Teaching Case
Strategic Actions in a Platform Context: What Should Facebook Do Next?

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ABSTRACT

This teaching case highlights the complex and unique strategic issues facing social media platform companies, using Facebook as the primary, motivating example. The case centers on the breach of trust that occurred when Cambridge Analytica acquired user data from 87 million Facebook accounts and then attempted to sway the 2016 U.S. Presidential election. The student is immersed in the context of Cambridge Analytica's violation of user trust and asked to consider the key strategic issues confronting Facebook executives and the company's ubiquitous platform. Economic concepts of a technology platform, such as network effects, switching costs, and lock-in, as well as overall platform strategy, are considered. Meanwhile, the technological concepts of designing a social media platform that engenders trust – one that balances the conflict between privacy and personalization – are stressed. An optional exercise on the functionality of application programming interfaces (APIs) is also provided. The target courses for the case include Information Systems Strategy, Digital and Social Media Strategy, and Managing Information Systems, at both the undergraduate and graduate levels. While the incidents surrounding Facebook and Cambridge Analytica have become politicized, the teaching case here focuses on the interaction of information systems and business strategy, not directly on the political atmosphere.

Keywords: Social media, Privacy, Service-oriented architecture (SOA), Corporate governance, Teaching case

1. CASE SUMMARY

This case describes the facts surrounding the use by Cambridge Analytica of Facebook user data to characterize voters and then attempt to sway the 2016 U.S. Presidential election through highly targeted advertising. This situation caused significant uproar among the media and Facebook users during the first half of 2018. Facebook users were surprised by how their data was obtained and what insights a company might be able to learn about them; they were also upset about a third-party organization trying to influence their vote. The objective of the case is to challenge students to think about the strategic implications of a company operating as a technology platform and the implications of the technology in terms of user privacy. The student is immersed in the background of the Facebook / Cambridge Analytica scandal and asked the normative question of what should Facebook do next to preserve and grow its financial position?

2. INTRODUCTION

We didn't take a broad enough view of our responsibility, and that was a big mistake. And it was my mistake. And I'm sorry. I started Facebook, I run it, and I'm responsible for what happens here.

Mark Zuckerberg
Testimony to the U.S. Senate's Commerce and
Judiciary Committees, April 10, 2018
(Washington Post, 2018)

Chief Executive and Facebook founder, Mark Zuckerberg, offered the above mea culpa during his high-pressure, high-stakes testimony before the U.S. Senate on April 10, 2018. Zuckerberg had been called to testify as lawmakers and the public became increasingly concerned that a British firm had obtained the personal data from millions of Facebook users. The company, Cambridge Analytica, had discovered how to use data mining to link Facebook data to an individual's email and phone numbers. The combination of these data could then be used to identify individuals based on their political party or voting preferences. Armed with this information, Cambridge Analytica allegedly created targeted campaign messaging in an attempt to sway the 2016 U.S. presidential election in favor of their preferred candidate.

In his testimony to Congress, Zuckerberg promised to be more transparent with users about what personal data are collected and how these data are being used by the company. He also promised to be tougher regarding the enforcement of Facebook's own terms of service with third-party companies that might access data. All that being said, as Zuckerberg concluded his testimony in Washington, he still had a company to run, one which he founded as a Harvard student at age 19. What would be his next set of strategic actions to maintain the remarkable user community Facebook had established and to continue to meet or exceed the high expectations of Facebook stockholders? This case focuses on the combination of technology issues which affect social media platforms such as Facebook and the immense strategic management issues that occur alongside of these platforms.

3. BACKGROUND

3.1 Facebook
The origins of Facebook can be traced back to Harvard University in 2004. As a sophomore, Mark Zuckerberg had developed a reputation as an outstanding programmer and was asked to help code a new social platform by a group of upper-classmen entrepreneurs. Zuckerberg originally agreed to help this group develop HarvardConnections.com, but he then may have intentionally delayed the process in order to build his own version of the idea to connect friends through an online platform at Harvard (Carlson, 2010). His competing version was named TheFacebook.com and went live February 5, 2004. Users created a profile with one photo and other demographic information such as name, hometown, birthdate, residence, and gender. TheFacebook.com became wildly popular, and Mark Zuckerberg transitioned from Harvard student to Silicon Valley tech executive within the calendar year. He received significant funding from Peter Thiel, PayPal founder, which placed the value of TheFacebook.com at approximately $5 million in the summer of 2005.

As most of us know quite well, Facebook is now the largest social network in the world, with 2.2 billion users and 1.45 billion daily active users as of March 31, 2018 (Facebook, 2018a). User growth has been astounding even by technology platform standards. More than a quarter of a billion new members joined the platform in each of the years 2016 and 2017. Growth rates are down from astronomical values of 69% per annum in 2010, but still remain very strong in the 15% range (Statista, 2018a). On the strength of these users, Facebook's financial position has accelerated as well. Facebook earned revenues of $40.6 billion in 2017 and generated net income of $15.9 billion, a robust 39% profit margin. A much-hyped IPO in May 2012 found investors were enthusiastic about the company's business model, although they still found it difficult to understand the real value of Facebook's distinctive value proposition (Compeau et al., 2012). The stock dropped in the first year following its public debut, but it has since rocketed to new heights, trading at nearly $200 in June 2018 (up nearly 400% since its IPO in May 2012). Facebook continues to generate strong advertising revenues by targeting personalized ads that are relevant to each user. The personalization of advertising based on direct knowledge of user interests and behaviors, all shared freely by users themselves within the platform, has proven to be a lucrative business model.

The Facebook business model depends on consumers to join the platform and stay engaged with it. Those users connect with others, post content about their lives, share content from other users, and express their preferences for companies, brands, content, and other entities also participating on the platform – in Facebook's parlance, users "like" content to indicate their preferences. Over 98% of Facebook's revenue in 2017 came from advertising, with an increasing portion of that coming from advertising through mobile phones. To be sure, Facebook's ability to monetize its mobile offering since 2012-2013 has been instrumental in its success. The remaining revenue comes from payments associated with third-party games on the platform (Facebook, 2018b). Facebook depends on the ability to take the data that users provide about their preferences to build a precise knowledge base for each individual user. This knowledge allows the company to sell advertising that is highly customized based on the specific "likes" of each user. Advertisers have long strived for the ability to specifically target their campaigns to individuals based on preferences, and spending in this area of digital advertising is growing fast. Facebook is uniquely positioned with its treasure trove of data to further grow its market share in this area.

3.2 Cambridge Analytica
The origins of Cambridge Analytica date to 1993 when Strategic Communication Laboratories Group (SCL) was founded with the idea that, by understanding consumer behavior, a firm might be able to influence the outcomes of elections and other political events. Cambridge Analytica was formed in 2013 by Alexander Nix, a director at SCL, with $15 million in funding from Robert Mercer, a Republican donor. Donald Trump's political adviser, Steve Bannon, also joined the Board of Directors of the new SCL offshoot. Nix pitched to Bannon and Mercer the idea of using online behavioral data to identify specific voters for targeted messages to sway votes (Rosenberg, Confessore, and Cadwalladr, 2018). In parallel, academic researchers were developing software tools that could determine personality traits based on online behavior, especially from a user's social media activity. Those traits then could be used to predict how an individual would vote in elections. The technology was in place to accomplish the job, but the missing ingredient for the plan was the input data from a large sample of U.S. voters (Rosenberg, Confessore, and Cadwalladr, 2018).

3.3 Broader Context: Brexit – British "Exit" from the European Union
In June 2016, Great Britain held a nationwide referendum to determine whether the country should leave the European

Union and its single market. The European Union provides a market of free trade, allows control-free travel within the Schengen Area, and established a shared currency (the Euro) among a subset of the member nations (euro area). Brits decided in a close vote (51.9% to 48.1%) to leave the European Union, starting the process labeled as Brexit (Hunt and Wheeler, 2018). The Brexit story could be a significant study in itself, but it is not the focus of this case. It is mentioned here as another example of ties between Facebook data, Cambridge Analytica, and a momentous vote. Facebook suspended a Canadian company, AggregateIQ, in April 2018, after allegations arose that Cambridge Analytica was affiliated with the company and that the company had played a major role in the campaign for Britain to leave the European Union (Cadwalladr, 2018).

3.4 Broader Context: U.S. Presidential Campaign
As news broke of Brexit in Europe, Hillary Clinton and Donald Trump were battling to determine who would win the 2016 U.S. Presidential election. It was not the first time that social media played a role in elections. Many observers credit Barack Obama's campaign for using social media effectively to reach a new generation of voters and ignite participation in his successful campaigns in 2008 and 2012 (e.g., Cogburn and Espinoza-Vasquez, 2011). In 2016, candidate Trump became well-known for his tweets and reportedly received an estimated $2 billion worth of free media coverage through his use of Twitter (Wells et al., 2016). What was new in 2016, however, was the ability to use data analytics to integrate various sources of user social media behavior to predict voting preferences, and then to customize political messaging to a targeted audience in an attempt to influence the election. Though Mr. Zuckerberg and Facebook executives certainly understand the power of the user data on their platform, the company dismissed concerns that their data might be used by third parties in an attempt to alter the results of the election. As evidenced by Mr. Zuckerberg's Senate testimony, Facebook was later forced to reconsider this position. When it became clear that such meddling was likely a product of Russian nationals, potentially tied to the Kremlin, many Facebook users found the circumstances disconcerting (Frenkel and Benner, 2018).

3.5 General Interest in Social Media
Social media has become wildly popular. Even Hollywood recognized the intrigue of social media in a 2010 feature film, "The Social Network," that highlighted how Zuckerberg began at age 19 to build a little application called TheFacebook.com as a student at Harvard University. While certainly much about the film is true, it remains a fictional, though interesting, account of the entrepreneurial venture and the growing importance and general interest in social media (Mondello, 2010).

Though young adults were the early adopters of platforms like Facebook and remain its largest age demographic, all generations participate extensively on the platform (Statista, 2018b). Users choose to join and stay on Facebook to be in-the-know, browse and share photos and videos, and for gaming (Nations, 2017). Meanwhile, businesses can take advantage of the fact that their customers are on the platform and that Facebook is able to provide highly-targeted advertising to reach specific consumer segments. The size of social media platforms is commonly measured by the number of users who log in to the system on a daily (daily average user, DAU) or monthly

(monthly average user, MAU) basis. By early 2018, Facebook boasted approximately 2.2 billion MAU, more than one-quarter of the entire world's population. Though many critics of Facebook point out that growth has decelerated in recent years, Facebook continues to add users every quarter, with user growth still at 20% in 2017. By any measure of size, revenue, profit, or number of users, Facebook is the largest social media platform in the world. The platform outpaces other favorites such as Twitter, LinkedIn, and Snapchat, as well as its company-owned platform, Instagram, but the issues of data privacy and third-party access to user data, as described below, are also critical for these companies to carefully consider in the current environment.

The role of the social platform Twitter is narrower than Facebook, but it is still an important platform in terms of both influence and usage. In early 2018, the microblogging platform claimed 336 million MAUs who shared short messages sometimes accompanied by photos or video to their followers. Celebrities use Twitter to build their personal brand and share personal details of their lives without the necessity of providing any personal contact information (Stever and Lawson, 2013). Protesters dissatisfied with their existing governments in Egypt, Libya, and Tunisia wrote millions of tweets in 2011 to make their case to the world and to organize additional protesters during the "Arab Spring" (Bruns, Highfield, and Burgess, 2013). Twitter's success as a platform led the company to go public in 2013. The stock showed impressive signs of strength early, but the company has struggled in the last few years as profitability proved to be elusive and user growth stagnated. More recently, Twitter did earn a quarterly profit for the first time as a publicly traded company in 4th quarter 2017 (Tsukayama, 2018). It is unclear whether the company will attain the financial success that its impressive early user growth seemed to foretell. Similar to Facebook in this case, Twitter has admitted to selling user data to Cambridge Analytica, with as much as 13% of its revenue being generated by data sales to third-parties (Murphy, 2018).

Instagram, purchased by Facebook in 2012, has also experienced rapid user growth and now boasts over 800 million users (Statista, 2018c). Instagram is especially popular among young people (Statista, 2018d) due to its unique photo filters, high-quality images, mobile appeal, and youthful energy (DeMers, 2017). Critics wondered if Instagram was really worth the billion-dollar investment that Facebook made in 2011, but user growth and the successful addition of advertising to the platform have silenced those critics. Though now an integrated business unit of Facebook, Instagram has recently been valued at $100 billion, proving the critics of the Instagram purchase to be quite wrong about its value as a platform (McCormick, 2018). Under the ownership of Facebook, Instagram has also allowed third-party access to its data in an increasing attempt to monetize the free service, and it would also likely suffer from declines in Facebook's popularity and reputation.

Social media platforms have also become an important part of career development and job searching. LinkedIn, the social media platform with a professional career orientation, now has more than 550 million users. Those users choose LinkedIn to build their online resume, stay in touch with colleagues, seek new career opportunities, and learn about their industry and career. LinkedIn was purchased by Microsoft in 2016 for $26.6 billion and is currently operated as a subsidiary under the

Microsoft corporate umbrella, with only limited financial data publicly available. LinkedIn has the advantage of a diverse portfolio of revenue streams including solution services for human resource professionals and recruiters, advertising, and premium subscriptions. More than 60% of all revenue in 2016 came from data and services provided to human resource and recruiting companies (LinkedIn, 2018), part of which involves selling user-provided data to those third-party companies

More recently on the scene, and wildly popular especially among teens and young adults, is Snapchat. Young people enjoy the real-time engagement with both videos and photos, as well as the promise that content disappears after it is consumed by recipients or an expiration point is reached. This important feature is intended to avoid the permanence that comes with content on most social media platforms, and it encourages users to exchange content that they may otherwise prefer not to have recorded forever. In the short period of time since its founding in 2011, Snapchat has grown to nearly 200 million users (Statista, 2018e). Its success in engaging users is clear, but its financial robustness is more muddled. The company, Snap Inc., made its initial public offering in March 2017, but the stock price has fallen substantially because the company has not been able to meet high expectations in advertising revenue, while spending to redesign the platform has increased significantly (Poletti, 2018). Shortly after the Cambridge Analytica news broke, Snapchat's CEO was asked for a reaction to Facebook's purported stealing of key features originally developed by Snapchat. He mockingly replied: "We would really appreciate it if they copied our data protection practices also" (Wagner, 2018a). That being said, Snapchat is also reportedly developing the same kind of technical capabilities (described in the next section) for third-party developers that ultimately got Facebook into trouble with its users (Wagner, 2018b).

Through platforms and applications such as Facebook, Twitter, Instagram, LinkedIn, and Snapchat, interest in social media only continues to expand. A growing number of people are constantly connected, with the majority of users in the U.S. accessing social media multiple times per day (Perrin and Jiang, 2018). We have embraced the technology in our lives, but we are also still learning as a society how to interact with this relatively new online environment. The tradeoff between privacy and personalization that surfaced in the Cambridge Analytica case is but one example of the need for a better appreciation of the implications of the technology. Social media users expect to use social media for free, but there are costs to providing such platforms; and platform companies are motivated to grow financially and earn healthy returns on investment. While the users may view themselves as the customers of the platform, revenue is generally earned from advertisers of the platform. This arrangement creates a unique value chain for social media platforms in which the incentives for the platform often diverge from the interests of the users. Users "pay" for the platform by sharing information which they may have traditionally held private. In return, they receive a personalized experience for no financial cost.

4. APPLICATION PROGRAMMING INTERFACES AND DATA SHARING

4.1 A Brief Introduction to Understanding APIs

The internet is built on the basis of services, programs that enable a user to obtain certain information from a platform. Services also create the interactivity of the platform and provide for the sharing of information across platforms. An Application Programming Interface (API) is a software service that a company makes available to facilitate communication between two information systems. An API is a piece of code that provides a specific service in a consistent and repeatable way. For example, the New York Times uses a Facebook API to provide a mechanism that allows the reader to share New York Times content on Facebook. In the example in Figure 1, the user interacts with the Facebook API from within the New York Times website by clicking on the Facebook icon. The New York Times embeds code provided by Facebook in its website that identifies the article to be shared. The API code enables the user to choose to share, comment, tag people, or add their response to the article, which then is posted on the user's Facebook news feed. Figure 1 also shows the pop-out window in which the user may interact with the Facebook API. The result is that content from many diverse sources, such as the New York Times, appears on Facebook. Third-party websites benefit from increased traffic and the inherent value that Facebook "likes" might provide a company.

APIs depend on a few common elements to communicate effectively among disparate systems. The first standardized element is a commonly understood data format used in the messages between the two systems. The API provider (Facebook in our example) and the third-party developer (New York Times in our example) must be in agreement about what the standard code is to cause a certain functionality to occur. APIs are usually designed to be generic, enabling a single API to address as many different scenarios as practical. The Facebook API implemented on the New York Times website is generic in that it may be implemented by other newspapers and websites, and the same capability is delivered. A final characteristic of an API is modularity. APIs are developed to do the function necessary. For more complex, multi-stage tasks, multiple component pieces of code may be called in order to produce the overall functionality. This modularity avoids the need to "recode" programs that repeat simple functionality and affords a strong element of reusability (Endrei et al., 2004).

When platforms such as Facebook offer developers the opportunity to use APIs to interact with the platform, the platform company is considered to be taking an open strategy. Some might ask, why does a platform invest money into developing APIs and then give away those services to other companies that may profit from the data and subsequent user interactions? This open strategy is focused on growing the overall activity associated with the platform and building the user community (Garud and Kumaraswamy, 1993), not necessarily on reaping the direct profits from the service. A useful analogy is that an open strategy is focused on making the pie bigger (market size), while a closed strategy is focused on competing aggressively for a bigger slice of the pie (market share) (Economides and Katsamakas, 2006).

Figure 1. An Example of a Facebook API as Depicted on the New York Times

4.2 How Did the API Matter in the Cambridge Analytica Case?

The API at the heart of this case is a Facebook API that developers could embed in their own applications. The API prompted users for permission to access their Facebook profiles. An academic researcher, Alexander Kogan, leveraged the Facebook API to develop a survey application and then asked users to respond to a series of questions on that application via the Amazon platform, Amazon Mechanical Turk. Individuals were told that the survey was for academic research and were compensated for their participation. By allowing Kogan's application to access their Facebook profile, however, the API provided access to not only that individual's profile, but the profiles of most if not all of his or her Facebook friends (Braga, 2018). As a result, even though the survey was asked of approximately 270,000 users, Kogan collected profile information on a total of 87 million users (Kang and Frenkel, 2018).

Up to this point, only Kogan had obtained the profile data from Facebook, and he was probably not in violation of the conditions of the Facebook API. At some later date, though, Kogan is believed to have sold the data to Cambridge Analytica in breach of the terms of service. Cambridge Analytica, in turn, used this data from a large percentage of the U.S. population to develop powerful algorithms that predicted how individuals were likely to vote in the upcoming 2016 U.S. Presidential Election (Rosenberg, Confessore, and Cadwalladr, 2018).

Ultimately, it is unclear whether the behavior of Kogan, Facebook, and Cambridge Analytica met the thresholds of either unethical or illegal activity. Many Facebook users might be upset that their data, which were protected under the terms and conditions of Facebook, were obtained by a third-party, and Kogan seemed to breach the terms and conditions in his usage of the data that he purportedly was collecting for research purposes. Facebook may also wish that it had better controlled the availability of the private data of its users.

While it appears that Facebook's inaction in this case offended many of its users, it is not clear whether Facebook breached any of its own terms of service. To some extent, Facebook users share some of the blame in this situation, due to their blissful ignorance regarding what data are collected about them and where these data might be used. What probably is clear is that many users found the concept of Cambridge Analytica using Facebook data in an unauthorized way to be deplorable. With the data in hand, Cambridge Analytica created advertisements which utilized the information discovered about each of us to incite our own feelings with the specific intent of shaping our vote. While the legality is unclear, this process has created a massive uproar among Facebook users, as well as considerable debate in the popular press, about what users expect platforms should do to protect their privacy. An important consideration with privacy of data is that each of us has our own limits of what is reasonable in terms of fair use, regardless of what the law or any contract might say.

Facebook's decision to create the API, as well as their ongoing choice to provide access to user data through the API, have important financial ramifications for developers because many third-party apps depend on Facebook data for their functionality and viability. In extreme cases, the third-party apps may depend entirely on Facebook data for their platform to function as designed. If Facebook pulls the plug on APIs completely, developers may be financially harmed. At the same time, Facebook might need to limit access to data via its APIs to solidify its credibility with users who may ultimately decide to leave the Facebook platform after hearing about the Cambridge Analytica situation. The loss of users from the platform would have significant financial implications for Facebook because user engagement directly impacts revenue from advertising. Whether or not Facebook decides to continue its current API practice of sharing data with third-parties, the advertising demand for personalized user data will persist. One alternative for Facebook might be to contract directly with app developers, providing a new revenue stream for the company while at the same time allowing it to provide more reliable data security. This additional control and potential new revenue stream suggest that Facebook might be able to leverage this current situation to improve the financial fitness of the business.

5. IMPLICATIONS

5.1 The Strategic Challenge at Facebook

The implications of the Facebook / Cambridge Analytica scandal have the potential to be wide-ranging not only for Facebook but also for two of its most important stakeholders,

the advertisers on the platform and its end users. Facebook faces the reality of some users leaving the platform, and the subsequent decline in MAUs could negatively impact advertising revenues. There is a movement afoot for users to drop their accounts entirely from Facebook in response to the Cambridge Analytica scandal. For some users this step is easy, but for many it is a complicated and perhaps costly transition that requires careful thought. Celebrities have joined the movement to #DeleteFacebook and even a former Facebook executive and WhatsApp co-founder, Brian Acton, made public that he would join the cause by tweeting, "It is time" (Gilbert, 2018). Zuckerberg's own words as a 19-year old have been used against him to highlight an arrogance regarding user privacy: "They trust me. Those dumb f***s" (Mahdawi, 2018). Since the public outcry over the scandal, he has also declared confidently that no "meaningful" drop in user statistics has been observed (Murdock, 2018), which appears to be correct in the immediate aftermath. While there was much hype in the media suggesting that many users might be leaving the platform, the reality is that most users have stayed so far. According to Google Trends, interest in the search "delete facebook" spiked in March 2018 but quickly returned to normal levels (see Figure 2).

The scandal also generated considerable discussion regarding what effect all of the negative publicity might have on Facebook's market valuation. The Cambridge Analytica scenario seemed to push the stock price lower in the short term, bottoming out at about $150 on March 27, 2018. The price has rebounded, though, to near $200 as of June 2018 (see Figure 3).
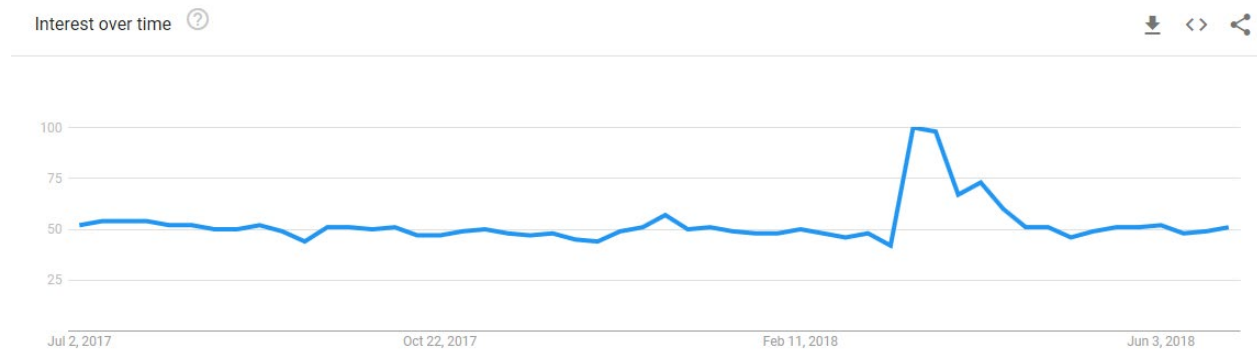
Figure 2. Interest in "delete facebook" per Google Trends (Google, 2018)

Figure 3. Facebook per Share Price (USD) since January 1, 2017

5.2 Facebook's Strategic Choices

Immediately following Mark Zuckerberg's testimony before the U.S. Congress, Facebook executives needed to decide what they should do next. Executives must simultaneously consider the best strategy in a complex environment, characterized by the relatively new industry context, changing regulatory demands, unanticipated foreign pressures, and finicky user engagement. The following questions provide a road map to orient your thinking.

A) Understand and analyze the relationship between Facebook's internal operating strategy and the general industry environment of platform architectures:
  1) Describe Facebook's business model. What are the positive consequences to Facebook for using an advertising model? What are the negative consequences?

B) Understand and analyze the impact of the scandal on Facebook's two key stakeholders, advertisers on the platform and its end users:
  2) What are the limits in terms of what advertisers should be able to do with data collected from Facebook or other platforms? Who will enforce those limits and how?
  3) What options are available to a Facebook user concerned for his/her privacy?

C) Based on the analyses of the competitive environment and key stakeholders in the prior questions, propose new strategic options for Facebook going forward in response to the scandal:

  4) Should Facebook continue to provide data to third parties (e.g., individual researchers or companies such as Cambridge Analytica) through the use of APIs or other mechanisms? Explain why or why not.
  5) What are your own ideas for technological or business innovations that could provide solutions to the concerns of users regarding their Facebook data?

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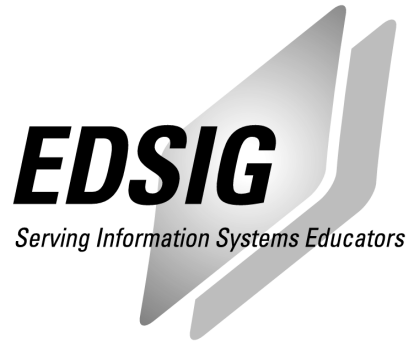
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