

Consumer privacy effects on the momentum of Social Media

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Aaron Parson

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On my honor as a University Student, I have neither given nor received unauthorized aid on this
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Advisor

Bryn E. Seabrook, Department of Engineering and Society

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INTRODUCTION

Smart devices, Cloud storage, and 5G are just a few examples of many recent artifacts that technological evolution has provided for us. This evolution of technology has changed the way we interact, live, and what we believe to be possible. While this evolution has provided the earth with many comforts, privacy has become put at risk. Using these systems, we can collect more information than we have ever before (Zwitter, 2014). As technology has become more ingrained in our lives, individual and group privacy has been decreased to operate within this new societal structure. I question, “How can consumer privacy assist and diminish the building of momentum with social media?” Understanding this question provides insight into which aspects of privacy are considered significant when engaging with various technology platforms. As a result, companies that comprehend consumers' privacy preferences can enhance their platforms, leading to a mutually beneficial outcome.

METHODS

This study asks the question “How can consumer privacy assist and diminish the building of the momentum of various systems, specifically social media?”. This study employs the technological momentum framework developed by Thomas Hughes to analyze two case studies: Facebook and TikTok. By examining these platforms through the lens of technological momentum, the aim is to identify the major forces diminishing the momentum of social media platforms, how the momentum is diminished, and to what degree. It explores how these platforms have evolved, responding to societal demands and regulatory pressures related to privacy.

BACKGROUND

Using the concept of contextualized integrity can illuminate a clear definition of privacy. This concept states that the “right to privacy is neither a right to secrecy nor a right to privacy but a right to appropriate flow of personal information”(Goldfarb & Tucker, 2020). With this definition, an important part of privacy becomes consent. Individuals are supposed to have a right to control their personal information. Yet, this right is often disregarded in the internet age. With cookie collection, data tracking, and data selling the ability to control an individual's personal information is vulnerable. This is made more critical with the fact that often many times people do not even know that their personal information is being leaked.

This illustrates modern-day privacy challenges. While data collection is often able to elicit content personalization on social media and e-commerce platforms, it also opens for malicious risk. One of these risks is amassing data called Big Data (Zwitter, A., 2014). While Big Data provides a natural understanding of the world, it is often used to affirm incorrect and random correlation over causations. Further data analysis can put social, political, and racial groups at risk of targeted advertisements and political manipulation. This is because aspects of digital advertisements and communication often leave imprints on humans (Habibova K.A, 2020). One example is how marketing, particularly digital advertising, goes beyond just product promotion. It creates an entire narrative and lifestyle associated with the product. This subtly influences people's desires, aspirations, and consumer choices to conform to a certain lifestyle.

The policy has tried to maintain consumer privacy. The Federal Trade Commission (FTC) has direct oversight over how companies can collect and use consumer data (Ohlhausen, M. K., 2014). Some policies the FTC has created include the notice-and-choice article which emphasizes companies notifying consumers what data is being collected and what it will be used

for. Being given this information, consumers are then able to choose whether they would like to participate in the service or system. Another model is the Harm Based Model focusing on how the data collection and usage can harm the consumer instead of just informing the consumer. Privacy policy has been concerned with how to protect citizens from undesired encroachment by companies or governments ([Goldfarb & Tucker, 2012a](#)). As privacy concerns grow, consumers may look to policymakers to create stricter regulations to help maintain consumer security ([Goldfarb & Tucker, 2012a](#)). Yet as technology progresses, there is a question as to whether the legal system can understand new technology and develop effective policy in protecting consumers.

In many situations, the onus is on the consumers to protect themselves. Consumers are less likely to access websites where they feel that their personal information is at stake (Goldfarb & Tucker, 2020). Yet, if consumers believe that the benefits of the system outweigh their reservations, they will continue to use such systems. This highlights an important aspect of consumer privacy in which consumers are more likely to engage with a platform that they feel is more secure (Smith, R., & Shao, J. 2007). Platforms that either preserve privacy or provide a desirable service are more likely to be successful.

STS FRAMEWORK

Technological momentum characterizes the evolution and perpetuation of technology not as an independent entity but rather as a system that accumulates momentum from diverse conceptual influences during its development (Hughes, 1986). In this way, the durability of the technology can highlight the trajectory of the system. It works to bridge the gap between Technological determinism and Social Constructivism. Technological determinism describes technology's influence on people. Social Constructivism describes people's influence on

technology. E-commerce and social media platforms are relatively recent creations that have had high momentum since their birth. Hughes describes this creation as growth which marks the period where a technological system expands and scales. In this way, Netflix went from a movie-delivering company to an online platform giving millions quick access to movies and TV shows. Hughes also describes the concept of system builders. While software engineers, data scientists, and data engineers work on creating these platforms, these system builders are often unable to control the momentum of the technological system that occurs with the system. The system can take on a life of itself and breed new systems. Myspace is a social media platform that spearheaded ideas such as Facebook, Twitter, and Instagram. While these systems grow and breed new life, various factors pull and push at their momentum. These factors could be privacy, desire, comfort, socialness, and more. However, consumers' desire for privacy has been a concept that has repeatedly been used to slow technology's growth. Hughes discusses these as limits of control, which can be defined as the social factors that limit the ability of technology to grow or progress. This aspect is the question this paper works to understand in this analysis. There have been critiques of Technological Momentum. Alessandro Colarossi discusses that Hughes' technological momentum fails to provide any new concepts outside of technological determinism and social constructivism (Colarossi, 2020). However, the middle ground that technological momentum provides allows for ease of comparison in terms of technological influence and social influence on a system.

RESULTS AND DISCUSSION

Using the examples of Facebook and TikTok, I will answer how consumer privacy affects the trajectory of social media. In both cases, government responses have attempted to curtail the momentum of these social media platforms. Whether through regulatory actions, bans on

government devices, or restrictions in educational settings, governments have sought to exert control over the trajectory of these platforms. However, the concept of technological momentum suggests that while such actions may temporarily slow progress, the underlying momentum of technological innovation often prevails over regulatory efforts in the long term.

Facebook and Cambridge Analytica:

The 2020 United States election highlighted a significant issue in the relationship between U.S. citizens and social media platforms. Using an improper collection of data, a British company called Cambridge Analytica was able to create profiles of U.S. voters and target political ads to influence voters' preferences (Hinds, Williams, & Joinson, 2020). This use of social media was deemed scandalous and increased scrutiny over the privacy and usage of these social media platforms. However, due to the rapid growth of these platforms, legislation has struggled to maintain control over these systems. This “growth”, as defined by Hughes, is signified as a phase characterized by the broadening of the reach and/or size of a technological system. He uses the example of the transcontinental telephone invented by Alexander Graham Bell, in which the telephone system was expanded to the entire United States. The telephone system expansion is not unlike the expansion of social media. Therefore similarly the fast expansion of social media has created a state of technological momentum in which their trajectory is in flux.

Generation Z, the first cohort to grow up with widespread social media use, has experienced significant societal changes due to these platforms. There's a pervasive pressure among children, teenagers, and even adults to participate in social media to feel included (Robards, 2012). Over time, social media has become deeply ingrained in youth culture, evolving alongside Generation Z, starting from platforms like Myspace to the dominance of

Facebook. In some ways, this relationship has given Gen Z a dependence on social media, possibly highlighting the permanence of social media in our society. Evidence of this dependence can be seen through social media's massive facilitation of online social groups and its use as an information source.

Facebook's success was driven by improvements in user experience design and a focus on connectivity and interaction. These improvements were made by software engineers and technology companies whom Hughes would classify as "system builders". These system builders enhanced the platforms with updates, leading to personalized content and targeted advertising, ultimately enhancing user experience and expanding Facebook's user base. These system builders have also implemented feedback loops into their system showing the discerning of the true form of social media. With these feedback loops, social media platforms have been able to be tuned to the desires of people. In many ways, this process can require intense data collection which may cross the line of privacy ethics. Mark Zuckerberg, Facebook's CEO, once famously remarked that privacy was a thing of the past, reflecting this era of increased data sharing and information exchange (ReadWriteWeb, 2010). While policymakers recognized the emergence of this technology, they underestimated its potential to influence consumers significantly.

Social media demonstrates elements of "soft determinism", a concept defined by Hughes as a synthesis of technological and social determinism, proposing a middle ground where technology influences society and society shapes technology. Undoubtedly, society has exerted its influence on social media, shaping it into what it is today. As a company, Facebook aims to attract as many consumers as possible, leading to tailored platform features such as content personalization and aesthetic design. These features are further pushed by the previously discussed feedback loop. However, this technology also exerts a direct impact on individuals, as

exemplified by the Cambridge Analytica scandal. Cambridge Analytica, a British political consulting firm founded in 2013, exploited Facebook's development of an open graph through a new version of its Application Programming Interface (API)(Harbath & Fernekes, 2023). This API allowed Cambridge Analytica to harvest information from over 50 million Facebook users without their consent, making it one of the largest data breaches in history. With this data, Cambridge Analytica targeted and influenced a significant portion of the U.S. voting population, presenting the profound effects of social media on individuals and society.

In response to the scandal, various legislative bodies worldwide enacted laws to prevent similar events, such as the Digital Services Act and the Digital Markets Act by the European Union (Harbath & Fernekes, 2023). This process is known by Hughes as “Limits of Control” in which as technology expands, it becomes subject to limitations or constraints established by human factors. Additionally, Facebook faced scrutiny from Congress, leading to increased discussions about targeted advertisements and consumer data collection practices. Facebook itself underwent internal changes, shifting its stance on privacy. While previously suggesting that privacy was a relic of the past, Zuckerberg announced a renewed commitment to consumer privacy, implementing measures to enhance protection and conducting audits on apps with access to user data.

The outcry over the manipulation of the Cambridge Analytica scandal has significantly altered the trajectory of Facebook's momentum, as well as that of other social media platforms. Despite historical struggles of legislation to control new technologies, the collective resistance from consumers and the perceived threat to societal integrity prompted a shift. This shift extended beyond Facebook, affecting social media platforms worldwide and prompting legislative responses across different countries. This incoming legislation puts social media

platforms like Facebook in a state of “transfer” which is defined by Hughes to be when a technological system or artifact is reconfigured and adjusted to integrate into a new framework. These changes to social media are pushed by increased scrutiny and policies of legislation and will most likely result in better privacy technologies and higher ethical standards in data management. Yet, these changes will also slow the speed of growth of social media platforms due to the need for more deliberation of privacy.

This event marked a significant milestone, demonstrating legislative bodies' ability to keep pace with the evolving functionalities of social media platforms, albeit primarily in response to threats to U.S. democracy. However, while consumers may vocalize desires for increased privacy and protection, their actions toward enhancing privacy within these systems remain unimplemented (Ohlhausen, 2014). Therefore, while consumers possess the ability to influence the momentum of social media platforms, it often occurs more forcefully when such platforms encroach upon fundamental functions of society rather than in response to consumer preferences alone.

Banning of Tiktok

The issue surrounding privacy concerns with recently developed social media platforms is exemplified in the case of TikTok. Originally launched as Douyin by the Chinese tech company ByteDance, it gained popularity primarily in China and Thailand (Tidy & Galer, 2020). ByteDance later acquired the American social media app Musical.ly in 2018 and merged it with Douyin to form TikTok. TikTok experienced widespread “growth” similar to Facebook. Despite TikTok's widespread success, the U.S. government has expressed apprehensions regarding the privacy of American citizens. Due to ByteDance's Chinese ownership, there are suspicions that data collected by the app may be shared with Chinese authorities.

Despite reassurances from ByteDance that data collection is primarily for app functionality or age verification purposes, concerns persist (Tidy & Galer, 2020). This unease has led to TikTok being banned on government devices and restricted in some schools' internet usage policies effectively establishing “limits of control”(CBS news, 2023). This differs significantly from the Facebook case, where there was never a widespread call for a ban, despite similar data collection issues involving foreign entities.

In the case of TikTok, it's primarily the U.S. government rather than consumers who are shaping the platform's trajectory. This underscores the differing dynamics between government regulation and consumer influence in the social media landscape. While consumer privacy is often cited as the rationale for regulating social media platforms, the underlying motivation behind such policies appears to be safeguarding government information and stability. In both cases, while the U.S. government can apply “limits of control” to these social media platforms, the popularity of these applications may override the ability of the government to maintain control.

Consumer’s Roles

Despite facing scrutiny and backlash, Facebook's technological momentum has been significant. As one of the pioneering social media platforms, Facebook established itself as a dominant force early on. Its continuous updates, innovations in user experience design, and expansion into new markets have contributed to its sustained growth and influence. The concept of technological momentum helps explain why even amidst controversies and calls for regulation, Facebook continues to evolve and maintain its position as a leading social media platform. TikTok, similarly, has experienced strong technological momentum since its creation. Despite facing regulatory challenges and privacy concerns, TikTok has rapidly gained popularity

among users worldwide. Its innovative content format and algorithm-driven recommendation system have propelled its growth and engagement. The concept of technological momentum helps explain why TikTok's momentum remains strong despite regulatory obstacles and public scrutiny.

While consumer preferences and concerns play a role in shaping the trajectory of social media platforms, the concept of technological momentum highlights the greater systemic forces at play. Despite consumer privacy concerns and calls for increased regulation, the momentum of technological innovation driven by companies like Facebook and TikTok often outweighs individual consumer actions. This dynamic emphasizes the complex interplay between technological advancement, regulatory frameworks, and societal norms.

Though this paper uses two major examples of social media, it is still only limited to two examples. More analysis could be conducted on social media such as Instagram, and Snapchat, and possibly even extended to e-commerce platforms like Amazon. Furthermore, more information on how consumers would react if Facebook or TikTok were to be completely banned could provide insights into how these specific social media platforms are integrated into our society. This information could highlight if the momentum of this technology is truly stronger than the obstacles in the path of the system's trajectory.

Future work should track the evolution of privacy-related policies and practices on social media platforms over time. Having evidence of the evolution of these platforms could provide valuable insights into the effectiveness of regulatory interventions and corporate initiatives in addressing privacy concerns. Additionally, more studies should aim to deepen our understanding of the complex interplay between technological momentum, regulatory frameworks, consumer preferences, and societal norms in shaping the trajectory of social media platforms and their

impact on digital privacy. By addressing these research gaps, we can better inform policy decisions, technological innovations, and consumer advocacy efforts aimed at promoting privacy rights in the digital age.

CONCLUSION

The case studies of Facebook and TikTok show the challenges and opportunities inherent in navigating the evolving landscape of digital privacy. While both platforms have faced scrutiny and regulatory pressure, their continued popularity underscores the enduring influence of technological momentum. Moving forward, policymakers, technology companies, and consumers alike must work collaboratively in addressing privacy challenges. By fostering a culture of transparency, accountability, and innovation, the technological evolution of these systems can remain aligned with the values and expectations of society while protecting individual privacy rights in the digital age.

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