Proposed Downing Research Project #1

Project Title: "Investigating the Usage of AI in Business Management and Its Impact on Business Education"

Professor: Lifang Wu

Project Overview:

Are you passionate about the intersection of technology and business? Do you want to explore how cutting-edge AI is transforming the future of business management and education? Join me in an exciting three-semester research project that will delve into the role of artificial intelligence in business management, its impact on business education, and the essential skills that future business graduates will need to succeed in an AI-driven world.

In this project, we will investigate one or more of the following topics (based on your interests):

- AI applications in business: How AI is reshaping various business functions like marketing, operations, and finance? How can generative AI help? What are the potential limitations? Practical strategies to handle the limitations?

- AI and business education: What AI technical skills are crucial for business students, and how can these skills be effectively taught in school? What is the current status?

- Ethical challenges: We'll explore the broad ethical dilemma of using AI and the growing concern of students using AI tools for cheating. and develop strategies to mitigate it.

As we focus on the business applications of AI tools, no technical background or specific major is required for the student. All majors are welcome. You will gain hands-on experience in conducting business research, interacting with faculty, and contributing to solutions for some of the above pressing issues. If you're excited to explore this rapidly evolving critical field, this project is the perfect opportunity!

Proposed Downing Research Project #2

Project Title: “Capitalism and Happiness”

Professor: Hasan A. Faruq

Project Overview:

After many former Communist regimes in Eastern Europe and Asia embraced capitalistic and free-market ideals, especially in the 1990s, we have seen increased innovation, greater international trade and a significant increase in the overall standard of living around the world. Furthermore, as capitalism spread, respect for the idea of an “individual”, their choices (for example, those related to reproductive and marital issues) and their aspirations (for example, in terms of education and work) increasingly became the global norm. Unfortunately, capitalism led to a plethora of adverse consequences for societies as well, whether it is rising income inequality, excess materialism, or even more burnout/loneliness. Due to these different possibilities, it is natural to ask whether capitalism has made us better off or worse off collectively. Put simply, how does capitalism affect our happiness?

In this project, I would like to take an interdisciplinary approach and survey the economics, psychology and philosophy literatures on happiness. I will then analyze data on various aspects of individual wellbeing (e.g. satisfaction with life, work, marriage, etc.) in different countries, which is available from the *World Values Survey* and formulate a working definition of happiness. Finally, I will carry out some statistical analysis to examine the relationship between various aspects of our well-being/happiness and different measures of capitalism (such as level of taxation, size of government, level of regulations, etc.).

The student will be an integral part of this project and will be involved in initial planning of the project, reviewing the literature, organizing the data, and assisting with the empirical analysis. This will give the student hands-on training on how research in business and economics is usually done, which will be useful in her/his job, graduate education, or even a capstone course in Xavier. The project will also give the student an opportunity to better understand whether capitalism and happiness may be potentially linked to the rise of populist politicians around the world. Any business or economics student keen on traveling/working abroad and interested in understanding global economics and politics will find this project particularly interesting in my view.

Proposed Downing Research Project #3

Project Title: “Machine Learning in Empirical Asset Pricing: Modern AI Approaches to Investment and Portfolio Strategy”

Professor: Youngmin Choi

Project Overview:

Have you ever wondered how artificial intelligence can predict stock returns or guide real investment strategies? This project explores how *neural networks*—the technology behind ChatGPT and modern AI systems—can be applied to financial markets. Working in this project, you will analyze real financial data, design machine-learning models, and compare their forecasting performance to traditional finance models.

The project is designed as a three-semester learning experience. In the first semester, you will learn the basics of data processing and model estimation in Python. In the second, you will build and train neural networks to predict returns and test portfolio strategies. In the final semester, you will help prepare a presentation and research paper summarizing the results.

Desired skills:
• Strong curiosity about finance and technology
• Basic understanding of investments or financial markets (FINC 300 or equivalent)
• Some familiarity with programming (Python, R, or MATLAB) is helpful but not required—training will be provided

This project offers a unique opportunity to combine finance and artificial intelligence in hands-on research that prepares you for graduate study or a data-driven finance career.

Proposed Downing Research Project #4

Project Title: “How Private Label Packaging Design Shapes Consumers’ Perceptions of Brand Personality”

Professor: Richie Liu

Project Overview:

The aim of this research project is to examine how private label packaging design—specifically “simplistic” versus “cool” styles—shapes consumers’ perceptions of brand personality. Private labels are an increasingly important part of the retail landscape, and packaging serves as one of the most salient cues consumers rely on to evaluate these brands. Drawing on cue utilization, expectancy, and assimilation theories, this project will investigate how design elements influence consumer expectations of private label brands and the extent to which those expectations align or diverge from perceived brand personality. By focusing on packaging as a critical marketing signal, this research seeks to extend theoretical understanding of how aesthetic and stylistic choices impact consumer judgments, while offering practical insights for retailers seeking to differentiate their private label offerings.

During the Downing Scholarship Program, we will address these research questions through experimental methods. The undergraduate student that selects this project will gain direct experience in research design, data collection, and analysis, while also learning how theory informs empirical testing. Prior research experience is not required, as I will provide training and mentorship throughout the research process.

Proposed Downing Research Project #5

Project Title: "Exploring the Role of Generative AI in the Analytics Process"

Professor: Thilini Ariyachandra

Project Overview:

Ever wonder how companies actually use data and AI to make decisions? This project takes you behind the scenes to explore how generative AI is changing analytics in the real world through interviews with professionals and analysis of classroom experiments. As a Downing scholar, you'll conduct and analyze interviews with analytics professionals, examine aggregated classroom data and identify patterns in the data collected, with special attention to how AI is reshaping each step of the analytics process. This project is ideal for a student who is curious about analytics and want to build workplace relevant skills like interviewing, data analysis and communicating insights. You will also gain experience in coding interview data, synthesizing findings and presenting results at Xavier's Celebration of Student Research. As part of the project, you will attend the UC Analytics Summit to see how regional organizations apply analytics and AI in practice. This will help you connect what you observe there with themes emerging from our study. You will also co-author a conference paper sharing these findings with a broader academic audience. This is an achievement that will make your resume stand out. No prior AI or analytics expertise is required but just curiosity, analytical thinking and eagerness to bridge classroom learning with professional practice.

Proposed Downing Research Project #6

Project Title: “Operations and Supply Chains in U.S. Law Firms – The Current Situation, the Use of AI, and Opportunities”

Professor: Alan Jin

Project Overview:

The legal service industry plays a critical role in the U.S. economy. With over two million active lawyers nationwide, law firms form an essential infrastructure supporting businesses, governments, and individuals. Yet, despite their importance, the operational and supply chain management aspects of law firms remain significantly under-researched. Traditionally, law firms have focused primarily on legal analysis and client representation rather than on optimizing their internal processes, technologies, and supply chain relationships for efficiency and innovation. As a result, there exists an opportunity to better understand how law firms operate as service organizations, how they source and manage critical inputs (such as legal technology tools, research databases, expert services, and external vendors), and how emerging technologies—particularly artificial intelligence (AI)—are transforming their operations and workflows. This project examines how law firms manage their operations and supply chains, with particular attention to how AI is transforming processes such as (but not limited to) case management, document review, client communication, and vendor coordination. The research will begin with a review of academic and professional literature, followed by direct engagement with local law firms through interviews and surveys. Students interested in law, operations/supply chains, and technology will find this project engaging and impactful.

Expected skills: strong writing and communication skills; interest in technology, management, and law; analytical thinking; and enthusiasm for research collaboration. Strong work ethics. Being responsive to communication.

Proposed Downing Research Project #7

Project Title: “The Effects of Leader Behavioral Inconsistency on Employee Perceptions”

Professor: DJ Steffensen

Project Overview:

Imagine you go to work one day and your manager treats you nicely, jokes around with you, and makes you feel like a million bucks. Now, imagine that the very next day this same manager is cold, short-tempered, and mean. On the third day, you may walk into work wondering, “Which version of my boss am I getting today?” Dealing with this level of uncertainty will no doubt affect the way in which you view your boss and the work environment…and may even have negative effects on the quality of your work outputs. In this study, you and I will explore the effects that *leader behavioral inconsistency* has on employee perceptions of leadership and how they experience their work environment. Together, we will design and run an experiment to explore various research questions. A successful participant will have an inquiring mind, a willingness to voice their opinion, and a desire to develop their analytic, critical thinking, and communication skills. We have an exciting opportunity to add to a growing area of research, and I’d love to work with you on doing so!

Proposed Downing Research Project #8

Project Title: “The Science of Sports Betting: How Marketing and Psychology Influence Consumer Betting Behavior”

Professor: Bryan Buechner

Project Overview:

According to the American Gaming Association, 38 states and Washington, D.C. have legalized some form of sports betting, and roughly 100 million adults are either current or potential sports bettors. In 2024, U.S. consumers wagered a record $150 billion on sports, generating $13 billion in revenue—up from $120b and $11b, respectively, in 2023. Sports fans now see an average of 289 gambling messages per TV broadcast hour including commercials, sponsored segments, company logos, and real-time betting odds and recommendations. As this marketing explosion blurs the line between entertainment and risk, researchers are asking new questions about how consumers make decisions in this environment. My research seeks to address some of these questions and offer a psychologically-grounded roadmap for understanding consumer behavior in this industry.

This project will investigate how sports betting advertising, individual differences (e.g., tolerance for risk), perceptual biases (e.g., uncertainty and overconfidence), and social factors (e.g., social media influence) shape betting behaviors. We will also evaluate the effectiveness of “responsible gambling” campaigns to identify ways to educate and protect consumers while maintaining engagement.

Students will gain hands-on experience in behavioral research by helping design experiments (e.g., online surveys), collect and analyze data, and interpret results for academic presentation and publication. Students will have the opportunity to present this research to diverse, professional audiences inside and outside of Xavier University. This project is ideal for students interested in marketing, consumer behavior, psychology, or data analytics who want to explore how consumers think and act in real-world decision environments.

Completion of MKTG 300 is <u>required</u> and completion of or enrollment in MKTG 302 and MKTG370 is <u>strongly preferred</u>.