLINE*

**3%**
MBA/EMBA
*ON-CAMPUS & ONLINE*

**1%**
PH.D.

**9**th

BEST ACCOUNTING PH.D PROGRAM IN THE NATION

*2019 PUBLIC ACCOUNTING REPORT*



**22**nd

BEST MBA PROGRAM AMONG PUBLIC UNIVERSITIES
& **44**TH OVERALL

*2021-2022 U.S. NEWS AND WORLD REPORT*

**TIER 1**

GLOBAL MBA RANKINGS FOR THE MANDERSON MBA

*2021-2022 CEO MAGAZINE*

**6**th

BEST VALUE FOR ONLINE MASTER'S IN MARKETING IN THE NATION

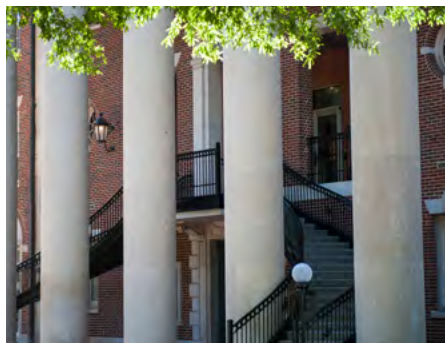*2020 VALUECOLLEGES.COM*

**37**th

BEST MANAGEMENT DEPARTMENT IN THE NATION

*2019 TEXAS A&M/UNIVERSITY OF GEORGIA RANKINGS OF MANAGEMENT DEPARTMENT RESEARCH PRODUCTIVITY*

**28**th

BEST PUBLIC BUSINESS SCHOOL & **44**TH BEST NATIONALLY

*2021-2022 U.S. NEWS AND WORLD REPORT*



**#1**

BEST ONLINE NON-MBA MASTER'S IN THE SEC FOR VETERANS

*2021-2022 U.S. NEWS AND WORLD REPORT*