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Application: NBER Digital Economics and AI Tutorial, January 20–21, 2027

1. Graduate Study

I am a Ph.D. student in Business Administration (Marketing) at Texas A&M University, enrolled since Fall 2025. My graduate coursework in economics and statistics began in Fall 2024 (57 credit hours earned as of October 2026; GPA 3.65), and I hold a Graduate Certificate in Applied Statistics (Texas A&M, 2025). Coursework includes microeconomic and macroeconomic theory, mathematical economics, econometrics I and II, experimental economics, field experiments in economics, and mathematical statistics; this fall I am taking applied microeconometrics and statistical learning. Before Texas A&M, I earned an M.Sc. in Business Analytics (2023) and a B.B.A. in Accounting and Finance (2022, Second Class Honours, Division One) from the University of Hong Kong.

2. Research Interests and Advisors

My research studies how digital markets develop and are governed, and how new measurement tools, particularly large language models (LLMs), can answer questions that existing data cannot. I have two projects. The first, on the regulation of digital transactions, is the more advanced and is the focus of this application. The second is a field experiment on heat stress in small Indian factories. My supervisor is Professor Steve J. Anderson (Professor of Marketing and Leonard L. Berry Chair in Services Marketing, Texas A&M University), whose field experiments study growth among small firms in developing economies. I also collaborate with Professor Pradeep Chintagunta (Joseph T. and Bernice S. Lewis Distinguished Service Professor of Marketing, University of Chicago Booth School of Business). I do not yet have a formal dissertation committee.

3. Main Project: Understanding the Global Fintech Regulatory Environment and its Impact on E-Payments by Consumers and Small Businesses

Question. Digital transactions (mobile money, card and wallet payments, e-commerce) expand market access for consumers and firms, but they need two things at once: rules that enable electronic exchange and rules that protect data. Expansion without protection raises risk, and protection without expansion raises cost. I ask how regulation in these two domains, electronic transactions and data protection, shapes digital-transaction adoption, and the welfare and performance gains that follow, for consumers and firms around the world.

The measurement challenge. Existing evidence mostly treats regulation as a binary measure, which says nothing about how stringent or well designed a law is. I build a continuous, multi-criteria measure of regulatory stringency directly from legal text. I have assembled and audited a corpus of more than 1,300 data-protection and e-transaction laws and amendments covering 193 countries and territories, and I score each country-year's regulations on four criteria: scope and coverage, substantive obligations, regulatory interoperability, and enforcement.

AI-based policy scoring. The core of the project is using an LLM-as-a-judge to turn legal text into comparable, auditable scores. The model scores each country's regulations against explicit criteria rubrics, relative to a benchmark. I use two benchmarks: existing EU regulation (the GDPR for data protection and eIDAS for electronic transactions), and a synthetic benchmark that we are

developing. The synthetic benchmark is a model regulation drafted from the provisions that recur across jurisdictions' laws, organized by regulatory architecture, so that the scores do not depend on a single jurisdiction's legislative model. I have run full scoring with two model generations to test how sensitive the scores are to the model and the grading scale. A complementary text-similarity method, which compares each country's provisions to the benchmark with language-embedding models, serves as a robustness check.

Next steps. I will link the scores to consumer outcomes from the Global Findex and firm outcomes from the World Bank Enterprise Surveys, and the empirical model is under development. The project is in partnership with the World Bank. Measurement is currently underway, and estimation has not yet begun.

4. Second Project: Climate Change and the Impact of Heat Stress on Small Firms in Emerging Markets

Led by Professors Anderson and Chintagunta, this project studies workplace heat stress in Indian textile micro, small, and medium enterprises. Extreme indoor heat lowers output and raises errors and absenteeism, yet small firms rarely have the capital or building control to install factory-level cooling. We plan a pilot of low-cost personal cooling products (such as neck fans and cooling vests), which are standardized and easy to randomize across workers, with outcomes covering productivity, defects, absenteeism, and worker wellbeing. The central question is whether such products pay for themselves, which matters for both managers and adaptation policy. The project is at an early stage and is moving toward a pilot, and it is the most likely basis for my dissertation. My coursework in experimental and field-experimental economics prepared me for it.

5. Why the Tutorial

Both projects sit at the intersection of digital economics and AI: one uses AI as a measurement technology for institutions that govern digital markets, and the other studies how small firms adapt to climate stress. I would like to learn from the tutorial's research leaders how to establish the validity of AI-generated measures and how to combine them with credible causal designs, and to exchange ideas with other students working on digital markets, regulation, and AI.