Application for NBER Tutorial on the Economics of Digitization
Dominik Jurek

1. Contact Information

- **Name**: Dominik Jurek
- **Title**: PhD Student, 3rd Year
- **Department / University**: Haas School of Business, UC Berkeley
- **Research Focus**: Corporate Finance, Innovation and Entrepreneurship, Labor Economics
- **Address**: 2333 College Avenue, Apt. 402D, 94704, Berkeley, CA, USA
- **E-Mail**: dominik_jurek@berkeley.edu

2. Relevant Background

I'm a PhD student in Finance in my third year at Haas School of Business at the UC Berkeley. My main research area is in Corporate Finance, with a special focus on topics in Innovation and Entrepreneurship, Governance, and Financial Frictions. Beyond this, my research is at the intersection with Labor Economics with focus on Human Capital and Skill-Bias Technology Change.

Previous to my PhD, I finished my Master's Degree in Finance and Information Management at Technical University of Munich, with my main focus in Quantitative Finance, Corporate Governance, and Information Technology.

3. Research Interests

My research interest is on the impact of the emergence of data driven business models on innovation by firms and entrepreneurs, divergence in the labor force, and the governance and financial risk taking of young ventures.

There are three main questions I hope to answer in my research and with input from the tutorial: First, how do young tech firms use data as an effective mean of production to disrupt established sectors? Traditional corporate finance literature predicts that diversified firms are reducing the overall firm value compared to focused firms operating in only one sector. However, firms like Amazon seem to only get more productive when they invest into adjacent and foreign sectors. For example, Amazon bought Whole

Foods to disrupt the grocery sector, using the acquired data from the stores to improve their value proposition. Thus, data and the effective use of them is an important resource of productivity for digitized ventures, helping to disrupt consumer behavior. I think that economists must think about new production functions to describe this phenomenon interacting the unique properties of data as being both, a unique asset as well as being reproducible.

Second, related to these new ways of offering goods and services to customers by means of effective data usage, we need to think about the other key input factor: Human capital. We see an increasing divergence between replaceable non-tech related labor, like Uber drivers, and the high-skilled "techies" who are valuable assets for every new firms. Thinking about how the divergence as we already see it every day in the Bay Area will shape the labor environment in the future is important for policy makers as well as society in general. In this context, the question arises if digitization leads to a new monopolization of markets: Traditional means of intellectual property protection like patents assume that after a certain time of monopolistic exploitation of an innovation, a new technology can spur new entrants to a sector and thus increase welfare by subsequent innovation. In the face of Artificial Intelligence and Machine Learning, this promise seems to not hold anymore though: Trade secret protected training data lead to a lock out of new entrants. On the other hand, with the increase in precisely these methods of large data processing, there is a substantial risk of losing a data protected monopoly once the training on other data sources is as good as the predictions by proprietary data. Thus, the key resource in these cases is again human capital and who has the more talented data scientists.

Finally, I want to learn more about the role of the heads of successful digital firms, how they shape the success of ventures, and how good governance can be defined in this context. Traditional corporate finance has a very skeptical view of CEOs, suspecting them of wasting resources for empire building if not controlled by the board. However, entrepreneurs like Elon Musk or Steve Jobs are more than just normal executives, they are the face of the company. More and more VC funds are willing to offer disproportional voting rights to founders, Lyft is a very recent example. On the other hand, the competition for successful venture investments can lead to gambles on shaky firms behind shining figure heads like the collapse of WeWork and Adam Neumann showed. Thus, I hope to learn in this tutorial more about how risk taking of successful entrepreneurs can be balances with long term growth prospects.

I think that this tutorial will be invaluable for me to foster my understanding of the interplay between disruptive young firms and innovation barriers, technology and human capital, and the personality traits of entrepreneurs and their governance.