Thesis Project Portfolio

Social Media Laws and Regulations: A Meta-Study

(Technical Report)

The Invisible Hand: Algorithmic Curation Within the Facebook News Feed

(STS Research Paper)

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Sociotechnical Synthesis

"*No man is an island, Entire of itself.*"

- John Donne, "No Man is an Island"

Billions rely on Facebook and other media platforms to provide access to news, entertainment, and connections. For many, these systems serve as obligatory passage points to obtain information. Due to cheapening technologies, monetary incentives, and technical requirements, many of world's largest companies—such as Google, Facebook, and Twitter—have incorporated recommendation algorithms within their products. These curative systems filter and sort terabytes of information, deciding what content to promote and show. However, these informational gateways are not unbiased. Controversies like the 2016 presidential election and the Myanmar genocide reveal that algorithmic systems can promote lies and distort the truth. Both my technical and my STS project focus on different aspects of these technologies. My technical project provides an overview of social media regulations while my STS project researches misinformation and polarization in the Facebook News Feed.

For my technical project, I conducted a meta-study on regulations governing social media platforms, observing how current legislation succeeds and fails to protect society. The project primarily focuses on American and European law as the majority of tech companies headquarter within those nations. Drawing on legal works and analyses, the study discusses flaws within Section 230 of the US's Communication Decency Act that hinder the regulation of social media. Section 230, originally enacted to foster innovation, absolves digital media companies from the responsibility of managing their content. This creates little incentive for companies to invest resources to reduce misinformation and increases the risk of election interference and partisanship. The latter half of the project focuses on the European Union's laws, finding them to provide a robust legal framework. However, varying governmental structures across the bloc hinder transnational enforcement. This results in patchwork implementation of the laws, decreasing their effectiveness. Given social media companies' global influence on information, I

argue that new laws must be constructed explicitly for international enforcement and regulation. Domestically, Section 230 should be revised to remove its problematic immunity provisions.

My STS project presents an analysis of misinformation and polarization in the Facebook News Feed. I argue that current literature neglects to provide an adequate account of misinformation's and polarization's causes. This presents issues for legislators and engineers attempting to improve Facebook since studies point out problems without providing actionable solutions. I attempt to resolve this gap by analyzing the News Feed through Technological Momentum and by positing the origins of misinformation on Facebook. While other frameworks observe an artifact at a particular snapshot, Technological Momentum allows me to trace the News Feed's development through time and see how it evolved. Cross-referencing leaked internal documents and public sources, I found that the News Feed adopted harmful recommendation algorithms and engagement metrics to meet technical requirements brought about by Facebook's rapid globalization. The resulting curative system promotes misinformation and polarization through the amplification of homophily and the distribution of viral content. After almost two decades of development, Facebook has grown reliant on engagement within the News Feed and has attempted patchwork fixes over comprehensive solutions due to their system's momentum. External research or regulations are needed to lead the company from its flawed foundations.

Curative systems have become increasingly intertwined with society. Engineers and lawmakers often forget the embedded and contextual nature of these platforms. No technology is an island, entire of itself. All artifacts exist within an interdependent web of sociotechnical constructs. Neglecting this aspect of technology limits one's perspective and blindsides one to potential effects. While both my technical and STS project deal with curative systems, they also implicitly carry this conceptual throughline. The most prevalent issue within technology regulations is not bad policies but neglecting contexts. Section 230 was introduced in the 90's when the internet was still young. The law has become dissociated from its original environment, changing how it operates. Similarly, the EU's laws fail to consider how to enforce regulations transnationally within different legal contexts. This parallels issues within the News

Feed. The rapid globalization of Facebook led the company to adopt technologies which could support an international community of users. However, the company failed to account for how their platform could be misused in countries like Myanmar where regimes hold power or how the News Feed would reinforce psychological effects like homophily. No analysis of a technical system is complete without accounting for an artifact's sociotechnical context.