Rowan Clarke

Contact Information

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Research Interests

My interests are in entrepreneurship/strategy and technology/AI for economic development. My work assists small business entrepreneurs, and high-growth technology entrepreneurs that serve them, to grow with technology and AI in emerging economies. I use causal inference, field experiments, AI, and applied theory.

Education and Reference

Harvard Business School and Harvard University
PhD Business Administration
Specializations: Strategy/Entrepreneurship and Economic Development, Labor Economics
Start: 2021
Expected Completion: 2027

Letter Writer
Assistant Professor F. Christopher Eaglin (Duke Fuqua): Email: chris.eaglin@duke.edu

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Research Interests and Biography

My interests are in entrepreneurship/strategy and technology/AI for economic development. My work assists small business entrepreneurs, and high-growth technology entrepreneurs that serve them, to grow with technology and AI in emerging economies.

I use AI, causal inference, field experiments, and applied theory. I have won large research grants, including IGC and Grand Challenges, multiple Best Paper Prizes, as well as the INFORMS/MSOM Award for Responsible Research. I received my bachelor's in statistics and economics, and master's in economics from the University of Cape Town, South Africa. Prior to Harvard I worked as a researcher with Innovations for Poverty Action.

Education and Experience

Harvard Business School and Harvard University *2021-2027*
PhD Business Administration
Specializations: Strategy/Entrepreneurship and Development, Labor Economics, Econometrics

References/Committee
Professor Dennis Yao (Harvard Business School). Email. dyao@hbs.edu
Assistant Professor F Christopher Eaglin (Duke Fuqua). Email: chris.eaglin@duke.edu

University of Cape Town
Masters in *Economics* (*Distinction)*** *2019*
Honours in *Economics* (*Distinction) Best Thesis Award*** *2012*
Bachelors of *Social Science* (*Distinction*****)** *2011*
Majors *Economics* and *Statistics*
Minors *Political Science* and *Philosophy*

Relevant Positions:
Innovations for Poverty Action and Environment for Development (IPA and EfD)
Lead Researcher. *2015-2019*
Nuru Energy
Director of Research *2013-2014*
Strategy, research, experiments, social impact, fundraising (largest grant $4.5m)
University of Cape Town, School of Economics
RA to Professor Ingrid Woolard and Katherine Eyal *2010-2011*

Research

Selected Works in Progress

Exogenous Shocks, Inequality, & Entrepreneurial Resilience. (2025) (With FC Eaglin, Z Kuloszewski, and J Wong).

Manuscript in Progress

Digital Technology Diffusion, Competitive Spillovers, & Entrepreneurial Performance.

Working Papers

FinTech & Financial Frictions: The Rise of Revenue-Based Financing. (2024) (With D Russel, C Shi). Reject and Resubmit, ***Review of Financial Studies.***

We use transaction-level data from a major payment processor in South Africa to study FinTech-provided small business "revenue-based financing". After eight months, payments through the processor are 16% lower for businesses who take financing offers than observably similar non-takers, driven by moral hazard from revenue hiding and adverse selection. Two natural experiments suggest FinTech platforms' non-lending interactions with small businesses---e.g., payment processing and inventory management---can limit both hiding and selection. By tying repayment to the continued use of non-lending products, FinTechs can mitigate enforcement and monitoring frictions. Our results help explain the rise of FinTech-provided revenue-based financing. They also provide evidence for policymakers looking to increase financial inclusion and firm growth, particularly in developing economies.

The Uneven Impact of Generative AI on Entrepreneurial Performance. (2024) (With N Otis, S Delecourt, D Holtz, R Koning). Revise and Resubmit, ***Management Science****.*

Scalable and low-cost AI assistance has the potential to improve firm decision-making and economic performance. However, running a business involves a myriad of open-ended problems, making it difficult to know whether recent AI advances can help business owners make better decisions in real-world markets. In a field experiment with Kenyan entrepreneurs, we assessed the impact of AI advice on small business revenues and profits by randomizing access to a GPT-4-powered AI business assistant via WhatsApp. While we are unable to reject the null hypothesis that there is no average treatment effect, we find the treatment effect for entrepreneurs who were high-performing at baseline to be 0.27 standard deviations greater than for low performers. Sub-sample analyses show high performers benefited by just over 15% from the AI assistant, whereas low performers did about 8% worse. This increase in performance inequality does not stem from differences in the questions posed to or advice received from the AI, but from how entrepreneurs selected from and implemented the AI advice they received. More broadly, our findings demonstrate that generative AI is already capable of impacting—though in uneven and unexpected ways—real, open-ended, and unstructured business decisions.

Winner, Wharton People Analytics White Paper Competition (2024)
Winner AOM STR Division Best Paper Award in Industry, Competition, and Strategic Entrepreneurship (2024)
Second Place**,** SMS Annual Conference Best Paper Prize Competition (2024)
Nominated for the AOM Carolyn B. Dexter Award by the STR division (2024)
Featured VoxDev
Featured Harvard Business School Alumni Bulletin.
Featured Digital Data Design (D^3) Institute at Harvard.
Featured UC Berkeley Haas.

Publications

Design of Off-Grid Lighting Business Models to Serve the Poor: Field Experiments and Structural Analysis (2024). (With BS Uppari, S Netessine, I Popescu). ***Management Science***. Vol. 70, No. 5. Published Version. SSRN Working Paper.

A significant proportion of the world's population has no access to grid-based electricity and so relies on off-grid lighting solutions. Rechargeable lamp technology is gaining popularity as an alternative off-grid lighting model in developing countries. In this paper, we explore consumer behavior and the operational inefficiencies that result under this model. Specifically, we are interested in (i) measuring the impact of inconvenience (of traveling to recharge the lamp) along with the impact of liquidity constraints (because of poverty) on lamp usage and (ii) evaluating the efficacy of strategies that address these factors. We build a structural model of consumers' recharge decisions that incorporates several operational features of the low-income regions. We conducted large-scale field experiments in Rwanda in partnership with a local rechargeable lamp operator and use the resultant data to estimate and test our model. We find that the complete removal of inconvenience and liquidity constraints from the current business model results in 73% and 126% increases in both recharges and revenue, thereby suggesting that these constraints are major sources of inefficiency. By implementing simple operations-based strategies—such as starting more recharge centers, visiting consumers periodically to collect their lamps for recharge, and allowing consumers to partially recharge their lamps and pay flexibly for the recharge—more than half the benefit of completely eliminating the inefficiencies can be attained. By contrast, the price- and capacity-based strategies that vary the economic variables (i.e., the amount paid per recharge and the amount of light obtained in return) but not the operational model perform far worse than the aforementioned strategies. Overall, our analysis emphasizes the importance of managing operations effectively even in markets with cash-constrained consumers, in which firms may have a natural tendency to focus more on reducing prices.

Winner MSOM Society Award for Responsible Research (2024)
Winner INFORMS Technology, Innovation Management, and Entrepreneurship (TIMES) Best Working Paper Award (2022)
Winner INFORMS Public Sector Operations Research (PSOR) Best Paper Award
Finalist MSOM Service Management SIG Best Paper Award Competition (2024)
Finalist POMS Applied Research Challenge Award
Finalist INFORMS Decision Analysis Practice Award
Featured **Amazon Science**

Practitioner publications

A Smarter Way to Design Business Strategies to Serve the Poor. (2023)**.** *INSEAD Knowledge.* With BS Uppari, S Netessine, I Popescu.

Providing off-grid light to poor communities. (2022). *ORMS Today.* With BS Uppari, S Netessine, I Popescu.

Entrepreneurs Bringing Light To Rural Rwanda. (2022). *Wharton Mack Institute for Innovation Management.* With BS Uppari, S Netessine, I Popescu.

Scholarships and Grants

- I have won a significant amount of funds (**$1,600,000+**), and I am the principal investigator or co-PI on a number of awards including:
- $75,000 Generative AI Chat for Impact Accelerator by Turn.io, Agency Fund, and OpenAI (**Principal Investigator**).
- $15,000 South African Reserve Bank - FinTech, Entrepreneurship, and Rolling Electricity Outages (**Principal Investigator**).
- $110,000 Grand Challenges 'Stars in Global Health' (**Principal Investigator**: designed studies, wrote proposal). Project Webpage. The program supports Bold Ideas with Big Impact from the best and brightest scientists and innovators, to address the most pressing global health challenges. It provides funding to explore transformative ideas that bring together scientific/technical, social and business innovation.
- $710,000 DFID-ENERGIA: Gender and Sustainable Energy Research (**co-PI**; Wrote proposal, set up project, designed studies, created partnerships).
- $155,000 International Growth Centre and INSEAD RCT lab (**co-PI)**. Project Webpage.
- $50,000 Wharton and INSEAD (**co-PI**)
- $500,000 program funding
- $50,000 Environment for Development grant (**co-PI**)
- Labor Economics Research Grant: National Research Foundation.
- David and Elaine Potter Research Fellowship
- Harry Crossley Research Fellowship
- National Research Foundation
- Economics Research Southern Africa

Motivation Letter

I am a fourth-year PhD candidate in Business Administration at Harvard Business School deeply committed to understanding how entrepreneurs in emerging economies can use strategy, technology, and AI to drive economic growth and reduce poverty. My current work focuses on how digital technology and AI-based solutions reshape entrepreneurial performance. For example, my co-authored studies on FinTech-provided revenue-based financing and AI business assistants highlight both the transformative potential of these tools and the uneven impact they may have on different types of entrepreneurs. In this work I use field experiments, causal inference, and applied theory to examine how entrepreneurs respond to market frictions, from moral hazard and adverse selection in lending markets to skill gaps in adopting advanced AI-driven practices.

Building upon this, my ongoing research studies two emerging areas. The first examines “Exogenous Shocks, Inequality, and Entrepreneurial Resilience,” exploring how unexpected shocks—such as rolling power outages and pandemics—disproportionately affect small business entrepreneurs’ ability to adapt and grow, while benefitting larger firms, leading to a change in market structure and increase in performance inequality. The second focuses on “Digital Technology Diffusion and Competitive Spillovers,” and studies how the adoption of digital technology—specifically FinTech payments—among hundreds of thousands of small- and medium-sized business entrepreneurs over the period 2018-2025 in South Africa can catalyze broader market-level spillovers and competitive reallocation of consumers to new adopters. My aim is to develop evidence-based frameworks that help policymakers, investors, and entrepreneurs navigate the rapidly evolving intersection of entrepreneurship, technology, and strategy in low- and middle-income countries.

I am eager to attend the NBER Entrepreneurship Bootcamp to advance this research agenda and connect with leading scholars in the field. The Bootcamp’s collaborative environment and rigorous methodological focus make it the ideal forum to refine my skills, gather feedback on my ongoing field studies, and explore new ways to incorporate advanced AI-driven strategies into entrepreneurship research. More importantly, I want to situate my work within the broader academic dialogue at NBER—one that emphasizes not only cutting-edge methods but also the real-world impact of economics research. By engaging with this community, I hope to sharpen the theoretical underpinnings of my projects, strengthen my empirical approaches, and build new collaborations that will enable me to contribute meaningfully to the study and practice of entrepreneurship for economic development.

F. Christopher Eaglin
Assistant Professor, Strategy
Duke Fuqua School of Business
chris.eaglin@duke.edu

21 February 2025

NBER Entrepreneurship Bootcamp Selection Committee
National Bureau of Economic Research
Cambridge, MA

I am pleased to recommend Rowan Clarke for the NBER Entrepreneurship Bootcamp. As a fourth-year PhD candidate at Harvard Business School, Rowan has demonstrated exceptional research capabilities in entrepreneurship, strategy, and economic development. His work employs advanced econometric methods—including causal inference, field experiments, and AI analysis—to examine how digital technology and innovative financing shape small business performance in emerging markets. He has pursued advanced methodological training beyond his degree requirements at HBS, Harvard, MIT, and BU.

Rowan has been an invaluable collaborator in our study on how persistent electricity outages in South Africa affect firm strategy and performance. He initiated the research partnership, manages ongoing data acquisition, and leads the econometric analysis. Thanks largely to his contributions, the project has been well received and is on track for submission to a top management journal.

His research extends beyond his doctoral studies. Prior to HBS, he designed and implemented large-scale field experiments at the intersection of technology, energy, and poverty alleviation. This work culminated in the publication of *Design of Off-Grid Lighting Business Models to Serve the Poor: Field Experiments and Structural Analysis* in *Management Science* (2024). The study, which examines how liquidity constraints and inconvenience hinder technology adoption, received several awards, including the INFORMS Best Working Paper (2022), the INFORMS Analysis Practice Award, and the MSOM Society Award for Responsible Research (2024).

Since joining the PhD program, he has also played a critical role in *The Uneven Impact of Generative AI on Entrepreneurial Performance*, a paper examining how low-cost AI assistance affects firm decision-making and economic performance among small firms in Kenya. The study finds that AI enhances the performance of firms at the top of the revenue distribution while negatively affecting those at the bottom. This work has won several accolades, including the Wharton People Analytics White Paper Competition (2024), the AOM STR Division Best Paper Award (2024), and the SMS Annual Conference Best Paper Prize Competition (2024).

Rowan's strong track record of empirical research makes him an ideal candidate for the NBER Entrepreneurship Bootcamp. At this stage in his career, exposure to leading scholars will further refine his research agenda, and his experience in field experiments and econometric analysis will contribute meaningfully to the program's discussions.

I strongly support his application and am confident that his participation will benefit both his academic trajectory and the broader study of entrepreneurship and technology. Please feel free to contact me if you require further information.

Sincerely,



F. Christopher Eaglin
Assistant Professor, Strategy
Duke Fuqua School of Business