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Google - an Analysis of One of the Largest Technology Innovation Companies in the World

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Abstract

Google limited liability company (LLC) is a well-known global company with many talent leaders. As we know some technology companies didn't go well. However, it doesn't happen to Google, a level of growth still can count as one of the fastest growth rates worldwide. For the search engine, Google.com is the most visited website in the world. Not only search engines, Google also owns YouTube and Blogger, which are such popular websites nowadays. Google is one of the most valuable brands, which is ranked by Forbes and Interbrand. There are several other services and products of Google that Google provides to meet the demands of consumers globally. The objective of this study is to know and understand the process of the analysis from all of the strategies. Our group selected Google as a case study due to the above reasons. The main strategies that we have used to analyze are as follows: SWOT analysis, Three levels strategy, The strategic map, Porter's five forces, Strategic group analysis, Resources and Capabilities analysis, VRIS analysis, Value Chain analysis, BCG matrix and Porter's Diamond model. All the conclusions have been shown in each analysis.

Keyword :

Google, SWOT analysis, Three levels strategy, The strategic map, Porter's five forces, Strategic group analysis, Resources and Capabilities analysis, VRIS analysis, Value Chain analysis, BCG matrix and Porter's Diamond model.

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1. Introduction

Google LLC or before is Google Inc. (1998–2017), an American company that is most commonly known as a search engine. Its headquarters are in Mountain View Mountain, California. Google handles more than 70% of all global online search requests, which create an impression on internet users. This company also started with an online search firm and after that other products and services have been developed continuously which are online documents, E-mail, mobile phone, etc.

Sergey Brin and Larry Page have been friends since studying at Stanford University. They cooperated to develop Google and it was launched in 1998. The Google's story begins with

both interested in the concept of extracting meaning from the massive amounts of data collected on the Internet and developed BackRub, a new type of search technology. In mid-1998, Brin and Page received outside funding and formed a company in Menlo Park, California, called Google. This name was a misunderstanding of Page's initial planned name googol.

To manage the massive amount of data, therefore, Google constructed 11 data centers around the world, each of them containing several hundred thousand servers.

In 2001, due to the rapid growth of Google causing internal management problems, the company decided to hire Eric Schmidt as the company's chairman and chief executive officer (CEO). During the reign of Schmidt, Brin was the president of technology and Page was the president of products. The corporation was run as a "triumvirate" by the three of them. In 2015, Alphabet Inc. became a mother company which provides a subsidiary to Google. Moreover, Sundar Pichai, Google's new CEO, is a senior vice president of products. In 2017, Alphabet restructured again, this time to make Google a limited-liability corporation (LLC). Both Brin and Page stepped down as president and CEO of Google in 2019, respectively. However, they are still on the Alphabet board of directors and Pichai became CEO of the company (Hosch, 2021).

Products and Services

Google's product and services can be classified into (Google, 2021):

1. Search engine

Google provides the information that the users desire through the use of keywords and operators.

2. Advertising

The majority of Google revenues come from advertising. This includes digital content products on Google and YouTube, Android, and Google Cloud offering.

3. Consumer services

3.1 Web-based services

-For example, G-mail, Google Map, Google Drive, Google Translate, and Youtube etc.

3.2 Software

-The Android mobile operating system was developed by Google, as well as its smartwatch, television, car, and Internet of things. Moreover, It has Google Chrome as a web browser.

3.3 Hardware

-For example, Google Cardboard for the virtual reality (VR) media, and Nest is a voice assistant smart speaker.

4. Enterprise services

-For example, Google Workspace is a monthly subscription for organizations and businesses to access Google services.

5. Internet services

-The Google Fiber, an ultra-high-speed broadband network.



2. SWOT Analysis

2.1 Strengths

- Market leader in Online-Search (in 2020, Market share of ~86 % in desktop searches worldwide) → next competitor: Bing with ~ 6 % → very strong position
- 2nd place in value of brands after Apple (according to Forbes) = \$207 Billion in 2019
- Huge capacities → 40.000 searches per second processed
- Rich of capital (\$161.86 Billion (2019) revenue)
- Rapid growth: in 2001 < 300 employees, by end of 2019 ~ 120.000
- Adaptability: always new innovations → Gpay, Google Lens, etc.

2.2 Weaknesses

- Privacy problems: many critics that Google does not work very transparent → in Europe, Google fined 56 million Dollars for violating online privacy rules
- Dependance on advertisement: in 2019, ~84% of revenue made by advertisement
- Unfair practices: Google makes it difficult for new market entrants to grow or even enter
- Failed business models: e.g. social media attempts like Google Plus and Shoelace

2.3 Opportunities

There are four domains that could lead to the potential growth of Google.

- Cloud storage

Because it is costly for companies to establish their own storage facilities, many companies gradually tend to rent space that is provided by the cloud storage company. The market research shows that the demand for cloud storage will increase by 20% annually from 2020 to 2026.

- HPC(High-performance computing)

When companies store their data in the data center, cloud companies will offer them several selections of plans. Helping them by providing numerous data that could be transformed into useful and valuable information.

- IOT(Internet of thing)

Through the development of the android system in the last decade,

Google successfully integrated their system into people's daily lives. Android has almost 70% market share in the mobile device market which can bring it huge business opportunities. For instance, google home is highly connected with the android system, hence, lots of families would choose google to establish smart systems for their homes.

- Waymo - Self-driving car

As in the car industry, it has gone through a dramatic transition in recent years. Not only the transformation of power source from fossil to electricity but also making it more intelligent.

The self-driving car system is now at the growth part of the product life cycle. Waymo is a subsidiary of Google which is the leader in the innovation of the self-driving domain. In the future, it will be able to export the sensor and software to car companies.

2.4 Threats

Both the government of Europe and the US launched strict regulations to protect human rights.

- Antitrust law

The tech giants are using their market power to influence rule and pricing, however, sometimes it may hurt innovation and even country welfare. Therefore, governments have been formulating laws to restrict their power in recent years.

- Data privacy law

Several states in the US have already or are planning to formulate a data privacy law, which prohibits companies from misusing the data they collect from their user or customer. When similar laws have been set in different aspects, Google will have to increase the compliance cost.



Figure 1: The summary of SWOT

Source: Own illustration

2.5 Summary

2.5.1 Strengths: Google is a leader of the search-engine market. Besides Google is one of the most valuable brands, which is ranked by Forbes and Interbrand. Google also considered a level of growth as the fastest growth rates globally. In addition, Google places itself as continuous innovation because Google always creates new innovations such as android technologies, self-driving cars, mobile and wearable devices.

2.5.2 Weaknesses: Google has some problem in privacy problems because Google doesn't work transparently. And Google's revenue approximately 84% is from advertisement, which means Google heavily relies on advertisement and macroeconomic conditions. Moreover, Google unfairly prevents new players that try to enter or grow in this industry.

2.5.3 Opportunities: Nowadays many companies tend to rent the space (cloud storage) which is provided by Google. With high-performance computing, Google integrated their system into people's daily lives successfully. Google has a huge business opportunity due to Google holding around 70% market share in the mobile device market. Recently, Google took part in the car industry to create a self-driving domain. In the future, Google may be able to export the sensor and software to car companies.

2.5.4 Threats: Due to the market power of tech giants nowadays, they can use it as a tool to influence the rule and pricing, so that the governments have been formulating laws to restrict their power called “Antitrust law”. In addition, because of the data privacy law, the compliance cost of Google will have to increase.



3. Three Levels Strategy

3.1 Corporate Level Strategy

Google has the intensive growth strategies to support and keep its position as one of the most powerful brands in the world. It can be divided as follows (Thompson, 2019):

3.1.1 Market Penetration

Google utilizes market penetration as a primary strategy because the company wants to acquire more consumers, especially the market outside the United States. In the United States, the company occupies a leading position in the technology industry. In contrast with other countries, Google encounters local companies that provide similar products and services. For instance, Google competes with Baidu from China or Yandex from Russia. Therefore, market penetration is very important for Google to help the company gain more market share.

3.1.2 Product Development

Google is a technology and innovation company. In other words, innovation is the main idea of the company. Thus, product development is used as a secondary strategy to develop Google's products to make more profits. For example, Google launched new products like Pixel smartphones, cloud services, mobile apps, etc.

3.1.3 Market Development

Google also utilizes market development to attract customers in new market sectors by reinventing existing products, such as introducing cloud services for application programmers. Moreover, the other reason that the company utilizes this strategy is because the company wants to spread products to more areas around the world.

3.1.4 Diversification

To achieve the growth, Google seeks new businesses, particularly, in other markets or industries where the company has not operated yet. For example, in 2006, Google purchased YouTube to establish itself as a giant video platform. Furthermore, Google can easily expand the online advertising in YouTube as well.

3.2 Business Unit Level Strategy

Overview:

- In 2015, Google Inc. decided to create new structure for business units.
- New structure had one basic element → Alphabet as the “parent company” and Google as the biggest “daughter company”.
- Main reason for that: work more efficiently, more independently and faster in each business unit → The revised structure of Google allows the company to focus on new ideas and projects without detracting from its core successes.
- Nowadays: Alphabet = huge corporation including different parts such as internet-beaming hot air balloons, self-driving cars, Google Cloud and obviously the well-known Google itself.
- Examples for companies of Alphabet:
 - X(Google X): The department focuses on high-risk, high-reward projects investment. Play a role like an incubator, helping a lot of projects to be executed. For example, Verily and Waymo.
 - Google Fiber: offers extremely fast high-speed internet, TV, and phone service. It's billed as an alternative to traditional cable companies.
 - Verily: healthcare and disease prevention research, focusing on identifying diseases and improving user experience for patients.
 - CapitalG: Alphabet's growth equity investment fund, investing in startups like AirBnb or Glassdoor.
 - Waymo: Alphabet's self-driving car project.
 - Google.
- All of Alphabet's "traditional" products — like Chrome, the Pixel phone, Google Home, and Google Play — are still housed under Google, which is run by CEO Sundar Pichai.
- Examples for companies “under” Google:
 - ATAP (Advanced Technology and Projects): projects like Jacquard, which makes smart fabric; Soli, which uses radar for touchless gesture control; and Spotlight Stories, which creates short VR films.
 - Google Cloud: Google's cloud-computing platform that competes with Amazon Web Services and Microsoft Azure.
 - Youtube: world's No. 1 video-sharing site and the No. 2 most-visited site on the web.
 - Android: Google's mobile operating system.

Business Unit Strategy of Google

- Google:
 - As mentioned above: Diversification → but actually did not only diversify by developing original Internet-related products and services.
 - **Acquisition** has always been a notable business strategy of Google.
 - As mentioned above: Youtube → USD 1.65 billion stock deal to acquire YouTube in 2006.
 - SkyBox Imaging in June 2014 at USD 500 million to obtain its satellite technology and improve the accuracy and clarity of Google Maps.
 - Another acquisition was DoubleClick for 3.1 billion USD in 2007 to extend their online advertising.
 - Fitbit: The biggest item that Google acquired recently. Fitbit is the world top five wearable fitness device manufacturers. Google wants to increase the market share of wearable devices and enter the healthcare market through merge Fitbit.
 - **Monopolistic Revenue Strategy:**
 - Center piece = online advertising (> 90 % of revenues come from online advertising) → Due to this revenue strategy, all business units of Google can be kept “alive”.
 - Adverts sent out via search engine, but also in other business units (Youtube and other possibilities to include ads, e.g. in Apps → B2B to app developers).
 - **Strength and Profit Maximization by Industry Interdependence:**
 - Creation of interdependence via vertical Integration → e.g. dominance of Google Search → whole system built which relies on all Google products → Ecosystem created within all Google products / all business units.
 - Android other example → only usable with Google services → standard apps from Google → e.g. uncommon to download other Mapping apps (instead of Google Maps).

3.3 Functional Level Strategy

3.3.1 Operation Strategy

Operation Strategy: Google creates many special and unique products and services to meet the demands of consumers globally. Besides, Google offers products and services for free such as Google docs, Google map, Google earth, Picasa etc. By offering such free products and services, Google can easily gain loyalty from the

customer. With a high efficiency, speed and innovative nature of the search-engines, all of those factors can affect the value that concerns consumers.

3.3.2 Marketing Strategy

Google's marketing can be called as self-advertise. When consumers use their device and internet, they will automatically use Google due to it's a well-known brand. The more Google tries to maintain their efficiency, The more customers still use Google's products and services that make them no need to plan much about the advertisement. This can be called "perpetual marketing". Every time that Google launches a new product or makes a minor adjustment on their services or product then announce, that is their form of advertising. Thus, all funds could go directly to R&D instead of marketing.

3.3.3 R&D Strategy

Google has more than 450,000 servers that are located in more than 25 locations. With a free offering of so many kinds of products and services, Google can use this as an advantage in further research that easily gains the data and it also increases loyalty from the consumers. Nowadays, many companies are interested in wearable devices like smart watches that can easily access the internet. Recently, Google is also working on wearable devices, which is a Google glasses, that device will increase access to Google services. Besides, Google participated in the car industry to create a self-driving car called "waymo" and introduce the friendly internet access in the car. For the above reasons, we considered Google is a pro-technology company and they place itself as a continuous innovation.

3.3.4 Financial Strategy

The revenue of Google comes from two majors, one is internet media and second, is application software. However, approximately 95% still comes from the search-engine. Google also has other kinds of products and services such as

- Google Android and Chrome operating systems.
- Google search: Web search, Google earth, Google scholar, Google finance, image search and so on
- Google Ads: AdWords, AdSense, Analytics etc.
- Google Apps: Google voice, Google translate, Google Talk, Google Docs and Gmail etc.
- Enterprise: Google earth for enterprise, Google search appliance and Sketch up.

3.3.5 Human Resource Strategy

The main potentiality that Google considers is "People". Google emphasizes smartness and excellence in staff because Google thinks that with smart people, it can maintain the quality of their progress and stature. Google doesn't care about the job experience that much, they prefer smart people who think outside the box and innovative employees. In order to keep the talented staff, they offer a high compensation, which are high salaries and incentives. For the incentives, Google provides training programs, classes, transportation, gym access, travel benefits, meals and snacks.

3.4 Summary

"Keeping the existing businesses growing, daring to invest in the potential market."

Google adopts this strategy through all levels of the company. Although Google ads brought lots of revenue to Google, they didn't satisfy the status quo. They are willing to give the resource to develop the program which may improve human well-being and bring new growth to Google. If the program successfully becomes a commercial product, it will turn into a subsidiary under Alphabet and generate stable cash flow. At that time, Google can shift the resource to another program, this cycle makes Google's operation sustainable and increasing.

4. Google’s strategic map

A strategy map is a visual representation of an organization’s overall objectives and how they relate to one another. Therefore, in Google case analysis, we divided into four perspectives to form the strategic map as follows:

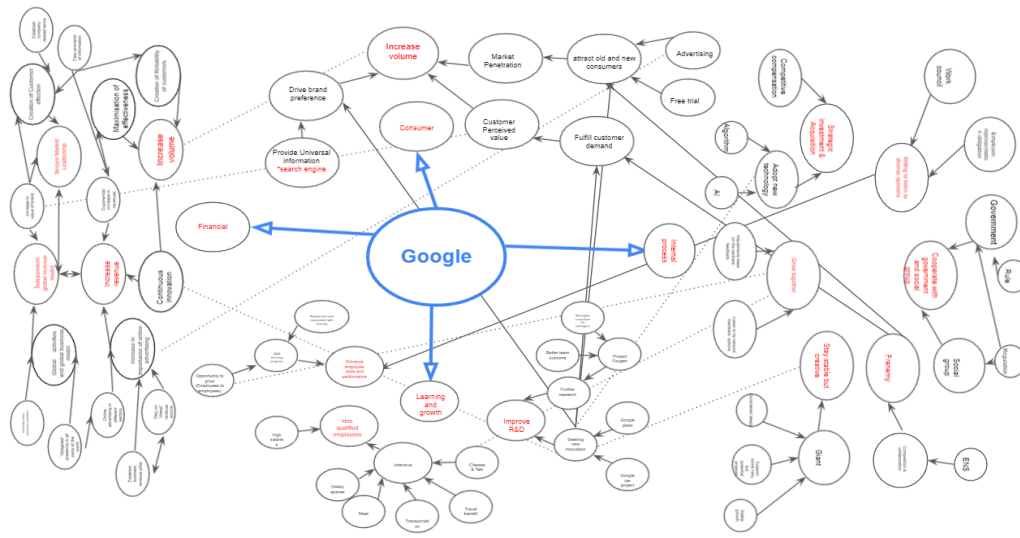


Figure 2: Google’s strategic map

Source: Investopedia (2021) & Own Illustration

4.1 Financial Perspective

In the financial perspective of the strategic map, four main pillars can be found, which need to be evaluated and illustrated. These pillars are the increase in volume, the increase in revenues, securing the market leadership and an independent global revenue model.

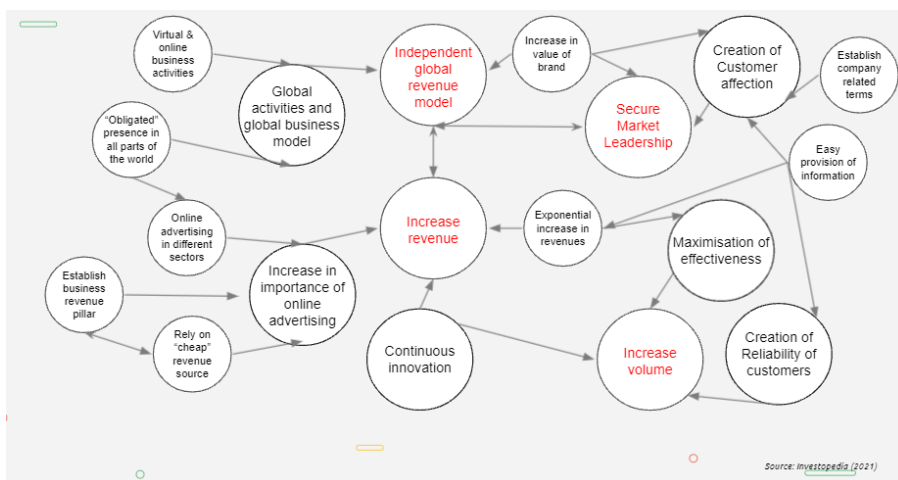


Figure 3 : Financial Perspective Strategic Map

Source: Investopedia (2021)

4.1.1 Increase Volume:

- Strategy to increase their volume: more efficiency and reliability of their customers.
- Efficiency and reliability are both created due to a network of their products → Example: Android cell phone needs Google account, Google products preinstalled, Google Services more likely to be used.
- Actual challenge - keeping the market leader position in their business model with other competitors like Bing or Ecosia → Ecosia as a user of the sustainability trend, which were able to increase their market share in the last years.
- Google has been able to increase their revenues exponentially between 2001 and 2020 → exponential increase in volume of advertisements.

4.1.2 Increase revenue:

- Exponential increase in volume for Google means exponential increase in revenue (due to scalable effects in their business model).
- Main source of revenue: online advertising (>90 %).
- Importance of online advertising visible → Online advertising is a relatively “cheap” revenue source for Google → they can focus on continuous innovation in their other business units.
- Online advertising is offered in different business units / sectors of the company.

4.1.3 Independent (& interdependent) global revenue model:

- Interdependence due to mentioned reliability of customers on different Google products.
- Independence due to virtual presence of offerings → no physical products needed → Global presence can easily be achieved and a global business model can be created.
- Presence in all parts of the world nowadays predetermined → Android and Google Services preinstalled in many cell phone providers → cell phones sold in all parts of the world.
- Consequence: value of the brand (for shareholders and stakeholders) rises due to the global presence → experienced and monetary value of the brand rises.

4.1.4 Secure market leadership:

- Increase in value of the brand automatically leads to a higher probability of keeping the market leadership.

- Automatic creation of customer affection leads to more sales, which leads to more revenues and higher profit.
- Company related terms such as “to google” for searching something on the internet are already present in daily language use → Customer affection rises again.
- If revenues of the companies are high → one of the main goals of Google, the easy provision of information to their customers can be reached easily → will eventually lead to more customer affection (circulation of goals and reasons for strategy) → = one of the main reasons for the high market entry barriers for competitors.

4.2 Customer Perspective

Not only is “increase volume” an activity from a financial perspective, but it is also related to the customer perspective. In other words, “increase volume” involves increasing the quantity of the product available for sale to the customers or increasing advertising and helping increase revenue.

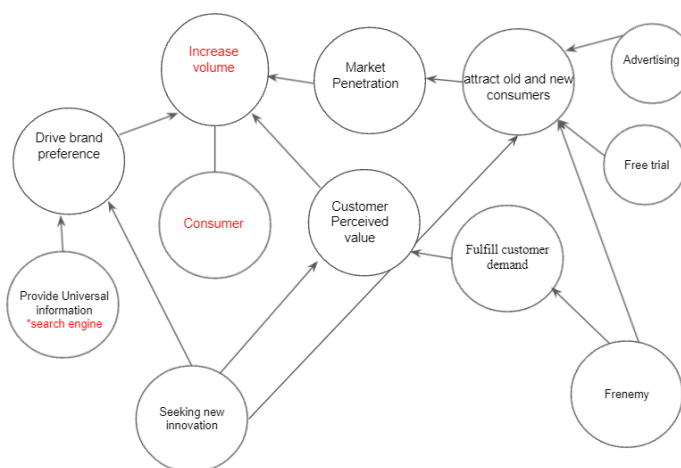


Figure 4 : Customer Perspective Strategic Map

Source: Own illustration

Therefore, the activities that affect increase volume of product can be divided as follows:

4.2.1 Drive brand preference to customer

Brand preference refers to consumers who tend to utilize Google's products instead of the competitors. The benefit of brand preference can help the company gain more revenue, market share, and competitive advantage when compared to

competitors.

Google is a huge company that performs a lot of things. Almost Consumers perceive Google as a search engine, advertising company and various products. In terms of the main products like search engines, Google has the main competitors such as Bing, Yandex etc. However, Google's customers are still loyal and prefer Google because it provides easy access to a broad range of information from a wide variety of sources.

4.2.2 Market penetration

One of Google's goals is to gain more market share, especially in the online advertising market. Google advertising and brand communication through the website search engine is mainly done to attract new and old customers. When customers are satisfied, it becomes word-of-mouth advertising. Google also offers a free trial of products as well. It is considered to encourage customers to continuously try it. In some countries, advertising is available through print, radio, and billboards introducing new products and services.

4.2.3 Customer perceived value

Customers recognize the products' ability to satisfy and meet their needs, which is referred to as customer perceived value. For example, Google announced a customer service initiative that increased customer satisfaction scores from 44% to up to 90%.

4.3 Internal Processes Perspective

This graph shows how the strategies Google adopted to improve the internal process more efficiently. We'll divide it into six parts, including Cooperate with government and social groups, Frenemy, Grow together, Stay stable but creative, Strategic investment & Acquisition and Willing to listen to diverse opinions and we'll explain them later, respectively.

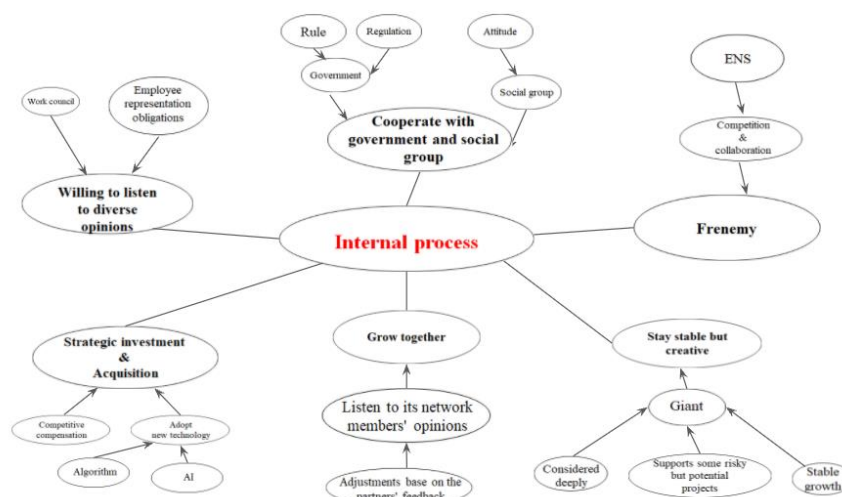


Figure 5 : Internal Processes Perspective Strategic Map

Source: Own Illustration

4.3.1 Cooperate with government and social group

Because Google is so large that it has huge influence, the government will establish some regulations or rules to constrain it. However, these constraints may reduce Google's competitiveness. Hence, negotiating and compromising with the government and other social groups previously are the important activities to Google. It could let employees from Google know how the government and groups' attitude is and how to adjust their strategy and service more appropriately and efficiently.

4.3.2 Frenemy (friend + enemy)

There is no permanent enemy. Sometimes, competition and collaboration can exist at the same time, which can bring a greater transformation than doing it individually. For instance, Google cooperated with Apple in 2020. They launched an Exposure Notifications System(ENS) and it helped the global community a lot. If there were only Google at that time, it couldn't have developed immediately. So, temporally forgetting about competition and turning it to cooperation can enhance internal research ability.

4.3.3 Stay stable but creative

Although some arguments have arisen since Sundar Pichai became CEO of Google, part of the board was concerned that his policy decision was too long and conservative. But Google is an (industrial) Giant, any decision or strategy should be considered deeply. Hence, we think that he adopted a suitable strategy and led Google

to a more stable growth phase. Actually, in all fairness, Pichai still supports some risky but potential projects, by continuously investing in those projects that let Google make the world better.

4.3.4 Grow together

Google earns its major revenues from advertising. Thus, we can know that only if Google's ad partners or distributors spend more can Google earn more. So, Google will listen to its network members' opinions and make some adjustments based on the partners' feedback. It can let Google react quickly and viably to market change.

4.3.5 Strategic investment & Acquisition

Google views the employees as its important assets. It remains the employees by providing competitive compensation, employee equity incentive programs and other welfare. Furthermore, Google adopted the new technology by acquiring other companies to reduce the employees' workload and pressure. They hope the above policy can increase the happiness from working in Google and decrease the worker turnover rate.

For example, use the algorithm and AI to enhance the search engine computing ability and debug more quickly and efficiently.

4.3.6 Last but not least. Willing to listen to diverse opinions

Google has the work council and statutory employee representation obligations in certain countries. It provides multiple channels and allows the employees to convey their viewpoints. We believe that only a free and open working environment can lead to an innovative product or service. And what Google did made it the lead tech company of the world.

4.4 Learning and Growth Perspective

Google always improves and each year Google will have something new that matches.

Google's mission and vision.

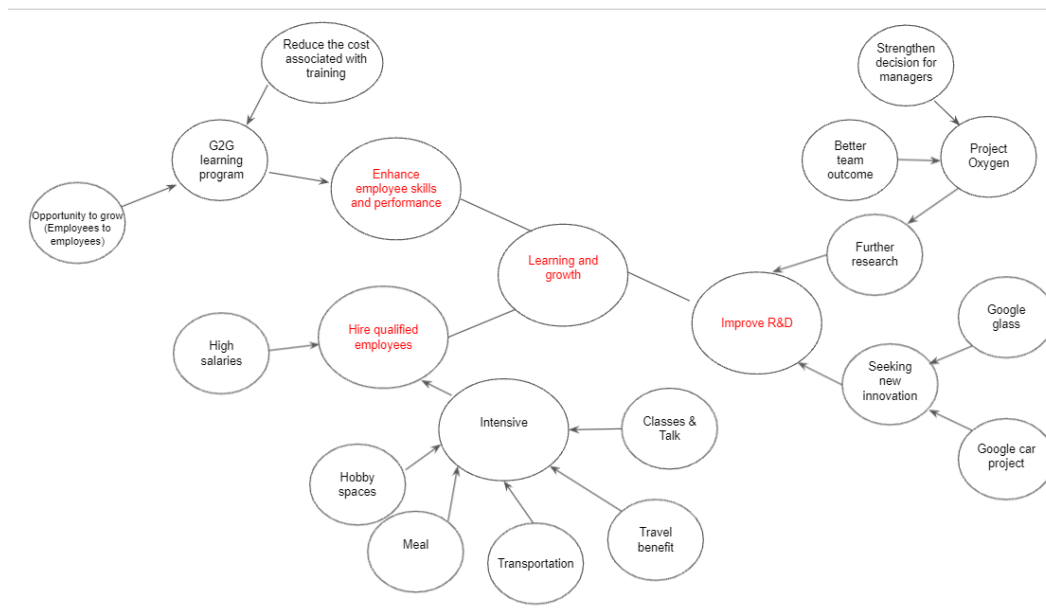


Figure 6 : Learning and growth perspective strategic map

Source: Own illustration

4.4.1 Improve R&D

- **Seeking new innovation**

Due to offering free products and services that can easily gain the data and do the research. Recently, Google is working on wearable devices, which is a Google glasses, that device will increase access to Google services. Besides, Google participated in the car industry to create a self-driving car called "waymo" and introduce the friendly internet access in the car. That makes Google a pro-technology company and they place itself as a continuous innovation.

- **Further research**

Google has found that Google's staff rely on the manager both for decisions and corporate teamwork. From that a researcher in Google had done research and launched a project called "Project Oxygen", to analyze what makes a good decision for the manager. In this research showed eight behaviors and became ten in later to make high performing managers and incorporated it into the manager development programs. The result has shown positive outcomes such as performance, satisfaction and turnover.

4.4.2 Enhance employee skills and performance

Approximately 80% of Google's training programme is "g2g" program or Googler-to-Googler. This learning program gives an opportunity to grow for their employees because this program is taught by employees to employees. More than 6,000 employees become teachers. They can share their knowledge and skills in the

workshops. Google trusts that with the g2g learning program their employees will be smart, efficient, motivated and have the ability to grow the organization's learning culture. Lastly, this learning program can reduce the costs associated with training.

4.4.3 Hire qualified employees.

Because Google's main potential is "People". Google emphasizes smartness and excellence in staff. Google offers a high compensation, which are high salaries and incentives. For the incentives, Google provides training programs, classes, transportation, gym access, travel benefits, meals and snacks.

- Classes: Google provided free classes from both internal and external instructors, there are around thousands classes.

- Talks & Workshops: There are many well-known people from all kinds of industries, who come in to give them a speech and do some workshops.

- Transportation: Google offers shuttles for employees that live near the office everyday.

- Meals & Snacks: 2–3 meals a day depending on the office, fresh food for take-away out off normal serving hours. There are small kitchens in the office, which provide several drinks, snacks and espresso machines.

- Gym Access: There is a great gym near the office. It also provides a shower rooms and towel service. They also have a special price for the massage.

- Travel benefits: Special price for airplane tickets, hotels and car rental including non-corporate travel.

- Hobby spaces: Google provides electronics labs, music rooms, print shops etc.

4.5 Summary

In summary, it can be seen that Google has four main strategic perspectives. These are the following:

- Financial perspective
- Customer perspective
- Internal processes
- Learning and Growth perspective.

All of these strategic perspectives follow one goal - the accomplishment of Google's vision statement: "to provide access to the world's information in one click". As soon as the different parts of the perspectives are fulfilled and targets and subgoals in these perspectives can be reached, it is possible for Google to move towards their main goal, the vision statement. Within each perspective, it is important for Google to reach their subgoals first in order to combine the perspectives. Regarding all the perspectives, several synergies between the perspectives can be identified. Therefore, it is possible to

illustrate the most important subgoals and strategic pillars. These are the following:

- Increase Revenue
- Increase Volume
- Improve R&D
- Strategic Investment / Acquisition.

The strategic pillar of Increasing Volume for instance can be observed both in the financial and the customer perspective. Nevertheless, the subgoals within each perspective differ from each other. From the customer perspective, a subgoal to reach an increase in volume is the creation of customer value, which is important for the goal to increase volume, but is not a subgoal for the financial perspective of increasing volume.

In conclusion, it can be illustrated that all of the most important strategic pillars focus on growth of Google as a company, both in an internal, but also in an external way. More precisely, this means that both their market leader position in several areas such as search engines or online advertisement, but also their innovation and investment in other product areas lead to their goal of their vision statement.



5. Porter's Five Forces

5.1 Google Search's Main Competitors

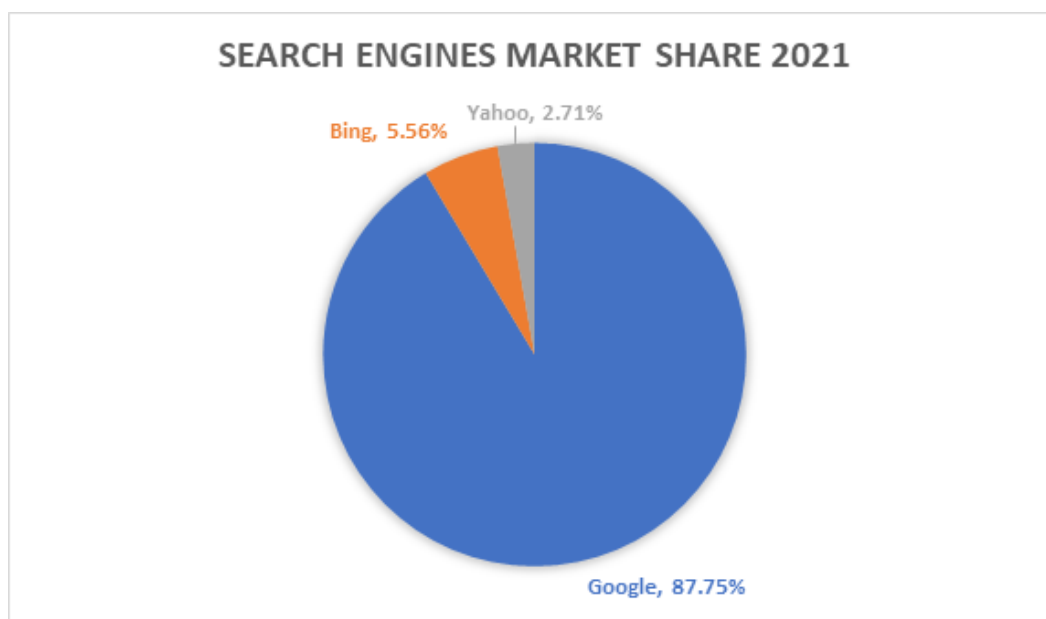


Figure 7 : Search Engine Market Share 2021

Source: The Investopedia team. & Suzanne, K. (2021). Who Are Google's Main Competitors? Retrieved from: <https://www.investopedia.com/ask/answers/120314/who-are-googles-goog-main-competitors.asp>

In the search-engine market, Google is the most famous and biggest search-engine in globalization. Google holds almost 87.75% of the volume and search-engine market in 2021. The major competitor of Google is Microsoft Bing, the second biggest search-engine with 5.56% then Yahoo consequently around 2.71%.

Microsoft Bing is the second biggest search-engine with approximately 5% of search-engine market share. Bing was launched by Microsoft in 2005. Due to the percent of search-engine market share, we can't consider Bing as a core competitor of Google. However, Bing is still an alternative search-engine for those who want to try the various kinds of search-engine because Bing still provides an easy search result similar to Google such as pictures, videos, locations, news and maps.

Yahoo is the third biggest search-engine with around 2-3% of search-engine market share. Yahoo is still on the list of famous search-engine. In the past Yahoo was the most popular one, but Yahoo was lost by Google over the years. From the search-engine market share, we can consider Yahoo as a main competitor of Microsoft Bing.

Due to Google being banned from China, Majority of Chinese people use Baidu as a main search-engine. Baidu in China, even though it holds approximately 80% of

the market share in China, but if compared with the global, it holds just only 1% of the market share globally. Besides, the eastern countries use Yandex as a major search-engine. Yandex is a very famous search-engine in Russia with more than 60% of the market share in Russia. But it holds only 1% of the market share worldwide.

5.2 Google's Other Main Competitors

Advertising:

- Facebook: forming a “quasi-duopoly” in online advertisement together with Google
 - Google's market share for digital ad dollars spent: 37,2 % (2019)
 - Facebook's market share for digital ad dollars spent: 22,1 % (2019)
- Amazon: a rising star in online advertising is Amazon → the larger Amazon grows, the larger their share in online advertising gets → main difference: product advertisement instead of general advertisement.

Video-Sharing:

- TikTok: main competitor for YouTube (even though different offers)
 - in 2017, TikTok had 130 million downloads worldwide // in 2018, TikTok already had 660 million downloads worldwide
 - Unpredictable future → youth more focussed on short-term clips in TikTok rather than “proper” videos?
- Instagram: higher market share than YouTube
 - Important: YouTube not “typical” Social media interaction → IGTV as a direct competition to YouTube

Smartphones:

- Apple: market share of >20% in Smartphone Sales:
 - Apple sells ~80 to 100 times more Smartphones than Google (with Google Phones)
 - → Google small player in Smartphone business
 - Nevertheless: Android also sold to other companies → market share of ~75 %
 - Large advantage in Smartphone software (mobile device operating systems)

5.3 Suppliers (Bargaining power of suppliers)

Google needs diversity in their supplier base, as they are active in very diverse areas of products (e.g. Google search, Google Fiber, Google phones, Google car

prototypes, etc.)

The bargaining power of Google's suppliers is weak.

Reasons for weak supplier's bargaining power:

- Large number of potential suppliers (more than 1000 active suppliers in >70 countries)
- Company size of Google's suppliers usually small to medium
- → suppliers usually rely on Google as their main buyer
- Main business is software oriented → common in-house "production"
→ easy for Google to move on from one supplier to another

Based on the above introduction, we can know that the bargaining power of Google's supplier is weak. However, due to technological innovation, there is something different in some areas. So, I want to introduce some examples and exceptions of Google's suppliers.

We can simply divide the Google suppliers into infrastructure and channel suppliers. I think that the telecommunication companies and Algorithm companies have less power. While, green energy, server production and browser suppliers have more bargaining power. Later, we will explain the reason respectively.

Google supplier

1. Infrastructure

- Renewable energy provider

Based on the Corporate Social Responsibility (CSR) Google announced before, Google promised that it would use renewable energy to operate all of its businesses. However, for the purpose of providing fast and accurate search results to the users, Google needs to establish lots of server room. This means a lot of energy is required. So, Google needs to consume green energy in order to meet the needs. Under the limited choices, the green energy providers have more bargaining power compared to Google.

- Server production company

The server works as a data center. It needs to react as soon as possible when the user conducts their search clicks. At the same time, the server is required to be stable and durable at its lifetime. According to the above specification, there aren't many companies that can achieve it. Furthermore, Taiwan's companies, which are based on their unique tech and experience, occupy the main market shares. Including Quanta and Inventec companies. It occupies 50% and 30% respectively. The server market's

demand is much higher than the supply, hence, the bargaining power of the suppliers is stronger than the buyers.

- Telecommunication company

It is hard to establish the server room individually. So, Google sometimes will rent the space from the telecommunication companies to fulfill insufficient needs. Telecommunication companies from different countries were willing to reduce the commission or expense to acquire the contracts from Google. We can know that under this situation. Because Google has multiple-choice, its negotiating power can be enhanced.

- Algorithm company

Search engine efficiency will influence the public desire to use.

How to keep competitive is the thing Google needs to consider.

Google enhanced the engine's index by acquiring other software and intellectual property companies, but it also set up the R&D department to optimize the algorithm and relative computing. Hence, Google wasn't confined to those software companies. The bargaining power of suppliers is in a moderate position.

2. Channel

- Web browser

The browser is like a bridge that connects the electronic devices and the internet, people will search the information on the internet with the browser. To Google search, search volume means potential revenue. If Google wants to increase its profits, one of the easy ways is to maximize its search amount. According to the report from Time magazine, because the APPLE users are more valuable than others, Google paid billions of dollars to Apple annually in order to remain the default search engine. Hence, we can know that Google doesn't have any bargaining power over Apple.

5.4 Buyers (Bargaining power of buyers)

Bargaining power of buyers

Google does not need to decrease the bargaining of buyers. Individual buyer bargaining is still quite low in the case of Google. Smaller businesses or buyers have fewer bargaining power opportunities. The main reason is that a lot of users utilize Google's products and services every day, especially the Google search engines. In other words, the number of buyers is very high. However, one way that can increase the bargaining power of buyers is that buyers should be less than the supplier or sellers but in reality, it is a very small opportunity. Furthermore, Google's products are of various types, and its substitutes are also few in number.

Buyers of Google search

- **A searcher who searches for information and data**

Searchers use search engines to find information and data from online sites, and follow the daily news, etc.

- **Business Advertising**

Search engine optimization (SEO) is used to help businesses achieve a high ranking in search engines by showing text or image ads along with search results. This type of advertising is effective because businesses can easily reach the target customers who will be interested in what they have to offer.

5.5 Potential Entrants

Threat from new entrants: Mild (very low)

We considered a threat from new players as low for Google. We can count the investments of huge technology companies, new ventures and startups as new players for Google, who provide similar products and services to Google. For the external factors of new players, we considered the threat as a moderate to the industry environment and technology business as following:

1. Moderate Force: cost of doing business
2. Weak Force: high cost for develop the brand
3. Strong Force: Company's common ability to meet the regulatory requirements

In this industry, a new player cannot easily compete or win the market share, which Google's holding. If we compare with the size and scale, It will be just the large companies that can compete with Google advertising or cloud such as Apple, Facebook, Microsoft, Amazon etc. Only if the new players have a huge capital investment, which takes a long time because of high competition to gain the market share. To grow in this industry will have to use a lot of money in human capital and brand. Also Google is strongly protecting their leader status and market share. and some are concerned with the laws that prevent the new players, who try to enter this industry. In addition, It's hard to get loyalty from consumers in this industry. All of the above reasons contribute to considering the threat from new players as a low.

5.6 Substitutes (Threat of substitutes)

The threat of substitute products is low to moderate for Google. As mentioned above, Google's products are of various types, and there are a few businesses that provide similar products and services. Moreover, the quality of Google's products are better as compared to its competitors because it has highly innovative technology. The big tech brands are the main threat of a substitute for Google.

In terms of the Google search engine, there are other search engines that can be used. For example, Bing, Yahoo! Search, Baidu, Yandex, etc. The main competitor in search engines is Bing (a Microsoft rebranding), but it still holds a smaller market share than Google's search engine. Moreover, the substitutes for Google search engines can be physical libraries. Nowadays, applications such as Twitter, Instagram, and TikTok, etc., can be used to search for information as well.

Other Google products also have competitors. For instance, in digital advertising, Google has to compete with Facebook. However, Google's share of digital advertising is much larger. Besides, other advertising channels, such as television, radio, etc., are competitors, but nowadays, consumer behavior has changed. Most of them tend to focus on online channels. Therefore, the traditional channels are not the main competitors and the biggest obstacle for Google. In the cloud business, where AWS and Azure provide a wide range of substitute products and have a larger customer base than Google, the threat of substitute products is higher. This is the significant aspect where Google confronts a high threat of substitute products.

5.7 Summary: Industry Profitability

As all of Porter's Five Forces were analyzed until here, it is necessary to create an overview and to investigate Google's overall industry profitability. It needs to be mentioned that even though Google is active in many product segments, an overall industry profitability of Google will be given. Some segments such as the autonomous car driving segment might show a different industry profitability with different forces. This overall industry profitability will give a perspective of Google as a whole company.

The analysis illustrated the following results:

- Bargaining power of buyers – Weak
- Bargaining power of suppliers – Weak
- Competitive rivalry or competition – Moderate to Strong
- Threat of substitutes or substitution – Low to Moderate
- Threat of new entrants or new entry – Moderate

In summary, all of Porter's forces except the force of rivalry and comparison are low or moderate. Therefore, the overall Industry Profitability for Google can be described as high. Moreover, the market position of Google is strong in their industries. Nevertheless, to keep their market leadership position and to hold on to shareholder's satisfaction, they should keep in mind to focus on the moderate to strong force of competition. Companies like Facebook or Amazon have managed to become big players challenging Google in any possible way. Google therefore needs to focus on this force, try to get up with as many innovations as possible and strengthen their market leadership position.

However, we can know that Porter's five force analysis is dynamic. So, It would change based on the situation or timing. From the above analysis, we can realize that Google is a giant in the tech industry, but it focuses on the digital and network area. This means its business is centralized. If Google ignores some trend change or new competitors, its competitiveness will decline immediately and dramatically. There are lots of previous examples. All of them were leaders in the specific field, but a large part of them disappeared from the stage. For instance, Nokia, Kodak and Blockbuster.

We recommend that Google should enhance its existing competitiveness by Porter's analysis, but also diversify the business to reduce the centralized risk.

6. The strategic group analysis

The pie charts below offer a visual summary of the company's revenue mix: In 2020 and 2021 almost 60% of the revenue came from Google search, so our group will focus on the google search.

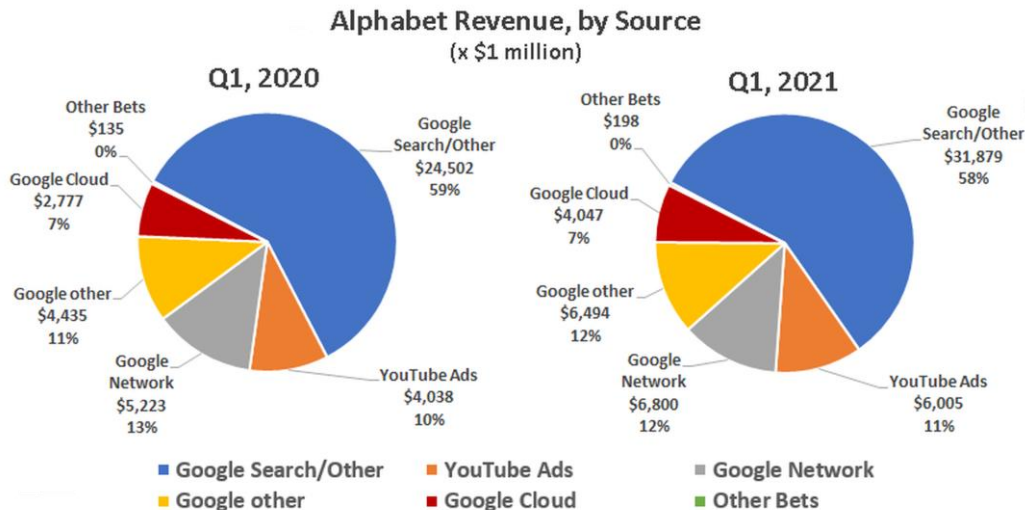


Figure 8: Alphabet Revenue, by Source

Source:

<https://www.fool.com/investing/2021/07/08/this-is-how-alphabet-still-makes-most-of-its-money/>



Figure 9: Google Search's Main Competitors

Source: The Investopedia team. & Suzanne, K. (2021). Who Are Google's Main Competitors?

Retrieved from:

<https://www.investopedia.com/ask/answers/120314/who-are-googles-goog-main-competitors.asp>

The variables

1. User searches per day

- User searches per day can identify the accessibility, which means that each search engine could be considered as a trustworthy resource for finding information on the web.

2. Geographical scope

- Geographical scope can identify the area that each search engine provides the service to the user or which search engine can be used or popular in that area.

6.1 Segmentation and Strategic Groups

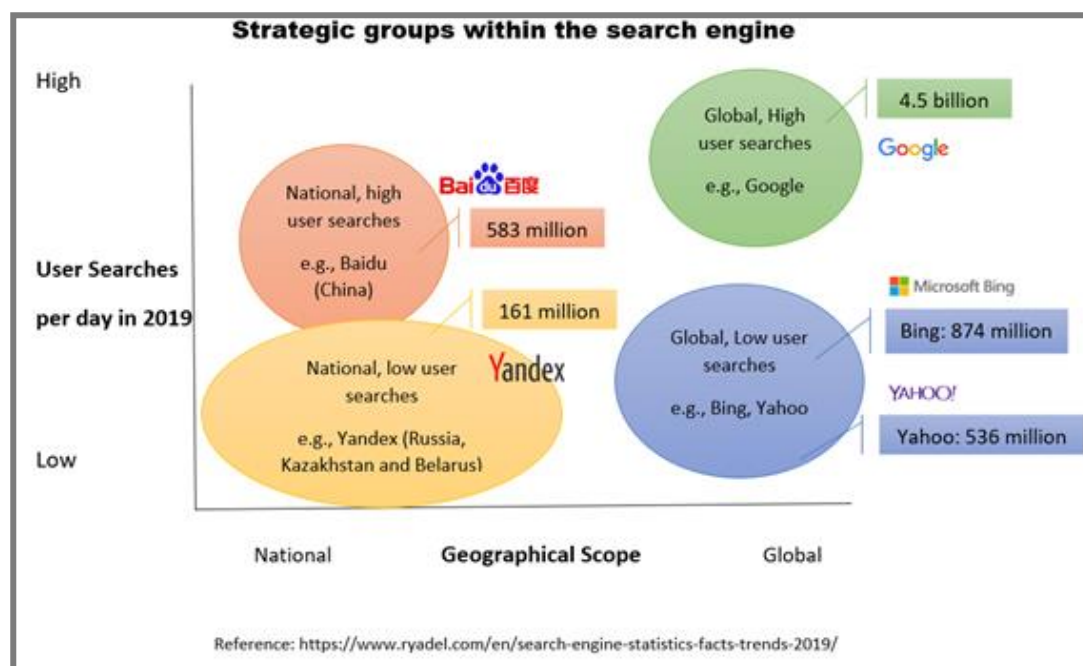


Figure 10: Strategic Groups within The Search Engine

Source: Hameed, A. (2019). Search Engine Statistics, Facts, and Trends for 2019. Retrieved from: <https://www.ryadel.com/en/search-engine-statistics-facts-trends-2019/>

User Searches per day in 2019

Google: 4.5 billion searches per day

Bing: 874 million searches per day

Baidu: 583 million searches per day

Yahoo: 536 million searches per day

Yandex: 161 million searches per day

The variables that we choose is the user searches per day in 2019 and geographical scope to distinguish the search engine firms as following:

1. Global, high user searches: Google.
2. Global, low user searches: Bing, Yahoo.
3. National, low user searches: Baidu in China.
4. National, high user searches: Yandex in Russia, Kazakhstan and Belarus.

6.2 Internal competition clusters

6.2.1 Google (Dominator)

Google occupies 90% of the market share in search engines. With an exception of some political issues in a few countries, Google is available around the world. Google originated from the IE browser's tool, hence, it gained lots of volumes by cooperating with Microsoft. At the same time, Google realized that they over-relied on Microsoft, it decided to develop its own browser - Chrome. After several years of development, Google successfully got rid of IE's control. Google search optimized the algorithm and user interface (UI) to keep users. Finally, Google search became the largest search engine in the world and the rule formulator in the search engine domain.

6.2.2 Bing and Yahoo (Pioneer)

Because Bing and yahoo are the pioneers in the search engine area, they got huge users from the accumulation in the past years. Yahoo announced that it decided to abandon its own engine and changed to Bing in 2009, they continued their cooperation until now. Bing is the default search engine of the Microsoft device, which brings hundreds of millions of potential users annually. However, Bing was criticized for its inefficient and wrong search results in the past, it transformed the structure of software in order to improve the performance. Bing also changed its strategy which emphasized graph search in the establishment of the discrepancy to Google search.

6.2.3 Baidu (Market holder)

Based on the restriction from China's government, the foreign company couldn't operate in this sensitive industry in China. Hence, Baidu faces less competition in China. According to previous policy, Baidu received the fewest supervision that they can adopt some techs to predict the user's needs more correctly. So, its search accuracy rate is higher than others. However, this tech cannot be used in foreign countries, Baidu is only popular in China. It focused on the domestic market and became the third-largest search engine in the world through the huge population in China.

6.2.4 Yandex (Innovative competitor)

Yandex was set up in 1997, one year before Google. It covers areas that include Russia and other Russian speaking countries. Because the grammar of Russian is

complex, it is complicated and time-consuming to get the same result. Yandex adopted machine learning to make the search process rapidly. It also diversified its businesses and made them localized, which let Yandex occupied more than 60% of the Russian market.

We think that keeping the search simple is the reason why Google became the largest search engine in the world. Although some additional or interesting services can attract some users, the main function of the search engine is to help people get useful information. Google does excellently compared to its competitor, hence, its leader position won't be replaced recently.

6.3 Strategies of different clusters

6.3.1 Google

As mentioned above, Google dominates the search landscape and has the largest market share among search engines. The main strength of Google is that it provides the most in-depth information in an easy-to-follow format for the user. It offers many features, such as the featured snippets at the top of the SERPs.

Google uses a strategy called "search engine marketing," or SEM, which uses paid strategies to increase search visibility. In other words, bands pay for ads and it will appear as search results on search engine results pages (SERPs) as mentioned above. Moreover, Google has Google Ads as a search engine marketing platform.

6.3.2 Bing and Yahoo

In comparison to Google's extremely simplistic home search page, Bing provides a considerably more visually attractive version, with links to knowledge websites and news embedded in the background photo. The bottom of the search homepage also has the news update. However, the home page is different from Google but Bing strategy is the same model to Google, which is search engine marketing". Bing platform called Bing Ads.

Yahoo is considered an internet portal, rather than a search engine, Yahoo's internet search and all sources are powered by Bing. In other words, they are essentially the same search engine (including AOL and MSN). In addition, Yahoo uses Yahoo ads as a platform.

However, Google, Bing and Yahoo use the same strategy but google catches more market share and becomes number one in search engines because Google interpreted customer attention more than Bing and Yahoo. Moreover, Google provides more advanced features, and ads services so that it can attract a good number of users as well.

6.3.3 Baidu

Baidu is a search engine in China, which has different algorithms when compared with Google and is designed for Chinese internet users. Due to the differences in user behavior and Baidu's preference, developing a working strategy sometime will work with other marketing channel stakeholders.

Baidu Marketing is similar to Search Engine Marketing (SEM) in Google which has two methods which are PPC and SEO. However, the key difference between baidu and other search engines is that Baidu has a Brand Zone, which allows advertisers to purchase their branded keywords.

6.3.4 Yandex

Google faces the main competitors in other Russian-speaking countries, such as Ukraine, Belarus and Kazakhstan. It is called Yandex. Due to yandex's heavy regional concentration, the search engine prioritizes geo-targeting. Yandex utilizes a variety of algorithms that ensure users are met with high- quality, useful content matching their search intent.

The company's strategy is to analyze which businesses have potential and which foreign countries have started to enter the market. But it still does not meet the needs of local people. Yandex will participate in the competition by adjusting the service model to be simple and in line with consumer behavior. For instance, search engines. Because the company has advantages where the platform can be designed to support the use of the Russian language more accurately and precisely than Google or other search engines. Moreover, Yandex also has a platform for advertising called Yan which is another strategy similar to Google to attract customers to buy the ads.

6.4 Strategic business opportunities

Google's search engine does not provide a large array of strategic business opportunities. According to the strategic cluster, Google already takes a position in a global environment with the largest number of searches per day. It would therefore not be a suitable strategy to fill the "hole in the ocean" in the middle, aiming for less searches per day (similar to their competitors Bing or Yahoo).

The only strategic opportunity, which would actually be effective and profitable, is the expansion to the national environment, more precisely to China and Russia, targeting similar search volume like on the global level. If Google managed to push into the Chinese and the Russian market, they could not only keep their global share with the highest number of searches per day, they could in addition be part of the national perspective. In consequence, this would mean a decline in search volume for the national companies such as Baidu in China and Yandex in Russia. Obviously, Google

cannot enter these companies without any problems / issues. The reasons for the absence of Google in China and Russia are political, which means that Google somehow had to overcome or surround these political problems in order to enter these markets. Nevertheless, this mission might not be the easiest to accomplish, which is why Google will probably stick with their global position and not focus on entering the Chinese and Russian market. As they already possess the market leader position in the search engine market, they decided to use different strategic business opportunities. Instead of sticking to this specific strategic cluster of search engines, they entered and expanded in different strategic clusters (such as Cloud Services, Video Streaming, even the Automobile industry with autonomous driving, etc.). Within these clusters, many strategic opportunities come to life and can be explored.



7. Resources and Capabilities Analysis

7.1 Identify Principal Resources and Capabilities

7.1.1 Tangible Resources and Capabilities

Tangible resources are financial or physical and in the perspective of a company, they can directly be used to create revenue or profit.

Google itself is in possession of a large portfolio of tangible resources and capabilities due to their presence in many different product areas. They for instance possess large data centers, in which they store their relevant data. Moreover, the servers to keep up their infrastructure such as Online Search and Online Advertisement are located in these data centers and can be described as tangible resources. Let alone in advertisement, they have services like AdWords, Adsense, DoubleClick Ad Exchange. These resources can be used by their customers for advertising purposes, which eventually leads them to their large revenue basis. It can be summarized that their tangible resources are financial sources from the advertising organizations, mechanical equipment, raw materials, innovative design of hardware and homepages and modern facilities.

One of these facilities for instance is their headquarters, the Googleplex in Mountain View, California. It is actually only the second largest building after their building in New York, but it still hosts 8.000 employees of Google.

One of the innovative designs they have created is the one of the Waymo self-driving car. The design of Waymo bases on three innovative design principles to actually create trust - transparency, freedom and consistency.

In 2014, Google in addition stated that they have an amount of 59.38 billion dollars as its cash and cash equivalents.

7.1.2 Intangible Resources and Capabilities

Intangible resources have various things such as skills, the intellectual property rights of: patents, trademarks, copyright and registered designs, and reputation etc.

In terms of the Google company, the outstanding intangible resource is the worldwide reputation, because Google is also known as a technology and innovation company, which has high technology, a huge database, and a strong brand name, including trademarks. The other important intangible resource that makes Google a different company is the business culture, which cares about the users and employees. Google is a huge company, but in fact, they act like a start-up company, focusing on everyone's ideas and opinions. Moreover, the company's structure is non-hierarchical, which makes the leader position easy to approach and easy to discuss with.

7.1.3 Human Resources

- Personnel: Because "people" is a main competency. Google requires talented staff and emphasizes smart people, to create great products and services.
- Training: Google also provided a G2G learning program to ensure the smartness and skill of their staff. These learning programs contribute their staff to have a strong and motivated workforce.
- Loyalty of employees: Google is willing to support their staff by considering their satisfaction because Google thinks with higher employee happiness levels associated with a rise in productivity. In addition, Google offers a high compensation that includes high salaries and incentives such as transportation, meals & snacks, gym access, travel benefits and hobby spaces.

For long-term vision, Google considered employment, retaining and motivation in terms of skills force as an important key for business strategies. To focus on human resources can be a source of competitive advantage due to Google's staff can be assets for a company. With the high competition in the technology industry, it leads to highly competitive hiring of talented employees. So that Google has to make sure that they can retain those staff for a long time to compete with other technology companies.

7.2 Resources and Capabilities Analysis

Overall, Google has five superior capabilities, including great facility, abundant cash flow, famous brand name, open entrepreneurial culture and G2G program.

Because of the pandemic, the employees are used to Work From Home (WFH). Even if employees are now allowed to return to headquarters, few workers would do this. Most of them would continuously choose WFH because it is more flexible, time-saving and safe. For instance, they don't need to spend much time commuting from suburban to Mountain View. Hence, the facility in Google is still great, but it is not an important advantage to Google as before.

Several companies declared bankruptcy from the court in 2020 because they didn't have sufficient cash flow. However, due to the outstanding performance of Google in the past, Google has abundant cash holding so that it can make it through the severe pandemic. Therefore, keeping cash holding at the moderate level is a significant strength for Google.

When the salaries rise, people are more willing to consume brand products in order to enjoy reliable products and better service. The famous brand name can also enhance the product price so that the company will earn more profit. So, enhancing the brand value is a great way to get rid of the pricing war from the competitor.

As mentioned previously, Google views employees as their important assets. It adopts multiple approaches to attract talents and encourage them to stay in Google. We

can say that Google has the world's best employees. Hence, it shows that Google has an awesome R&D ability which enables Google to release some unprecedented products. Therefore, superior HR capability is an essential resource to Google and such resources let it become a distinguished market leader compared to the other competitors.

Although Google has lots of strengths, it still needs to improve some weaknesses. For instance, the key weakness of Google is that its product line is over-concentrated, with the large parts being digital services and products. If there are some changes in trend, Google may lose its market. So, Google tries hard to diversify its product, and hope the risk could be reduced.

Based on the financial report, the co-founders of Google, Larry Page and Sergey Brin, own 50% of the preferred share of Google. This represents that they have the voting right to decide the operating strategy of Google and make a decision individually. However, the strategy that Google adopted will influence the stock price hugely. So, Larry Page and Sergey Brin will not choose the strategy that could hurt Google. Hence, the concentrated ownership may be a weakness of Google, but it will not hurt Google.

7.3 Summary

When comparing the tangible, intangible and HR resources. We consider that all the resources are important to Google, but HR resources are the key resource for Google to stand out from other competitors. It's hard to imagine and imitate, so Google can keep this unique resource in the long run and prevent itself from being surpassed by other companies.

8. VRIS Analysis

For the VRIS Analysis, a separation into Resources and Capabilities is conducted.

8.1 Resources

Analyzing Google's resources, it needs to be mentioned that Google is an extremely wealthy and notable company. Their market share is immense in different areas such as Online Advertising or Online Search Engines and therefore they also possess a big amount of capital.

For a better overview, the VRIS analysis will be conducted for the following resources:

- Land (Google Campus)
- Equipment (Technology Infrastructure)
- Brand
- Culture
- Quality and Services
- Patents

Commencing the VRIS analysis for Google's land, more precisely their headquarters in Mountain View, California, several characteristics can be assigned. Google offers dorm rooms, gyms, cafeterias, bikes and other entertainment opportunities for their workers. The aim of Google with this campus is to possess happy employees in order to increase their productivity. Eventually, workers do not leave after "normal" work hours, they instead spend some of their free time there, which eventually creates value.

Their campus can therefore be seen as valuable. It is not rare though and also not inimitable, as many companies try to create a work area and campuses like Google's one. It is very difficult to substitute a modern and productivity-increasing campus, as this is the place where employees spend most of their time.

Google's equipment, more precisely their technology infrastructure is large. In order to fulfill their promises, they need huge database centers. Apparently, Google possesses more than 900.000 servers in 36 different locations around the world. Due to this large amount, it is possible to create large value for the customers.

Their equipment and technology is therefore valuable, but also rare. Moreover, this technology is inimitable and non-substitutable to different reasons, for instance financial ones.

Google's brand can be described as rare and inimitable, but is not immensely valuable or non substitutable. Google's brand is not designed to create value or status as

for instance the Apple brand. It is not a status symbol to google something or to possess a Google Phone, so the brand does not create direct value for the customer. Nevertheless, it is hard to imitate the brand of Google, as the term “to google” has already been established in society for searching something online, which creates rareness and inimitability.

Google’s culture is valuable, rare, inimitable and hard to substitute. Similar to their campus, their employee culture creates productivity, so value for the customer. Also, to establish a culture like this is hard to imitate and hard to substitute. An example for this can be that many people would like to work for Google as they have already created a very good reputation for their culture.

Google moreover creates a competitive advantage through their quality, innovations and services. Google innovates regularly from different services like Cloud services to different products such as the Waymo Self Driving car. In total, Google provides more than 100 services. Other companies are not able to compete with Google’s speed in innovations or the ability to actually provide the solutions they can provide. Their competitive advantage in this cluster therefore exists because they offer valuable, rare, inimitable and non substitutable quality and innovations.

Last, Google’s patents are closely linked to their innovations. Google possesses a large amount of patents for their innovations and continues to apply for patents regularly. Therefore, a competitive advantage also arises, whereas their patents can be seen as valuable, rare, inimitable and non substitutable.

It can therefore be concluded that Google possesses a large competitive advantage in many of their fields. This is a basic pillar for their success and their large revenues each year.

8.2 Capabilities

Because Google is the market leader in the technology domain, we will compare it with the other outstanding tech Giants in order to standardize the discrepancy. Therefore, we can know the reality which Google would encounter.

8.2.1 Great facility

A great facility means that employees can have a good place to work and exchange innovative thinking. It's quite an important approach that Google keeps its competitiveness. However, it’s easy for competitors to imitate. Although providing great facilities is a simple way to attract workers, it is also liable to lose them. The great facility is a strength to Google, but it is common in the tech industry. So, we think that great facility is a competitive parity to Google.

8.2.2 Abundant cash flow

With the huge revenues from Google ADs, Google has a stable and abundant cash flow. It gives Google the ability to maintain its operation, optimize its service, and invest in other potential programs. Those programs may have the opportunity to create huge value and become the next growth to Google. However, it's costly and non-guaranteed to profit. If the enterprise doesn't have abundant cash flow, it can't do that. Hence, abundant cash flow is a temporary competitive advantage to Google because it would be used up if there weren't new inflows.

8.2.3 Famous brand name

The company will devote their efforts to establishing a brand because it can increase the product price, reputation, etc. However, establishing a brand is challenging work. For example, brand identification and discrepancy. So, fewer companies have successfully managed it. We think Google does it great, plenty of people know Google. They are willing to choose Google rather than others because Google is more famous and reliable. Therefore, we believe that a famous brand name is a sustainable competitive advantage to Google.

8.2.4 Open entrepreneurial culture

The co founders of Google think the open entrepreneurial culture is the way that Google grew from start-up to Giant. So, they hope to keep this culture. The most efficient approach is to hire an interviewee who has the same mind. Other companies may find it difficult to imagine how Google was able to manage well under the liberty environment. It is the spirit of Google that makes it unique.

8.2.5 Googler to Googler program

Google has become the most yearned enterprise for graduated students for a long time. Although the employees in Google are talents or geniuses, Google still wants the worker to "stay hungry, stay foolish". This program not only trains professional knowledge but also coheres groups (companies) operating. Every Googler is proud of what they did and who they are. Without a doubt, the G2G program is a unique company culture for Google and brings some intangible benefits to Google.

8.3 Summary

In summary, it can be mentioned that Google possesses highly valuable resources and capabilities. Most of the resources and capabilities show at least two of the fore characteristics (valuable, rare, inimitable and non-substitutable). Google

therefore possesses a large competitive advantage in many of the analyzed parts (both in resources and capabilities). Especially resources such as technology equipment, culture, quality or innovation, but also capabilities such as the brand name or different several programs show large competitive advantages in being valuable, rare, inimitable and also non-substitutable. These resources and capabilities can be classified as very strong pillars of Google, as their largest gains and values result from these areas.



9. Value Chain Analysis

Google LLC utilizes a differentiation strategy. In this strategy, the company fully understands its customers' needs and preferences. It is driven by innovation and builds its brand to maintain its position and visibility as well. Moreover, Google also utilize the value chain analysis to support differentiation strategy by identifying business activities that can create value and competitive advantage to the business as follow:

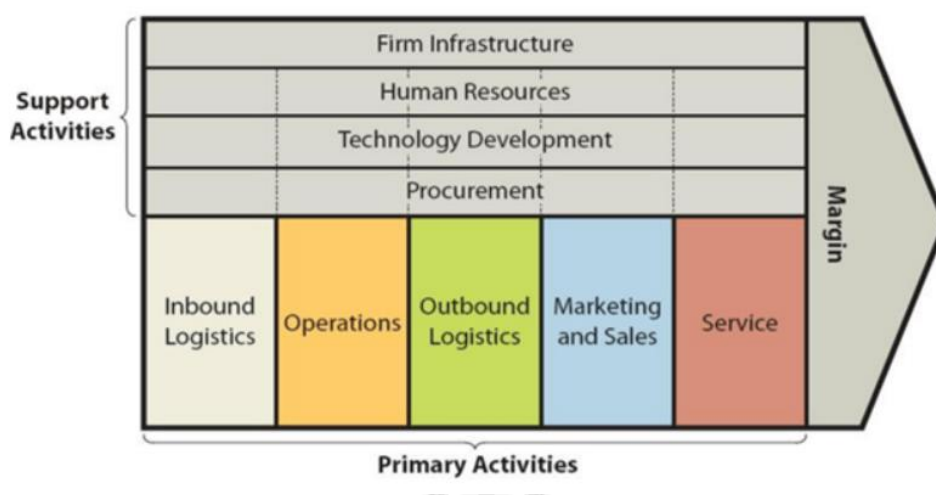


Figure 11: Value Chain Analysis

Source: Dudovskiy, J. (2017).

Retrieved from <https://research-methodology.net/google-value-chain-analysis/>

9.1 Google Primary Activities

To produce and sell products to targeted customers are the primary value chain activities. Examining primary value chain activities can improve the management of Google as explained below.

9.1.1 Inbound Logistics

The reception, storage, and dissemination of products are highly relevant to the Google company. It can include warehousing of products due to Google providing the physical products such as hardware, technology equipment etc., and store customer information for digital media companies.

9.1.2 Operations

This step is to help the company transform raw material into the products. Google has more than 70 offices in more than 40 countries which operate on its products and services. Furthermore, Google offices are known for their innovative

design and unique facilities. Google headquarters in Mountain View, California consists of office, building space and research development sites along with land that can be used as the office space in the future.

Moreover, The operation of Alphabet Inc. or Google's parent company are divided into two segments:

- **Google** - This segment is about Google main internet products, for instance, Google search, Ads, Maps, YouTube, Google Cloud, Android, Chrome, etc. Advertising, the selling of digital content, the providing of apps, and the sale of hardware devices are the main sources of revenue in this section.
- **Other Bets** - This segment includes businesses that the company provides, for instance, Waymo, Calico, Nest, Access, etc. The majority of revenue almost comes from the sales of internet and TV services.

9.1.3 Outbound Logistics

Google has a website called www.store.google.com. It sells physical products such as Smartwatches, Nexus Phones, technology accessories, Chromecast, Chromebooks and other products to the customers.

In 2015, Google also opened its first physical store in London to showcase Google merchandise. Moreover, the space includes a Doodle Wall for customers to paint with digital spray, a movie viewing called Chromecast Pod, and a Portal for touring the planet through Google Earth.

9.1.4 Marketing and Sales

Google utilizes online and offline channels to promote its products. In fact, Google uses fewer offline channels such as sales promotions and direct marketing when compared with online channels. Due to globalization, almost all consumers prefer online platforms to find and purchase products. Thus, Google focuses more on online channels such as online advertising and online events.

9.1.5 Service

Google forums are an important channel for helping customers to deal with technical problems or other issues. Furthermore, there are customer service phone numbers for other services.

9.2 Google Support Activities

For the Google's support activities, we divided into four parts as following:

9.2.1 Firm Infrastructure

For the operation, Google has completely effective management such as finance and accounting, legal services and planning, quality management etc. Because the server works as a data centre, so that Google aims to ensure that when consumers access a server, the information is available for them. With this great service, All of the staff are all behind. To motivate their staff, Google offers rewards in return, which is 20% work space that their staff can select a day in the week to work on their separate chosen projects, and the rest, they can select which projects they prefer. To do like this way not only motivates their staff, but also helps their staff keep active and don't feel overburdened with work. Based on this management, staff are free to develop their own way of working, so it is associated with the increased efficiency of their staff.

9.2.2 Human Resources

Because "people" is a main competency. Google requires talented staff and emphasizes smart people, to create great products and services. Google also provided a G2G learning program to ensure the smartness and skill of their staff. These learning programs contribute their staff to have a strong and motivated workforce. Besides, Google is willing to support their staff by considering their satisfaction because Google thinks with higher employee happiness levels associated with a rise in productivity. In addition, Google offers a high compensation that includes high salaries and incentives such as transportation, meals & snacks, gym access, travel benefits and hobby spaces.

9.2.3 Technology Development

Google has some activities that support the company such as component design, process engineering, feature design, technology selection and field-testing, e.g. Google has tested their Google Glass, how it works to the audience as part of Google's trial program in 2013. Those support activities are a source of competitive advantage for technology companies like Google.

9.2.4 Procurement

Procurement activities at Google, include activities that undertake the purchase inputs such as raw materials, supplies, machinery, laboratory equipment, Buildings and so on

The procurement process at Google is not disclosed much. However, Google has long term contracts with its suppliers for procurement. Google considered raw material as an important thing to produce the products and services.

Google's raw materials are related to input materials that used to produce the products, for example: components for Chromecast digital media players, fiber optic

cables for the Google Fiber Internet and cable television service.

9.3 Summary

Value Chain Analysis is utilized for helping Google analyze production steps until launching products in the market. If Google follows the steps, it will help the company gain more profit. It also reduces cost and increases differentiation. Moreover, this analysis also increases the competitive advantage and value to the business. Value Chain Analysis can be divided into 2 sections which are primary activities and secondary activities. Primary activities (inbound logistics, operations, outbound logistics, marketing and sales, and services) are the production and selling process to customers, at the same time, the companies can add value to the process as well. Support activities (firm infrastructure, human resources, technology development, and procurement) are the activities that help the primary activities increase more efficiency.



10. The BCG Matrix

The BCG Matrix is the model for analyzing each type of product’s potential. This matrix consists of Stars, Question Marks, Cash Cows, and Dogs. All four components which are based on a comparison between industry growth rate and relative market share.

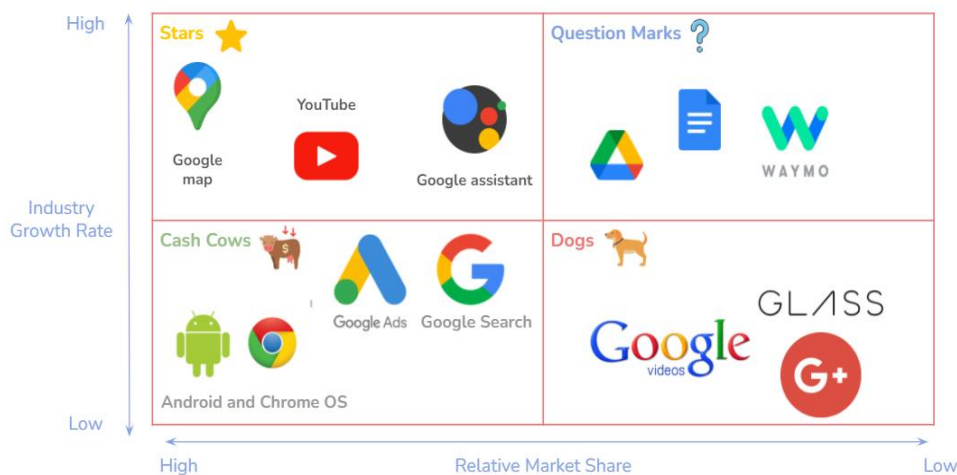


Figure 12: Google’s BCG Matrix

Source: Bhuyan, S. (2021). BCG Matrix of Google.

Retrieved from: <https://www.superheuristics.com/bcg-matrix-of-google/>

10.1 Stars

10.1.1 Google Assistant

This bar chart shows the market share of the intelligent assistant.

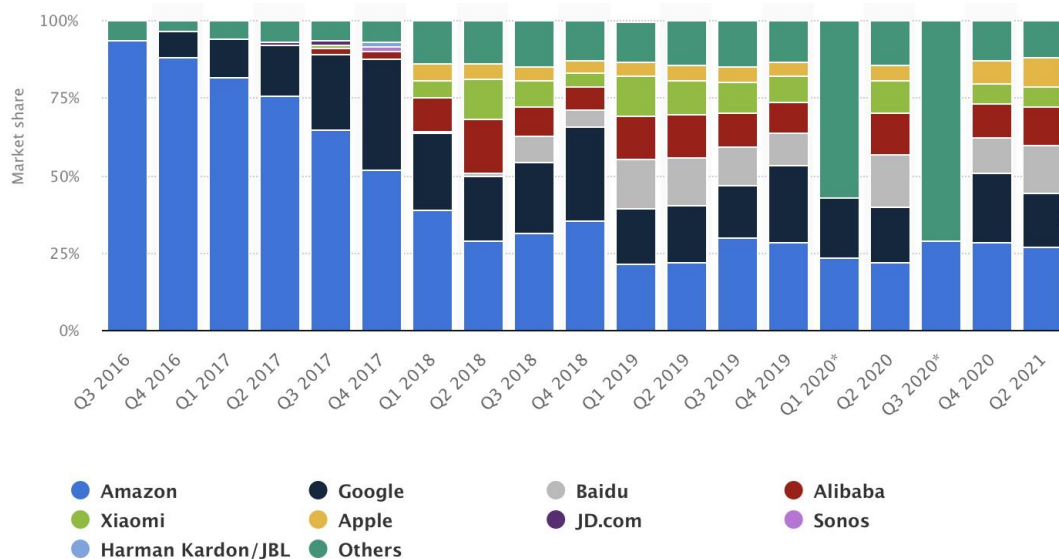


Figure 13: Market share of virtual assistant

Source: Statista

We can see that Amazon-Alexa occupied 90% of the market share in the early years, but faced intensive competition after 2017Q4. When Google assistant entered the virtual assistant market in 2016Q4, its market shares gradually increased and became the major competitor for Amazon-Alexa. Overall, if google keeps optimizing the product functionality, Google assistant may be able to become the market leader and own more market share.

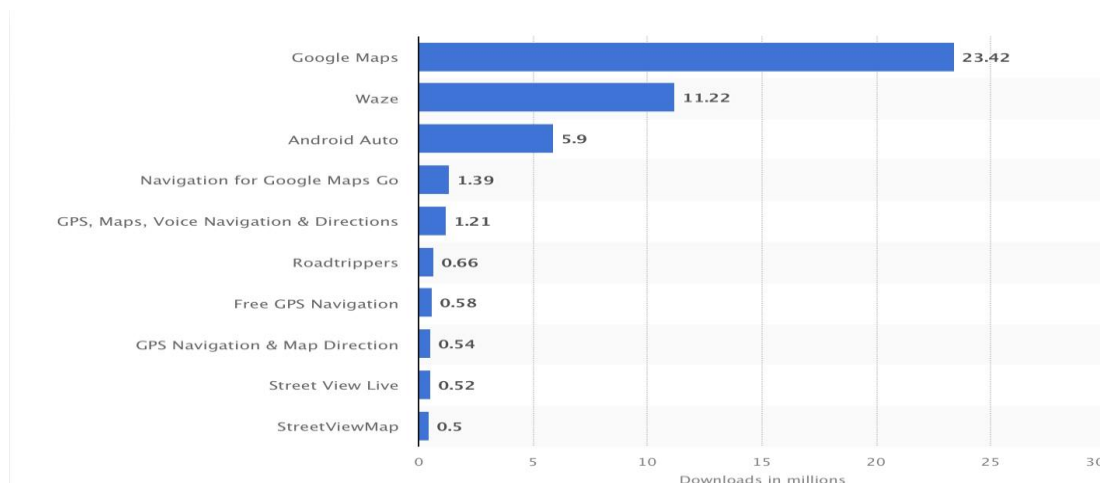


Figure 14: The unit of smart speakers shipped from 2016 to 2020

Source: Statista

The line graph shows the unit of smart speakers shipped from 2016 to 2020. Through the period, it dramatically increased from 6.5 million units in 2016 to 166.2 million units in 2020. Hence, although the market share of Google assistant leveled off at around 20%, its sales have still increased hugely in recent three years.

10.1.2 Google Maps

The graph shows downloads of the U.S. Maps app in 2020.

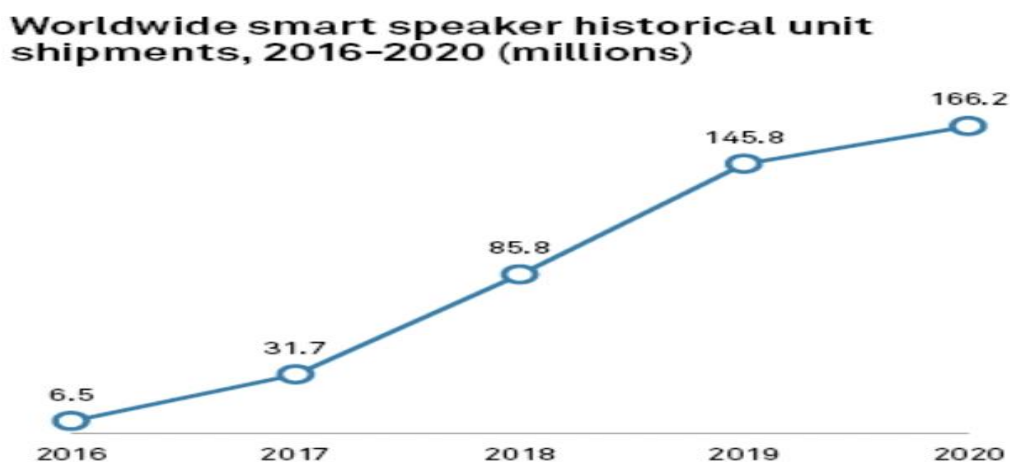


Figure 15: The downloads of the US Maps application in 2020

Source: Statista

Waze and Android Auto are subsidiaries and programs under Google, so we can view their shares as a market share of Google. Overall, Google owns nearly 90% of the market share, it is a monopoly in the mapping app domain. At this time, we don't see any competitors that can challenge Google.

Furthermore, Google and Volvo recently announced that they are going to cooperate and collaboratively develop the next generation of car OS (operating system) in the future. Hence, although the mobile phone industry is in a stage of maturity in the product life cycle, Google has already found the next business opportunity - the automobile industry. We can expect that when Google cooperates with more car companies, Google Maps could earn more profit and market share.

10.1.3 YouTube

YouTube is one of the largest video platforms of the world. Based on the market research in 2020, it showed that about 74% of adults have watched videos on YouTube, followed by Facebook (68%) and Instagram (40%). Different from these two platforms, the video lengths on YouTube are much longer. So, they focus on the different segments of users. However, due to the preference change of the public, YouTube has launched a new function called YouTube shorts in order to meet the needs of users. We think that people can find diverse types of videos on YouTube, which is the advantage of YouTube compared to others. Therefore, we believe that YouTube can maintain its market share and benefit from the growth of users in emerging countries.

10.2 Question Marks

Question marks in the BCG matrix usually show a low relative market share, but a high industry growth rate. For Google, these products reach from some of their more known services such as Google Drive or Google Docs to other bets of Google such as Waymo, Verily or Calico. In the following, Google Drive (and Docs) and Waymo will be illustrated further. Verily and Calico, both active in biological research, Calico for instance introducing methods against the human deterioration, could furthermore also be analyzed within the question marks area.

First, Google Drive with the subproducts Google Docs, Google Tables etc. will be analyzed for the BCG Matrix. In the past, a high increase of demand for data storage and protection could be observed. Moreover and due to the Covid-19 crisis, many companies sent their employees to work in home office. Therefore, the demand for shared documents and services has not only increased due to group works in university, but has also reached company levels.

Nevertheless, the amount of competition in this industry is quite strong. For many years, Microsoft has offered the market leader products with their Microsoft Office package (including Microsoft Word, Powerpoint, Excel, etc.). In 2020, Microsoft Office had 265 million paying businesses using the product, while only 6 million companies used Google Drive and their applications like Google Docs. Nevertheless, Google Drive and products in total have already achieved more than 40 percent for usage considering outside-business customers, which almost equals the share of Microsoft products. Concerning the BCG analysis, it can therefore be said that Google has a high chance to push their Drive and database products further to turn them into stars. If they cannot take their chance, there hence is a risk that other companies will overtake Google in these services or that Microsoft will strengthen their market leader position.

Second, Google's product to be analyzed is the Waymo self-driving car. In the industry for self-driving cars, the competitiveness is extremely high. Both companies such as Google or Apple with innovative solutions have entered the market concerning research for self-driving cars, but also established automotive companies such as Volkswagen did not miss to enter this market. In fact, the industry of self-driving cars can be described as interesting, as established players with a lot of knowledge about vehicles and driving confront competitors that have nothing to do with cars, but possess a high knowledge in software, hardware, automated intelligence, data and other technological areas. Therefore, this industry and the future of this industry can be described as very hard to predict. Nevertheless, the future of driving will probably lay within automated driving and self-driving cars, which gives the industry a huge potential to grow. Due to its high competitiveness and an at the moment low market

share for Google, Waymo can clearly be described as a question mark - either being turned to a Star or to a Dog in the future. At the moment, Google obviously has to invest strongly to keep the business growing, but the future will show whether the project will keep going and might even be turned to a Star or might even be canceled turning to a Dog.

10.3 Cash Cows

A Cash Cow is a metaphor used for a business or a product that requires low investment with little or no maintenance and positively provides the cash flows. In other words, the investments that have low risk, but high compensation in return or if a business or a product can become a market leader in their industry in a low-growth market, which has a lot of entry barriers (less competition), that represents a cash cow. Cash that is gained from cash cows is used to fund R&D, other products of business, reduce the overall debt of the business and pay dividends to shareholders.

First, Google Ads or the advertisements that appear on the websites, when you logged into Google sites like Gmail, YouTube, Google Maps, and so on. their ads will appear in those websites, all of that are generated via advertising platforms. As the below chart shows, in 2019, Google occupies 30% of the market share in internet advertising. So, Google is a leader of the internet advertising market. Hence, Google Ads has a large market share.

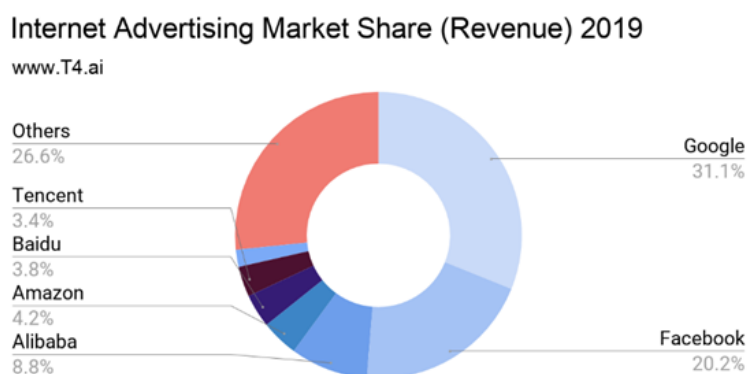


Figure 16: Internet Advertising Market Share (Revenue) 2019

Source: T4. (2020). Internet Advertising Market Share, Market Size and Industry Growth Drivers
Retrieved from: <https://www.t4.ai/industry/internet-advertising-market-share>

Second, due to the below chart, Google search occupies approximately 88% of the volume and search-engine market in 2021. So, Google is the most famous and the biggest search-engine worldwide.

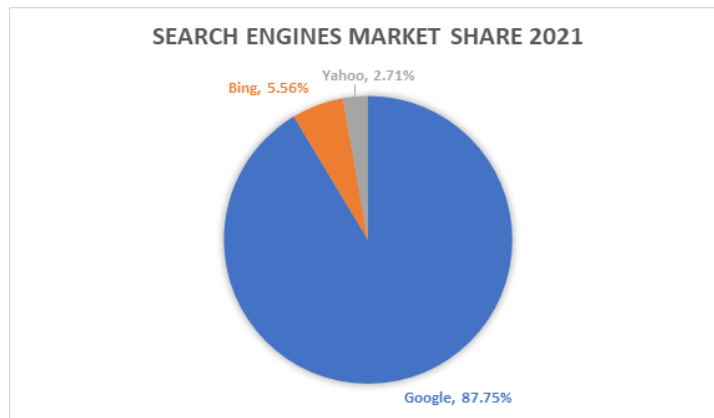


Figure 17: Search Engine Market Share 2021

Source: The Investopedia team. & Suzanne, K. (2021). Who Are Google's Main Competitors? Retrieved from: <https://www.investopedia.com/ask/answers/120314/who-are-googles-goog-main-competitors.asp>

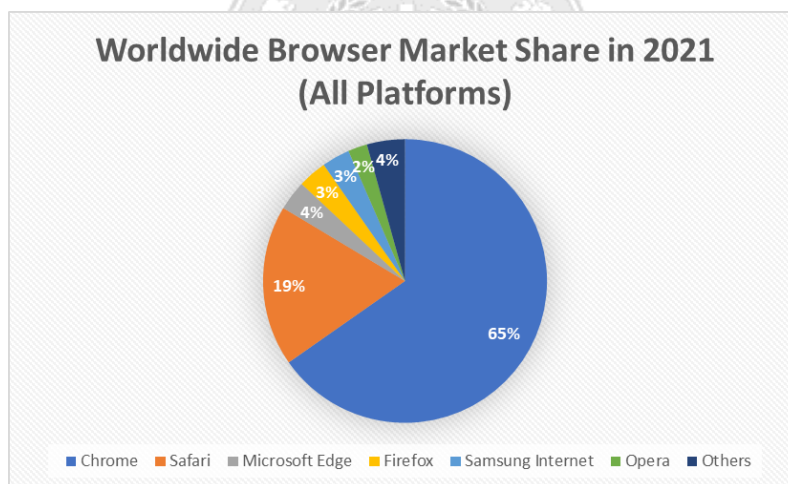


Figure 18: Worldwide Browser Market Share in 2021 (All Platforms)

Source: Dean, B. (2021). Web Browser Market Share In 2021: 85+ Browser Usage Statistics.

Retrieved from: <https://backlinko.com/browser-market-share>

The last cash cow products are chrome OS and android. It's available on desktop and mobile. Google's Chrome browser is among the few products that are used by a billion internet users, an estimated 2.65 billion people worldwide use Google's Chrome as their main browser. From all of the platforms, Google's Chrome is the most popular browser with approximately 65% of browser market share.

From all of those cash cow products, it is a market leader in its market. However, because of the fast growth in technology sectors and increasing competitive pressure, it is considered as a slowing market. Thus, we categorized Google Ads, Google search, Chrome OS and android as Cash Cow Products.

10.4 Dogs

This section indicated that some products of Google have very low growth rate and low relative market share. In other words, the company should reposition, divest, or liquidate these products. The example of dogs products is as followed:

10.4.1 Google Video

Google Video was a free platform to upload videos and It launched in late January 2005. The reason that they made this product failed was because Google envisioned Youtube as its main competitor. Therefore, they decided to buy Youtube for \$1.65 billion. Finally, Youtube has become a popular channel to find and upload the videos instead of Google Video.

10.4.2 Google Glass

This product was launched in 2012 and came to an end in 2019. Google Glass failed because the product was not ready to use. For example the device overheated and shut itself down automatically, and the battery life was not long enough. Moreover, this project was out of control by the project leader.

10.4.3 Google Plus

Google Plus launched in 2011, but in 2018, Google decided to shut this product down after discovering the data breach. Google Plus was a social network that provided many features including the ability to post pictures, status updates and group video calls. However, it faced problems because a few people were using it and it had main competitors like Facebook and Twitter.

10.5 Summary

The mission of Google is to provide worldwide information that is easily accessible and useful by creating a new innovation and products, so BCG matrix could help Google decide whether to increase investment, keep selling as the same, develop or discontinue their products.

- Google may increase the investment in the Question Mark product into a Star in order to raise the market share. On the other hand, it also can discontinue.
- Google may take the cash from Cash Cow products to used in other parts of business unit (Reinvestment)
- Google may continuously invest in Star products in order to maintain their market share.
- Google may develop or discontinue the products in the Dog categories.

11. Synergy

11.1 Operating Synergy

The core business of Google is internet search and advertising, so Google is focusing on increasing the function and innovation of websites and mobile for consumers. With acquisitions in high technology companies in order to help Google improve the potential of the products and could increase its revenue. Google evaluates that acquisitions is a timesaving method to R&D that could increase the innovation potential. Moreover, it also reduces the competition by preventing the new players, who try to enter in the market. Besides, Google considered that the competitiveness of the company depends on its innovation rather than the cost.

For instance, In 2005, Google acquired Android Inc, a low cost operating system that provides strength data to the core function of Google in smartphones. With this data, it helps Google have a higher efficiency in tracking the users' locations and the search terms when users use it.

Besides, in 2004, there are a few companies that controlled the traffic analysis and roadmapping, Google entered in this market through acquired those few companies; Zipdash, Where2 and Keyhole Inc. after that Google launched the GoogleMaps and Google Earth products into the market and it become a popular products in the market until now.

Another example is in 2009, Google acquired On2, which has a video format technology that provides a high-quality video image on the website. After that Google can provide better video service for users on Youtube by transferring videos in a more efficient and high-quality format.

11.2 Marketing Synergy

The marketing benefits that both parties in a merger and acquisition (M&A) transaction may gain when advertising their products and services are known as "marketing synergy" (CFL, n.d.)

Acquisitions increase Google's innovation potential and competitive power. Sometimes, Google avoids competing with competitors. Thus, they bought the company through an acquisition, and their technology was adapted to Google's existing products (Dolata, 2007). For example, Youtube was acquired by Google in 2006. YouTube has become a popular platform, but due to a lack of storage space for the large number of videos. Therefore, Google came to its help by providing the highest number of servers. While YouTube can benefit Google, it can also benefit Google by enhancing its public image as the largest video sharing and searching platform, allowing it to develop new marketing strategies to meet the needs of its customers and increasing market power and sales.

11.3 Financial Synergy

Financial synergies can be described as the improvement and increase of efficiency in financial activities of a company by joining the activities of two companies together. This means, for instance does Google not have its own financial department for Google Drive, Youtube, Google Search Engine, but uses one financial department that controls all finances for all parts of the company. One usual goal of financial synergies is to achieve a lower cost of capital.

As mentioned in earlier parts, Google has a main driver of revenue, which is Online Advertising. As not every business unit is able to create enough revenue itself in order to survive, financial synergies are necessary for each business unit to survive.

Google therefore uses capital created by one business unit for more business units and can invest into other business units. Moreover, they have the possibility to eliminate risk of profit pressure due to this strategy. In addition, they are able to reduce tax payments of their profit from advertising, as they invest this money into other business units. Instead of paying high tax, they gain value for their company.

11.4 Human Resources Synergy

Because Google has several subsidiaries, it hires thousands of employees, including technicians of different fields. So, it gives Google more elasticity and the ability to maximize the efficiency of operation by putting the employees into the right positions. For example, when Google is going to establish a new project, it can take a job shift and let the experienced people assist the project on track. Another benefit is that the employees may have more opportunities to get the promotion, and it is an incentive that attracts the workers to stay in Google. Hence, although Google needs to spend more money to maintain the operation of the subsidiaries, it also creates an HR synergy for Google.

11.5 Summary

We think that synergy brings a lot of benefits to Google. Unlike some failed cases, Google successfully enhanced its competitiveness by merging and acquiring. For example, preventing competition from new players, enhancing the public image, reducing the cost and tax, and attracting the elite. Overall, synergy is a good approach for Google to keep growing and the leader of the market.

12. Porter's Diamond Model

Porter's Diamond Model is a conceptual framework for competitive advantage by Micheal E. Porter. In terms of Google, it can be described as follows:

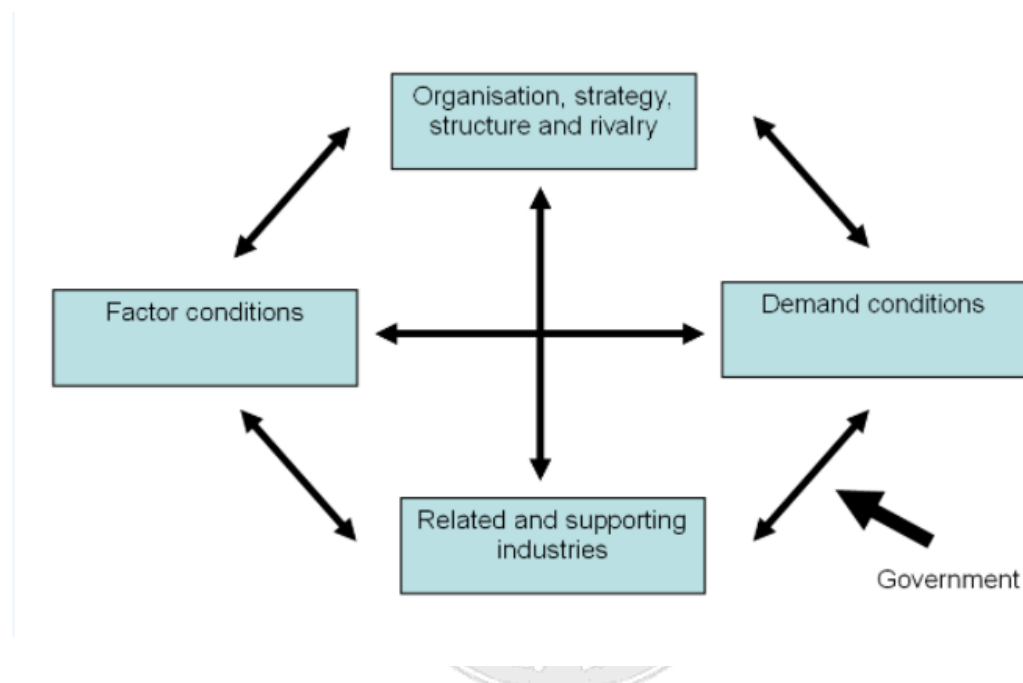


Figure 19: Porter's Diamond Model

Source: Porter Diamond of National Advantage. (n.d.). Retrieved from: <https://biznewske.com/porter-diamond-of-national-advantage/>

12.1 Factor Conditions

Factor conditions are the conditions of production and operation that provide a competitive advantage to the company. The example of factor conditions for the Google company is as follows:

12.1.1 Resources

It can be classified into:

- **Natural Resources**

It is known that Google's headquarter is located in Mountain View, California. Thus, one of the natural resources is the land where Google set up the company. These include water, wind energy, solar power, etc. Because the company's good location makes it effortless to access these natural resources. Moreover, in 2017, Google announced its plan to utilize renewable energy as well.

- **Capital Resources**

As mentioned in the Resources and Capabilities Analysis. Capital resources and financial resources are tangible resources. The majority of equity-based capital comes from internal resources. For debt-based capital is taken from the external. However, Google has low debt when compared to equity (Depersio, 2020).

- **Human Resources**

Because of the high competition in the technology industry, human resources are Google's competitive advantage. Therefore, the company always focuses on its employees, especially efficient and smart people that can bring ideas to develop products and services. Besides, Google provides training programs, for example, the G2G learning program to improve and ensure the skill levels of its employees.

12.1.2 Technological Innovation

Not only Human Resources but innovation is a competitive advantage as well. Google defines itself as a technology company. They utilize scientific knowledge to create new innovations. Thus, Technological innovation can help the company stand out among the competitors and the benefit of technological innovation is helping Google increase profit maximization.

12.1.3 Infrastructure

Google is a technology company, therefore, infrastructure is an important factor in the factor conditions section. Infrastructure also refers to the technological network that helps Google operate in domestic and other countries. Furthermore, Google is also involved in developing the local infrastructure, which is Google Fiber.

12.2 Related and Supporting Industries

Google has faced and still faces the presence of many supporting and competing players within their industries. Due to the presence of these industries, Google has been forced to continuously innovate and internationalize their products in order to keep their market leader position and achieve the position they possess today. In the following, the presence of related industries, the presence of supporting industries, the presence of rival industries and the presence of strong global suppliers will be analyzed.

12.2.1 Presence of related industries

Due to the presence of related industries, Google has been able to grow, internationalize and expand their operations to other companies. Related industries to Google usually are able to support materials. For Google, an example could be the

sourcing of packaging and raw materials from different consumer markets. Therefore, economies of scale can be achieved.

12.2.2 Presence of supporting industries

Google uses many supporting industries as a support for their growth. Thanks to the presence of supporting industries, Google and Google's industry were able to achieve a very strong and growing position. Not only has Google been able to grow themselves, but the supporting industries actually saw the potential to grow as well, which has eventually happened. In consequence, both Google and the supporting industries gained profit from competition in supporting industries.

12.2.3 Presence of rival industries

The presence of rival industries for Google has been a relevant factor for their growth. Due to the pressure that rival industries and companies create for Google, they have been forced to show their best performance in order to compete. Google has for instance forced many competitors to enter different less promising markets as they pushed them out of their market and in addition entered other markets which eventually were harder to enter for the competitors.

12.2.4 Presence of strong global suppliers

Google possesses a large supplier base from all around the world. Some of Google's suppliers are the largest in their industry and therefore ensure high quality and highly qualified processes. Eventually, Google profits from their market leader position and can choose wisely and in detail about their suppliers. This leads to a further strengthening in their position.

12.3 Demand Conditions

Demand conditions can drive the company's success. Domestic demand is important for the company to challenge and expand in a larger market.

12.3.1 The size of the local market

Google considered the size of the domestic market as an important measure that influenced the international expansion of the company. First, Google can understand the increasing size of the local consumer and market in order to realize the dynamics in the larger market. With this understanding, Google can identify the strengths and weaknesses in terms of growth and try to contain it, which could help Google plan well in their strategies and operations. Second, with the larger size of the market is also considered as a significant factor for the company because it's kind of pushing for the

company to find the possibility of expansions in the new markets.

12.3.2 The demanding and sophisticated of local consumers

Because the demand and sophisticated of the local consumers have pushed Google to use their resources in order to create new innovation and develop unique products to meet the consumer's satisfaction, which could help Google realize their capabilities, and have better processes to grow their business.

12.3.3 The patterns of local consumers behavior

Google predicts the demands and behavior of consumers in other markets based on the local consumers. In other words, Google considered consumers behavior and demands in one market based on the response Google received in another market. For instance, the same profile consumers in one market might have a similar behavior with the same profile consumers in another market. This could help Google develop their strategic as well as global strategies and expansion in other markets.

12.4 Firm Strategy, Structure, and Rivalry

12.4.1 Firm strategy

- **Focused but diversified**

Google keeps optimizing its core products to keep the users, and it launches new and convenient functions to maintain the competitiveness. At the same time, Google continuously rolls out innovative services and enables all services to be logged in with the same account, giving Google the ability to meet the diverse needs of users in the Google ecosystem. For instance, Google enhances the functionality of Google Cloud by providing the software which users will use simultaneously in the office.

- **Merge and acquisition (M&A)**

It is hard to develop products and services individually. Hence, acquiring potential start-ups or competitors is the best approach for tech Giant to enter the market faster. For instance, the android system, pixel phone (powered by HTC), Nest Lab, DoubleClick, etc. These M&As have allowed Google to obtain the patents and knowledge that help Google release more competitive products.

- **Subscription-based business**

- **Free at the beginning, but charging when you rely on it**

Most of the Google services are free at the beginning. However, if you need more storage space or functions, Google will charge you some expense. Because people use a lot of Google services and rely on them, they usually will spend some money

subscribing to them. So, we think Google did awesomely, which makes itself indispensable.

12.4.2 Firm structure

- **Set up a lot of subsidiaries and programs to keep independent and lower the risk.**

Google has several subsidiaries and programs. The reason why Google did this is that Google is a huge enterprise, sometimes, the potential project may be unable to get the resource when it stays in Google. So, establishing another program will become the best approach to solve this problem, Google also can lower the risk if this program eventually fails.

12.4.3 Rivalry

- **Tech giants monopolize specific domain**

We think that Google has fewer competitors in the market. For example, search engines, ADs, maps, etc. However, Google faces intense competition in the market which is at the stage of growth. Because another company also wants to enter in the market and occupy more market share. For example, the cloud industry.

12.5 Government

The government part of the diamond model for Google is relatively small. Google has their headquarters in the United States of America, which means that the government in general does not support or restrict companies in their daily behavior. Moreover, Google does usually not need measures that could normally be described as intervention from the government, for example: stimulating early demand for advanced products (demand factors); focusing on specialized factor creations such as infrastructure, the education system and the health sector (factor conditions); promoting domestic rivalry by enforcing antitrust laws; and encouraging change.

From an international perspective, Google's affection by the government can be described as mainly favorable. Thanks to the cooperation of the American government with many other countries in the world, for instance with Free-Trade-Agreements, Google has easily had the chance to expand to other countries. Moreover, the government has issued several regulations for industries, which mostly favored the company, as they have had chances to become more efficient in their processes and in the products they offer to the customers.

12.6 Summary

In conclusion, Google can be described as a strong and powerful company within Porter's diamond model. Google's factor conditions provide a strong competitive advantage to the company. Regarding their capital resources, their technological innovation or their infrastructure, all factors Google has created over time provide a very strong competitive advantage. This competitive advantage has moreover highly been influenced by the related and supporting industries of Google. Over time, Google has reached such a strong point that they are almost able to "control" their related and supporting industries. Considering Google's demand conditions, no doubt about their local, but also global demand can be mentioned. Google's services have an immensely high global demand, which has essentially increased over the last years and continues to increase. Google's firm strategy, structure and rivalry are extremely developed and in concern of rivalry highly progressed, as they claim to be the market leader in many of their product markets. Last, the American government but in general globalization and agreements within governments have provided Google with many opportunities and possibilities, which gave them the chance to grow to the size they have achieved today. It can therefore be said that Porter's diamond model shows the power, the strengths and the reasons for Google's rise very well.

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