Technologies adoption is represented through Roger's Theory of Diffusion, the analysis of how innovations are accepted by groups through communication over time. The process of adoption starts with a small group of people using the technology immediately following its production. If this group of people, called the enthusiasts, are pleased with the product, they will spread it through word-of-mouth or social media. Therefore, this is a critical stage and an indicator of whether the product will be adopted on a mass scale, or if changes need to be made before being introduced to the public. Engineers can, therefore, use this and following stages of the adoption curve modeled by both successful and failed technologies to increase likelihood of success for their own products.

The Technical portions of this Thesis describes the design of an internal web application created during an internship. The application was created to replace a technology that was not allowing for efficient communication within the company. The department was storing software engineering team and feature information in spreadsheets, which were frequently out of date and difficult to use. This resulted in many management issues, including orphaned features when teams dissolved and department wide testing when software engineers could not ask specific teams. A team of software engineers and I created a full stack web application to dynamically display multiple databases, and allow Capital One employees to keep track of feature ownership among the teams. To solve the mass testing, we displayed contact information for each team. We solved the problem of orphaned features by creating an error when users try to delete a team without first rehoming the features they own. At the end of the internship, my team showcased a viable product that is now in use among the Card Tech department's engineers and management. This project could be enhanced by returning to the department to get feedback on what is working and what needs to be changed; therefore, it was put into production in only one

department of the company because the team needs to analyze whether it was a good fit before making necessary adjustments and putting it in use among the entire company.

The STS portion of this Thesis is a research analysis on the way successful products and their producers interacted with the public during their launch. It also studies the path of their failed counterparts and the reasons they were not adopted. The research accomplishes this by following the path that inventions took as they failed multiple times before one company's release resulted in wide spread adoption. The research paper first goes through in-depth analysis of the technology adoption life cycle with respect to technologies that fit the curve and were diffused on a mass scale. Using the mutual determinism of society and technology, I examine the reason why the video phone and the tablet were produced by multiple different companies in many different ways before becoming widely adopted years after they were invented. There were many different plausible reasons why these technologies finally succeeded; Therefore, I believe when an engineer is creating a product, they need to find technologies similar that came before it and learn from their mistakes. They need to know how to make it more affordable, accessible, and usable; for a product to become a mass success, it needs to be available to the average person.

I learned a lot about the ways in which, as a software engineer, I can increase the likelihood my product will be adopted by and right for my intended user. There is no concrete answer to the question of what inventors need to do in order to make their products successful, but this research found many ways to increase its changes. In order to continue the research of this topic, I would analyze even more failed or successful technologies and how they moved on or stopped during each stage of the technological adoption curve.