Experiences from Microsoft Internship and its Implications for Workplace Redesign

(Technical Report)

Analysis of the Hype Cycle Surrounding Employment in Big Tech Companies

(STS Research Paper)

A Thesis Prospectus

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By

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Overview

As a computer science major, my peers always talk about how "you need to get a job in big tech," "big tech is the only way to go," etc. The purpose of my research is to understand what these so-called "big tech" corporations have done in redefining the workplace to seem so attractive to prospective and current software engineers. To do so, I will read scholarly articles that have previously conducted research in this field, alongside reading testimonials from software engineers highlighting their difference in experience working in big tech versus a non-tech-centered company such as a bank or defense company. I will be developing a special connection to this research as I am interning at Microsoft this upcoming summer so I will be able to also touch on my experiences from my previous internship through the University of Virginia and Microsoft. My hope is for readers to develop a sense of what it is like to work in big tech and maybe formulate ideas for how their current company could redesign their current workplace.

Positionality

As a white male from a very small, rural town in central Virginia who always excelled in math and science classes, I grew up engaging in activities that used my advanced skillset to learn about a new field of interest that I was previously unfamiliar with. As I progressed through middle school and high school, my interest in engineering began to become apparent as I had taken the few engineering courses offered through my school system, in addition to online courses that allowed me to continue being curious about the field without being disadvantaged due to the lack of resources that the school system had. The summer going into my senior year of high school I was researching the various fields of engineering to start looking into exactly what I wanted to pursue a degree in once I got to college, due to the lack of support from the college advisors and career center at my school. I quickly came across the field of computer science and

was immediately interested in it. I was fascinated by the idea that so many of the applications from this degree were still unknown but were rapidly expanding at the same time. That's when I decided to commit myself to pursuing an undergraduate degree in computer science.

Fast forward two years and it is currently the summer before entering my third year at the University of Virginia. Initially, I was split between pursuing a career as a cybersecurity analyst or as a software engineer. This summer I finally decided that I wanted to commit myself to becoming a software engineer at a company that focuses on developing innovative technologies. Soon after making that decision, I accepted a position as a software engineer intern at Microsoft where I will be interning under the Security organization on the Cloud Security and Windows Defender team. The focus of my research will be both highlighting my expectations and experiences of the internship, as well as understanding what the "hype" of big tech is about.

Coming from a rural town, most individuals' occupations were in trade, and I always wondered what life was like outside of a rural town, in an urban setting, working as a white-collar worker. As a computer science student at the University of Virginia, everyone talks about "big tech" and how it should be the goal for any software engineer coming out of college. Working in Seattle this coming summer will be my chance to learn about the urban lifestyle, as well as the amazing benefits of working at a tech company that is simply unheard of where I come from when working in a trade.

Problematization

The research gap that I will be addressing in my research will be centered around how big tech companies have redesigned the workplace for software engineers. This idea originated from my interest in becoming a software engineer in the big tech industry and wanting to understand

why it is that it is so attractive and competitive to work at these large tech-centered corporations. The main actors throughout my research will be corporations, software engineers, researchers, managers, and interior designers.

Guiding Question

What makes big tech companies so attractive to software engineers and what they have done to enhance this interest?

Projected Outcomes

My research aims to address the analyze the problem/research gap by allowing individuals to understand what factors and strategies these companies have discovered that make software engineers flock there. I believe that a lot of this analysis will be focused on discourse theory and understanding how the redesigned workplace setting, alongside the extremely attractive benefits and compensation packages, influences the interest of software engineers. Prospective software engineers and current software engineers will benefit from this research by fully understanding what makes these companies so popular to work at, and other corporations will be able to utilize this research to investigate redesigning their workplace setting and compensation packages in order to increase the interest of applicants applying and interviewing for positions at that company. Aside from the technological impact and primary focus groups, this research will benefit the focus on sustainability as a part of my focus on what these corporations can do to attract top tech talent will be the incorporation of sustainable office designs such as introducing rooftop garden office space or software that reduces the energy output from computers in the office.

Technical Project Description

This upcoming summer I will be a software engineer intern and Microsoft on the Cloud Security team. In order to relate my internship experiences to my STS-related work, I will be journaling each day or every other day about something new that I noticed on campus that I thought was really cool and would be interesting to me if I was contemplating between Microsoft and another company. Once I begin writing my technical project in the fall, I will compile my journal entries and expand upon the focus on big tech and the workplace redesign I discussed in my STS project. The technical portion will be a firsthand experience of my findings while at Microsoft, whereas the STS portion will be from an outside perspective as I refer to testimonials from past and current software engineers at those companies, alongside previous scholarly research examining the workplace redesign.

Preliminary Literature Review & Findings

Upon initial review of the literature I found, there seems to be what I would describe as a satisfactory amount of research done on this topic. Thankfully there exists enough research to construct my STS paper, however, there does not seem to be an abundance of sources so I must utilize the ones that I have come across thus far. Engineers have done a significant amount of research on this topic ranging from how to redesign the workplace to strategies that can be implemented to attract top talent. In addition to engineers, STS researchers have discussed strategies to redesign the workplace but are more focused on the impacts of sustainability and supporting diversity and inclusion efforts. After exploring the research performed by these individuals it seems that some of the challenges or problems that they faced were centered around the inability to fully random selection of participants for experiments. The reason behind this issue is that certain teams at companies were unable or unwilling to participate. I believe that

my work can utilize this existing research to further expand into what exactly the tech employee is searching for in a company and what the company is doing to attract the tech employee.

STS Project Proposal

To begin, I believe that STS is the understanding of how existing technologies affect users or contribute to stereotypes, and how new technologies can be developed in an attempt to minimize these issues of existing products. My project is an "STS project" because I am analyzing how the redesign of the workplace contributes to the interest and productivity of software engineers in the workplace which I believe is an excellent example of the mediation theory.

The ecosystems of knowledge in STS that my approach will be lining up with are (something to do with the workplace and employees but not sure what to say) and sustainability. The primary authors that I think I will be using are Daniel Chae, Larry English, Jonathan Frick, Ben Halpern, Eric Heck, Chad Madding, Clement Mihailescu, Claire Schneider, and Marcie Zaharee. I think these authors' work is valuable and worth connecting my work to because they are all well-established figures in this field and have extensive experience researching the primary topics of my research such as tech employee expectations, workplace redesign, and workplace sustainability practices.

To investigate my topic, I will be incorporating value-sensitive design (let me know if this is the appropriate one to use in this case). Value-sensitive design will be the primary method that is used as the best sources of information for this topic will be testimonials from tech employees and management at big tech corporations. I think value-sensitive design will co-produce research that aligns with my definition/understanding of STS above because it will help

me understand how tech employees which are the users in this sense, are providing their testimonials of their experiences working in big tech and how the redesign of the workplace and benefits packages have addressed the issues that software engineers have faced for so long at non-tech companies where they have been underpaid and viewed as an expense rather than an asset.

I plan to accomplish using value-sensitive design through discourse analysis and literature review. Discourse analysis will be used when reading testimonials from software engineers and management at big tech companies to understand what they think has been done and what still needs to be done to maintain the hype of big tech. Analyzing each side will allow me to compare the two and better understand how software engineers (users) believe that big tech has improved the workplace and sustainability efforts. Additionally, literature review will be used to analyze the work done by researchers who have focused on sustainability efforts and workplace redesign from a more factual perspective in order to align the opinions from testimonials with facts from research.

Barriers & Boons

While conducting research for this project, there are several potential blind spots and limitations that I should address. Beginning with blind spots, while reading through testimonials, I may not fully understand the importance of some of the features that the software engineers discuss because I am a university student and do not have a well-defined set of expectations that I look for in a company. Additionally, I may need to discuss with an interior designer of some sort to understand why it is that big tech companies structure offices and buildings the way they do and how it sets them apart from others. In order to ensure the accuracy and reliability of my research, I will work to become better at finding accurate pieces of literature, alongside

improving my interviewing techniques as I may need to conduct additional interviews based on the number of online testimonials that I can find.

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