E-ISSN: 2469-4339

Management and Economics Research Journal, Vol. 6, Iss. 2, Pgs. 7, 2020

Case Study

The Disruptiveness of Technology: A Case Study of Google Dominance

Green *et al.*

HATASO

The Disruptiveness of Technology: A Case Study of Google Dominance

Daryl D Green[1]*, Xanshunta L Polk[2], Katherine Custer[1], Anna Johnson[1], Jesse Loyd[1], Joshua Pettijohn[1], Heidi O'Donnell[3]

[1]College of Business, Oklahoma Baptist University, 500 W. University Drive, Shawnee, OK 74804, USA.
[2]School of Business, Economics, and Technology, King University, Bristol, TN 37620, USA.
[3]School of Business, Liberty University, Lynchburg, VA, USA.

***Correspondence:** daryl.green@okbu.edu

Received: Jan 26, 2020; Accepted: May 21, 2020

Citation: Green DD, Polk XL, Custer K, Johnson A, Loyd J, *et al.* 2020. The disruptiveness of technology: A case study of Google dominance. Management and Economics Research Journal, 6(2): 1109923. https://doi.org/10.18639/MERJ.2020.1109923

Abstract

This case study examines the disruptive nature of Google's strategy in the marketplace to assist researchers and practitioners in future endeavors. From this research analysis, Google has been able to exploit its strengths of being an industry leader by way of new products as well as by the open lanes of communication of its flat organizational structure, which allows for creativity and design. Not all of the products have been winners, but that must not be a deterrent to the future progress of the company. This research is significant because Google's competitors may obtain additional information to level the playing field, thereby dethroning Google's superiority in the market.

Keywords: Search engine; Web crawler; Google groupings; Search bar; Advertising; Google Ads.

1. INTRODUCTION

In the late 1990s, before Google became a household name, it was a tool used by the University of Stanford, which operated under the name of "Backrub" because of its "web-crawling nature" and its ability to traverse the web (Novack, 2014). Initially, Google conducted about 10,000 searches per day. Today's average is nearly 40,000 searches per second (Seo, 2019). At the heart of technology renaissance stands Google. Technological advancements and strategies have allowed Google to become a mediator and organizer of information so that the average user can extract clear and concise information with minimal time spent (Oppong, 2015). This case study examines the disruptive nature of Google's strategy in the marketplace to assist researchers and practitioners in future endeavors.

1.1. Review of Literature

Google's strategy relies on disruptiveness. Disruptive innovation addresses potentially harmful disruptive change in the market. Green, Taylor, and Ford (2020) argued that disruptive change has a significant impact on traditional institutions, producing unpredictability and uncertainty. A disruptive innovation helps create a new market and value network. The innovation eventually disrupts an existing market and value network (Sustaining Innovation vs. Disruptive Innovation, 2017). This necessitates large companies to compete in mature markets, while concurrently competing in new markets by being flexible and experimental (O'Reilly and Binns, 2019). Disruptiveness matters in a digital economy. Digital advertising continues to be an emerging and vital source of revenue. Digital advertising revenues reached $26.2 billion in the United States by the third quarter of 2018 (Interactive Advertising Bureau, 2019). This is an increase of 20.6% from the third quarter of 2017 (Interactive Advertising Bureau, 2019). Google makes profits through the sale of advertising space on its search engine and through Google-owned websites (Gmail, YouTube, etc.).

Google attacks any disruptions from the inside-out by constantly creating innovative ways to attract consumers while being assertive and conducting proactive execution. There were 16 million internet users in 1995, and there are 4,536,248,808 internet users in 2019 (Budanovic, 2019). Predictions indicate there will be 20–50 billion connected devices by 2020 (Reyna *et al.*, 2018). With the myriad of products and services being introduced at an unprecedented pace, along with the development of countries that are just coming online, the opportunities for Google will continue to increase exponentially. Many believe that Google "will change our world and become the most powerful business the world has ever seen" (Straw and Baxter, 2015). For example, Google records search history and predicts user interests. This highly favored action is one strategy that keeps Google at the top (Manyika, 2013). Additionally, free apps, such as maps and email, have added to Google's success. Google has succeeded in the market for an extended period of time based on market research, efficient overall strategy implementation, disruptive innovation, and an effective digital advertising cost structure.

Cloud computing with the Internet of Things (IoT), blockchain, and big data analytics has revolutionized the industry and has firmly poised Google for future competition with its Google Cloud IoT.

2. METHOD(S)

This research uses content analysis to develop and evaluate this independent case study specific to Google.com. The organizational structure of Google and its ability to exploit strengths and opportunities while minimizing weaknesses and threats by using key attributes and facts about the business are analyzed (Webster and Webster, 2019). This case study also utilizes Porter's Five Forces theory to explore the organization and its foothold in the industry (Lucidchart Content Team, 2018). Through this methodology, individuals can attain a better understanding and possible insights into the world of Google.

2.1. Organizational Background

Google continues to dominate the digital landscape. Google has a cross-functional organizational structure that consists of three main components: function based, product based, and flatness (Smithson, 2018). The function-based branch of the structure is organized based on roles and the purpose each serves for the organization. Therefore, Google is divided into two distinct groups: global marketing and finance. These groupings facilitate communication from the top-down and help navigate through any external or internal disruptive changes. By consistently analyzing competitors, Google can sustain its place in the market, while identifying new ways to evolve their corporate structure and strategies (Smithson, 2018; Skyler, 2018). The next component is a product-based structure. This group creates apps, search entries, and electronic products to target businesses and consumers. Lastly, the component of flatness is one of the most important and impressive pieces at Google (Thompson, 2018). Flatness refers to lines of communication throughout the organization, by which the lower levels of the organization can converse openly with the upper management. Google uses open communication effectively, thus creating an assortment of ideas and innovative strategies from all groups in the organization to achieve the same goal. Google prides itself on having an innovative and competitive culture. Innovation is a major characteristic of Google's corporate culture. "In relation, the company's organizational structure promotes product development to facilitate high performance and competitiveness in the Internet services industry" (Smithson, 2018).

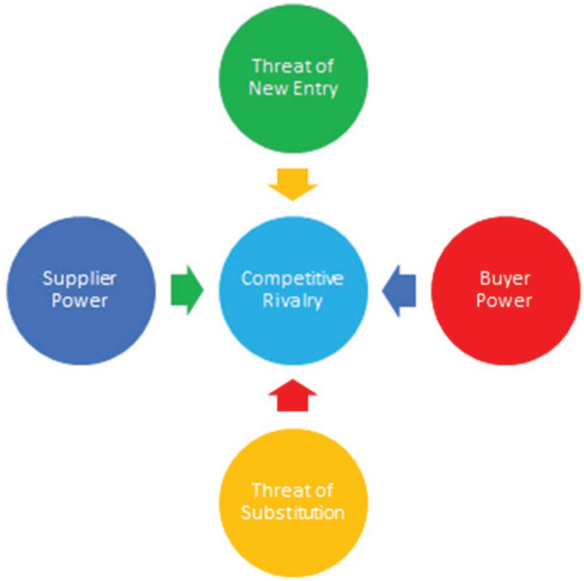
3. ANALYSIS/FINDINGS

Porter's Five Forces (Figure 1) and SWOT analysis (Figure 2) were used to exam the nature of Google. Both formulas have an emphasis on identifying threats to the company by way of substitutions, new entrants, and current competitors. While both processes have similarities, they are meant to dissect and evaluate different aspects of Google to hopefully identify strengths that should be exploited as well as weaker areas.

3.1. Porter's Five Forces

Buyer Power: Google customers and users hold a great deal of power. Customers and users have many social media, search engines, apps, and email options. High buyer power is a significant threat to Google. Buyers can switch to other options easily without any personal harm or hindrance incurred (Ladd, 2019).

Figure 1. Google - Five Forces Analysis.



Supplier Power: Supplier power is the firm's ability to dictate business prices, quality, and product diversity within a given industry. Google is one of the most visited websites in the world, and as such, its advertising space is very attractive (McGinnis 2018; Routley 2019). Ad space for Google is a critical factor in determining supplier power because the internet offers an over-abundance of advertising opportunities. Utilizing the internet for advertising is directly correlated to website traffic. Supplier power is high for Google. It is most beneficial for companies to advertise on sites that have high levels of web traffic, and Google is at the top of that list.

Competitive Rivalry: Competitive rivalry occurs when firms place pressure on one another to limit profit potential and drive innovation. An increased amount of rivalry directly affects the firm's ability to reach and maintain profitable levels. Google has high levels of competition because of the increased velocity of the internet and technology sector. Google faces many competitors across various aspects of its branches, such as search engines (Yahoo and Bing). Thus, Google is operating in a highly competitive field with the internet and technology sectors and overextending itself into too many competitive markets.

Threat of Substitution: Substitutes are products or services that exist in another industry that can be used to fulfill the same need of the consumers. The threat of substitution is very high for Google because there are many other products and search engines that meet the same consumers' needs, which Google targets. Google may be the most trafficked company in the world, but many companies are vying for market share (Bendor-Samuel, 2017).

Threat of New Entrants: Threat of new entrants refers to the possibility that a firm could enter the same market and compete with the existing firms. Although the possibility for new entrants is very high, new entrants will not likely compete well with Google. Google generates billions of internet views in one day, and that is not something that could be easily replicated by a new entrant. Google holds nearly 80% of global search engine market share (Forbes Agency Council, 2017). The barriers to entry in the internet ad space sectors are very low, but the barriers to entry in other technical fields are much higher.

3.2. SWOT Analysis

Strengths: The core of Google's strengths is brand recognition. The term "Googling" has become synonymous with internet searches. Of all web searches in 2016, 75.8% of those searches were done using Google's search engine. Those numbers were predicted to increase to 80.2% by the end of 2019 (Southern, 2018). Google's diverse and powerful product ecosystem is another strength. Google offers many resources for user productivity. However, that percentage is currently closer to 70% for the first half of 2020 due to the current economic climate. (Associated Press, 2020).

 https://doi.org/10.18639/MERJ.2020.1109923

Figure 2. Google - SWOT Analysis.

Weaknesses: Google's heavy reliance on advertising as a revenue stream is a weakness. In 3Q of 2018, Google generated $26.24 billion in revenue, 86% of which came from their advertising business, AdWords (Rodriguez, 2018). Many companies are moving their advertising business to Facebook and other popular social media outlets. It is becoming more apparent that Google needs to find additional revenue streams.

Opportunities: Google has a jump start on much of the competition when it comes to the emerging market of smart home products. Just 5 years ago, only 13% of American households utilized smart home products of any type. In 2019, it was projected that 38% of households will make the leap to a smart home (Shah, 2018). Google entered this arena with the Google Home in 2016 and has since expanded into more products that will meet consumers' home needs, such as security and artificial intelligence voice assistance.

Threats: Two of the biggest threats are Facebook and Amazon. Facebook and Amazon have made a large dent in Google's market share of digital advertisement revenue. Projections show Google's percentage of US. digital ad spending drop from 40.8% in 2016 to a projected 36.3% in 2020. However, Facebook's market share has risen from 17.1 to 19.6% from 2016 to 2018. Amazon is projected to increase its share by 63.5% to $2 billion a year (Koetsier, 2018). Consumers have also turned directly to Amazon when searching for products in the marketplace.

4. STRATEGIC IMPLICATIONS

From the critical analysis in this research, there are several strategic implications to consider, especially to Google, competitors, researchers, and practitioners. Google's success stems primarily from its innovative strategies, products, and abundance of resources. If others within the technology industry wish to have similar success, they must follow in the technology giant's footsteps. The following strategic implications were revealed:

A. Consistent Innovation Protects against Disruptive Change: As of January 2020, Google accounted for 87.35% of all search engine queries (Clement, 2020). Companies that specialize in internet-related services and goods must be disruptive innovators. The objective is to drive growth through innovation. Google's consistent development of new products, extending the life of existing products, and finding new revenue streams shifted the market for all within the industry. Additionally, targeting underserved segments and improving product value through improved functionality of websites increase the chances of market share and revenue growth (Christensen *et al.*, 2015). Most significant is to balance the strain between the core business that generates consistent, short-term results, and delving into new areas where results may prove to be appealing for long-term growth (O'Reilly and Binns, 2019).

B. Traffic Acquisition Cost (TAC) Increases Digital Advertising Revenue: Nearly 95% of Google's revenue comes from advertising (Faktor, 2013). Google can continue its ad dominance "by dispersing more of its ads through advertising partners and by paying the TAC to those partners" (Krause, 2018). In 2017, the traffic from Google's partners (AdSense) cost $12.5 billion. This accounted for a TAC of 71.9%. Although TAC is high, Google's support of its partners (member sites) and distributors fortifies business relationships. To remain competitive, it is imperative that companies which specialize in internet-related services and goods increase the number of their strategic partners (member sites) and distributors.

C. Diversity Through Product Development and Acquisitions Are Vital for Growth: New product development and acquisitions permit the sale of new products to current and new markets (Kerin and Hartley, 2019). For example, Google's acquisition of Fitbit provides a new platform and access to more than 27 million active users (Vynck, 2019). Furthermore, "Google acquired Workbench, a Baltimore-based company that provides an online library of lessons and projects, organized by subject and grade level, that educators can use in their classrooms". The acquisition gives Google access to millions of new users (Wan, 2019). Google continually adds to its product mix of smartphones, laptops, smart speakers, and wearable operating system (Vynck, 2019). Google's success is indicative of the strategic benefit of product development and acquisition. By following Google's lead, others can improve and strengthen the profitability of their company. Moreover, companies can become more dominant and increase market share and shareholder wealth (Peavler, 2019).

5. CONCLUSION

Google has had great success. Founders Larry Page and Sergey Brin saw "that the sprawling, chaotic mass of material that was cascading onto the world wide web could be tamed by ranking search results according to their popularity" (Hooker, 2016). Google takes risks to push forward. Google strives to "organize the world's information and make it universally accessible and useful" so much so that they bring it into their organizational structure (Oppong, 2015). Google uses open lines of communication, which becomes an area for creativity and new ideas to share. Google's ability to diversify its revenue streams increases the company's sustainable competitive advantage. Google has managed to maintain its competitive edge and shows no signs of losing its foothold in the near future. This research is significant because Google's competitors may obtain additional information to level the playing field, thereby dethroning Google superiority in the market.

Author Contributions

Katherine Custer, Anna Johnson, Jesse Loyd, and Joshua Pettijohn contributed to the base research; Dr. Daryl Green, Heidi O'Donnell, and Dr. Xan Polk contributed to the secondary, detailed research and analysis for final publication.

Conflict of Interest

None.

References

Associated Press. 2020. Plummeting digital ad market may complicate life for Google, Facebook. MarketWatch. Available at: https://www.marketwatch.com/story/as-demand-for-digital-advertising-plummets-google-and-facebook-could-have-shrinking-revenues-2020-04-28. Accessed March 2, 2020.

Bendor-Samuel P. 2017. Advertising agencies hit with new competitive threat. Blog. Available at: https://www.forbes.com/sites/peterbendorsamuel/2017/04/25/advertising-agencies-hit-with-new-competitive-threat/#6267dc2f2592

 https://doi.org/10.18639/MERJ.2020.1109923

Budanovic N. 2019. The internet statistics that matter in 2020 and beyond. DataProt. Available at: https://dataprot.net/statistics/internet-statistics/

Christensen C, Raynor M, McDonald R. 2015. What is disruptive innovation? Harvard Business Review. Available at: https://hbr.org/2015/12/what-is-disruptive-innovation

Clement J. 2020. Search engine market share worldwide 2019. Statista. Available at: https://www.statista.com/statistics/216573/worldwide-market-share-of-search-engines/

Faktor S. 2013. Deconstructing Google's strategy: Will Google eat your business next? Available at: https://www.forbes.com/sites/stevefaktor/2013/05/23/featuredeconstructing-googlersquos-strategy-will-google-eat-your-business-next/#4ee379da774b

Forbes Agency Council. 2017. How Google came to dominate search and what the future hold. Blog. Available at: https://www.forbes.com/sites/forbesagencycouncil/2017/06/05/how-google-came-to-dominate-search-and-what-the-future-holds/#3d4b63613872

Green D, Taylor G, Ford V. 2020. Cultivating the entrepreneurial mindset in today's small liberal colleges and universities. Journal of Entrepreneurship 4(1): 14-26.

Hooker L. 2016. How did Google become the world's most valuable company? Available at: https://www.bbc.com/news/business-35460398

Interactive Advertising Bureau. 2019. Digital advertising revenues rise to $26.2 billion in q3 2018, up 22% year-over-year, according to IAB. Business Wire. Available at: https://ezproxy.king.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bwh&AN=bizwire.c87995640&scope=site

Kerin R, Hartley S. 2019. Marketing (14th ed.). McGraw-Hill Education: Dubuque, IA.

Koetsier J. 2018. Report: Google captures nearly 80% of all retail search ad spend. Forbes. Available at: https://www.forbes.com/sites/johnkoetsier/2018/03/09/report-google-captures-nearly-80-of-all-retail-search-ad-spend/#478a46836c38

Krause R. 2018. Google earnings boom on investment gain, but traffic costs boom too. Investors Business Daily, 18. Available at: https://ezproxy.king.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bwh&AN=129258622&scope=site

Ladd B. 2019. Google will never be a threat to Amazon's retail business without a major change to its strategy. Blog. Available at: https://www.forbes.com/sites/brittainladd/2019/01/27/google-will-never-be-a-threat-to-amazon-without-a-major-change-to-its-strategy/#22345dee192e

Lucidchart Content Team. 2018. How to define strategy using porter's five forces. Available at: https://www.lucidchart.com/blog/what-is-strategy

Manyika J. 2013. The impact of disruptive technology: A conversation with Eric Schmidt. Retrieved from Mckinsey & Company:https://www.mckinsey.com/industries/technology-media-and-telecommunications/our-insights/the-impact-of-disruptive-technology-a-conversation-with-eric-schmidt

McGinnis T. 2018. 6 undeniable benefits of Google Ads. Inbound Marketing Agency St. Cloud, MN | Demand Results. Available at: https://www.leightoninteractive.com/blog/benefits-of-google-ads

Novack M. 2014. Google was originally called backrub. Available at: https://gizmodo.com/the-evolution-of-googles-iconic-logo-1582297667/1605435217

Oppong T. 2015. Innovate or die: Googles' 8 innovative principles. Blog. Available at: https://medium.com/@alltopstartups/innovate-or-die-google-s-8-innovation-principles-b5fef5ba13f7

O'Reilly C, Binns AJM. 2019. The three stages of disruptive innovation: Idea generation, incubation, and scaling. California Management Review 61(3): 49-71.

Peavler R. 2019. A beginner's guide to mergers and acquisitions. The Balance. Small Business. Available at: https://www.thebalancesmb.com/why-do-companies-merge-mergers-and-acquisitions-explained-392847

Reyna A, Martín C, Chen J, Soler E, Díaz M. 2018. On blockchain and its integration with IoT, challenges and opportunities. Future Generation Computer Systems 88: 173-190. doi:10.1016/j.future.2018.05.046

Rodriguez A. 2018. It's not all about advertising at alphabet anymore. Quartz Article, Available at: https://ads.google.com/start/how-it-works/qz.com/1334369/alphabet-q2-2018-earnings-google-is-more-than-just-advertising-now/

Routley N. 2019. Ranking the top 100 websites in the world. Visual Capitalist. Available at: https://www.visualcapitalist.com/ranking-the-top-100-websites-in-the-world/. Accessed February 21, 2020.

Seo A. 2019. How many Google searches per day on average? Available at: https://ardorseo.com/blog/how-many-google-searches-per-day-2018/

Shah A. 2018. Smart home industry set for explosive growth in 2019. ValueWalk, Article. Available at: www.valuewalk.com/2018/12/smart-home-industry/

Skyler H. 2018. Google's organizational structure. Bizfluent. Available at: https://bizfluent.com/about-6692920-google-s-organizational-structure.html

Smithson N. 2018. Google's organizational structure & its characteristics (an analysis). Case Study. Available at: http://panmore.com/google-organizational-structure-characteristics-analysis

Southern M. 2018. Google's share of search Ad market projected to grow to 80% by 2019. Search Engine Journal. Available at: www.searchenginejournal.com/googles-share-search-ad-market-projected-grow-80-2019/189993/#close

Straw J, Baxter M. 2015. Disrupted everything: How Google will change our world. Available at: https://www.computerweekly.com/opinion/Disrupted-everything-How-Google-will-change-our-world

Sustaining Innovation vs. Disruptive Innovation. 2017. Campbellsville University. Available at: https://online.campbellsville.edu/business/sustaining-innovation-vs-disruptive-innovation/

Thompson S. 2018. Google's business leadership and organizational structure. Available at: https://smallbusiness.chron.com/googles-business-leadership-organizational-culture-58108.html

Vynck GD 2019. Google to buy Fitbit for $2.1 billion to boost hardware. Bloomberg. Available at: https://ezproxy.king.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bsh&AN=139436484&scope=site

Wan T. 2019. Google makes a rare education technology acquisition. Education Digest 84(7): 63-64.

Webster V, Webster M. 2019. How to use SWOT analysis – a perfect SWOT analysis example. Blog. Available at: https://www.leadershipthoughts.com/how-to-use-a-swot-analysis/

AUTOBIOGRAPHICAL NOTES

Dr Daryl D Green is an Associate Professor in the College of Business at Oklahoma Baptist University. He is a former US Department of Energy program manager with over 25 years of professional management experience. He is a nationally syndicated columnist, where he writes in the areas of leadership, decision-making, and culture. He has earned a doctoral degree in strategic leadership from Regent University.

Katherine Custer is an MBA student at Oklahoma Baptist University (OBU) in business administration. She received her BA from OBU last spring and is currently finishing her last season of college basketball at OBU. She has plans of pursuing marketing after completion of her MBA.

Anna Johnson is an MBA student at Oklahoma Baptist University in transformational business. She received her BA from Kentucky Christian University in 2010 and is currently working in the metals industry with a focus on supply chain management.

Jesse Loyd is an MBA student at Oklahoma Baptist University. He graduated from the University of Arkansas in 2008 with a BSc in education. Currently, Jesse works for Walmart Corporate in the Risk Management department as a liability case manager.

Joshua Pettijohn is an MBA student at Oklahoma Baptist University. He graduated from OBU in 2018 with a BBM, and he also was captain of the football team. Josh currently works for Kraft Heinz food group, which is a part of the AWG retail sales team.

Dr Xanshunta L Polk is an Associate Professor in the School of Business, Economics, and Technology at King University. She has over 15 years of professional management and marketing experience. Her research focuses on consumer behavior, marketing management, innovation, corporate social responsibility, and persuasive communication. Her work has been published in peer-reviewed academic journals. Dr Polk has a doctoral degree in marketing and an advanced professional graduate business certificate in management from Argosy University.

Heidi O'Donnell is a military veteran with a proven track record of leadership, business acumen, and community service. She is currently a DBA student with a concentration in strategic leadership at Liberty University. Heidi works as a project manager for a government contractor in Oak Ridge, Tennessee.