

# Research Statement

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I research firm strategy and organizational design with an emphasis on micro-level structures that shape and constrain managers' choice sets. I try to identify wedges between optimal and actual organizational behaviors, describe law-like regularities, and articulate the boundaries and scope conditions of prior research. My current work falls into two streams: 1) human capital management with stochastic performance and 2) theory-based search and learning.

I often begin abductively. My prior career as an entrepreneur and executive has given me a range of puzzles, oddities, and corner-cases which are not easily explained by existing theory. I gravitate to cases where sophisticated and capable agents behave rationally but are nevertheless frustrated by information asymmetries, naive competition, or random chance. I then choose the method best suited to explaining or examining the phenomenon, mixing formal models, computational theory, and empirical causal inference.

## 1 Human Capital Portfolio Management

Organizations routinely evaluate workers on singular or sparse events, despite evidence that these are noisy signals with limited predictive value. This stream of research examines the strategic implications of human capital as a time-varying and uncertain resource.

A working paper, titled *Playing the Spread: The Implications of Worker Volatility for Human Capital Management*, uses data from professional basketball to examine organizational preferences for consistent, reliable workers in a setting where performance is measured against a standardized set of rules, activities, and organizational outcomes. I first examine whether NBA teams value worker consistency and reliability, distinct from mean performance, using free-agent contract signing events from 2011-2023. Results suggest that teams first sort players by mean performance, awarding fixed contracts to players who are on either side of some quality threshold(s). Within the set of contracts which are more freely negotiated, there is a 6.8% wage penalty for each additional standard deviation in a player's performance. This suggests that teams understand and value reliability and consistency, in contravention of prior research. I then exploit the quasi-exogenous removal of workers from a team, in the form of injuries, to

estimate the impact of worker volatility on team outcomes. I show that a one standard deviation increase in the variability of performance, holding expected output constant, hurts the team's average point differential by 1.7 points per game and reduces win probability by 6.37%. Additionally, the treatment effect of losing highly reliable players is similar to the impact of losing superstar performers, despite the former earning considerably lower wages, suggesting that organizations without the resources to hire/sign superstars can substitute highly reliable players.

My job market paper, *Performance as a Random Variable*, then uses a formal model to set out scope conditions for HR strategy with regard to stochastic performance. I ask which organizations should incorporate an awareness of worker volatility into their human capital management and whether doing so offers potential for sustainable competitive advantage. Borrowing from portfolio theory, I model a manager's choice between a reliable worker, whose productivity is deterministic, and a volatile replacement. The model suggests that large and wealthy organizations are advantaged by worker volatility; they pay only for mean performance while small, resource-constrained firms and teams must pay a premium for both mean and reliability or else absorb additional, idiosyncratic human capital risk. However, the relationship is complex. Volatility interacts separately with production function, scale, workforce composition, and wealth and, so, has different implications for large firms, entrepreneurs, movements, and teams. I derive a series of testable hypotheses and collect them into a new research agenda under the heading of human-capital portfolio management.

I plan on at least three additional projects in this stream. First, I intend to identify a series of labor-market signals for reliability/consistency that hiring firms might use. This is, partially, a decomposition of existing signals into mean and variance and an effort to pin down and formalize some of the same signals I used as a hiring manager. A second project looks at the within-team worker variance-covariance matrix. Assuming scarce managerial attention, I ask whether leaders should focus on improving mean performance, gathering information about a worker's type, or improving the team's "beta." As before, the results depend on organizational characteristics and have meaningful implications for startups and other small or informal organizations. Finally, I formalize the intuition that effectiveness in identifying reliable workers can produce the same effect on competitive advantage as firm-specific human capital.

## 2 Theory, Search, and Learning

A second stream of research examines search behavior in the presence of unknown unknowns. My paper *Searching for Serendipity* (with Olav Sorenson and Martin Gonzalez-Cabello, major revision at SMJ) asks

how agents might search for something valuable if they know nothing about the target. Serendipity, by definition, is valuable, surprising, and seems to preclude purposeful search. Using a modified NK model, we show that deliberate, purposeful, theory-based search is more effective at making unexpected discoveries than random sampling, aimless meandering, or more-efficient (read: faster) search methods. This result derives from two features of search: 1) even flawed or noisy theories guide agents to the vicinity of valuable information and 2) theories provide a reference point which helps the agent decide when to switch from exploration to exploitation. We develop the intuition using the example of browsing a hard-copy encyclopedia or journal and show that the best search processes are those that attempt to replicate known outcomes via unusual paths.

A second, active project (also with Olav Sorenson) suggests that the underlying components of a theory constitute an ecology of ideas and are subject to a variety of similar selection and retention effects. We model agents as choosing how to update their foundational beliefs in response to feedback on a focal conjecture. If two agents share the same theory of business but base it on different underlying beliefs about the world, they can update very differently off of the same feedback. We show that failure can bring co-founders closer together, success can cause a schism, learning depends on *who* is failing or succeeding, and populations of ideas and beliefs can be subject to many of the same ecological processes that impact organizations and organisms. The first paper using this model is, provisionally, titled *Theory-based learning and the ecology of ideas*.

A third project, in this stream (proposal with Angela Tran) looks at platform search behavior. Using both a formal model and proprietary data on influencer behavior, we argue that frequent algorithmic updates represent a type of search. Whereas most types of search depend either on agents which can be controlled directly or induced to explore in a given area, we model platforms as disturbing their own ecosystem as a way of forcing creators to look for and find new content niches. Platforms cannot observe unknown demand for content (the value of dance videos was unknown before TikTok, for example). Even with a hint that a type of content might be lucrative, platforms cannot necessarily create content algorithmically because their audience values individual creator relationships and brands. The solution is to “shake the snowglobe,” which suggests a type of search behavior that has not previously been modeled or measured.