

# Samsung vs. Apple

Wooyong Aiden Lee

Chadwick International School

## Abstract

In this research paper, the long-standing competition in the smartphone market between Samsung and Apple is investigated, with a critical analysis of each firm's strategies. Game and social theories such as Tit-for-tat and Social Darwinism are used to examine each choice and strategy the companies implemented in the legal dispute and market development stages. The paper investigates how the firms cooperating and competing led to the overall growth of the phone industry and the construction of different market structures. Economic theories regarding market structures are used to present how a duopoly was formed in the mobile phone industry. As a mutual partner for both mobile phone providers, Google was able to construct a monopoly in the search engine market. An evaluation of the market outcome and a potential alternative scenario that would have led to a more equitable market is also explored.

## Introduction

Smartphones have become an essential part of our daily lives. Apple Inc. has been a powerhouse in the phone industry for its unique design and creativeness since its launch. With Apple's first iPhone in 2007, a new paradigm for smartphones was created, bringing excitement to the public (Nichols 12). Soon after, Samsung, in 2009, created the Galaxy series, which was the first smartphone for the brand. The smartphone patent wars were about to begin.

There were many lawsuits as well as counter-lawsuits between Apple and Samsung. Apple won some, and Samsung won some. However, it didn't prove to be in the interest of the greater good for either of them as the two tech giants eventually

joined to create a duopoly-styled market. With Samsung now providing some of the most sophisticated hardware to Apple, both Apple and Samsung are intertwined. They have joined in overpowering the smartphone market at the expense of other emerging brands. At the same time, Apple and Samsung have significantly diverged from each other. Samsung focuses a lot on hardware, and it specializes in a vast number of products that extend far beyond just the smartphone market. Apple, in contrast, has focused on the development of software and more innovative tech. Thus, market decisions on how to expand in the mobile phone market made by each company have produced a status quo of Samsung being hardware dominant and Apple focusing on software.

## **Pre-Lawsuit**

### *Background History*

Samsung caused controversy concerning copyright issues because of the high similarity of the designs of the phones to those of Apple after the release of their Galaxy series (Albasoos and Al Musallami 1). The notable similarities were that the phones both operate on touches of the users, the home buttons, and similar user interfaces. With all the similarities, Samsung was accused of being the "copier" of the industry.

Apple introduced some distinct functions and designs with the iPhone, such as fully touchable hardware without a keypad or a pen (Karlson and Bederson 324), minimalistic design, and a non-foldable screen. With the release of the first iPhone, there were public concerns about how effective it would be when using it as a communication device. People were skeptical of its efficiency. This skepticism was proven correct, as the initial services the iPhone provided were far from being perfect with severe errors in the communication functions, almost no additional applications available, and an overpriced model with limited release. However, with the inception of 3G services, a new opportunity opened for the iPhone. 3G is a 3rd Generation revolutionary wireless mobile telecommunications technology ("3G Technology and How It Affects the Mobile Landscape"). One of its key features is that it provides fast internet to users ("Silicon Press: Third Generation (3G) Wireless").

The 3G telecommunication system allowed Apple's innovative visions to become to reality (Mogal 1). The 3G internet access allowed functions of the iPhone to come to life, such as web search, instant messaging, use of social media, and countless applications. With Apple's success and subsequently Samsung's, a new era of Smartphones officially began, along with the rivalry of these two tech giants. 3G technology played a vital role in this development. However, the tension between the two rival companies increased until Apple finally sued Samsung in 2011 (O'Rourke 6).

### *Samsung vs. Apple Lawsuit.*

In 2011, Apple sued Samsung for allegedly infringing their design patents (Guglielmo). Apple claimed that Samsung's smartphones and tablets "slavishly" copied their product designs. Although the two companies shared technological aspects of their designs, the lawsuit was about the two brands' basic designs. However, it was speculated that this lawsuit was part of the two companies' strategic plans to maintain dominance over the rising market.

The specific terms of the lawsuit included several small functions of the smartphone, including tap to zoom and grid layout of applications, among many others. The grounds for the lawsuit seemed frivolous and shaky at best, as all those small functions would not affect a customer's choice of smartphones. However, suing for such a significant amount of money created controversy

on who copied whom. The companies incorporated the media generated as a result of the respective lawsuits into their business strategies. They did not shy away from the headlines generated thanks to the case (Horwell). It was not just a legal battle but also a battle of public relations. Whoever was portrayed well by the media would benefit from more sales and profits as people sympathized with them. Also, better coverage by media builds narratives, and those narratives can indirectly influence court cases.

As the lawsuit progressed, the battle spread to other countries, including South Korea, Japan, Germany, France, and England. As the case moved overseas, it gained publicity worldwide as the two biggest smartphone companies went head to head in the courts (Lee 117). Thus this lawsuit could be considered a marketing strategy to increase publicity.

### *First Verdicts and Later Developments.*

In August 2012, the first verdict of the US trial of the Apple vs. Samsung lawsuit was issued. The jury favored Apple and their case that Samsung infringed their designs, awarding Apple 1.409 billion USD. It directed Samsung to repay the damages (Gallagher). As for the countersuit of Samsung against Apple, the jurors rejected Samsung's case that Apple also infringed Samsung's intellectual properties. Apple challenged the part of the verdict in which the jury decided that the Galaxy Tab does not

infringe the copyright and intellectual property of Apple's iPad. Along with this challenge to the ruling, Apple also pursued an injunction against Samsung products in the States. Samsung requested a new trial by claiming that the verdict was not supported by any testimony or evidence.

Since the Samsung products Apple wanted to ban from sale were mostly off the market except for Galaxy II, Apple began another lawsuit against Samsung, including more recent products as a part of the lawsuit. By including more Samsung products, Apple increased the risks Samsung would take if they lost the lawsuit, putting Samsung entirely on the defensive. Meanwhile, Apple lost the intellectual property lawsuit in Japan.

Samsung took a different approach towards the lawsuit after the loss in the States. They took the case online and appealed to the general public. This strategy allowed Samsung to appeal to netizens and sway their opinions. This was meaningful, especially given that in Korea, where Samsung is based, it has developed a loyal online community. Samsung intended to undo the negative criticism headed they were experiencing. However, this strategy proved to be somewhat ironic as Samsung tried to leak trial documents, which agitated the judge in the case.

Later in the year, Samsung won the lawsuit regarding copyright infringement of the Samsung Galaxy Tab and iPad in the UK ("Apple Loses UK Tablet Design Appeal Versus Samsung"). Apple then received a court order to write an

apology. The apology included incorrect details on the copyright infringement claim and therefore was forced to write another apology. Furthermore, the UK court order made Apple pay for most of Samsung's legal fees in the law dispute in the UK.

Meanwhile, Apple and Samsung's lawsuit included the iPhone 5 and Android 4.1 Jelly Bean (Bishop). Samsung then used statements from Apple and HTC to prevent a sales ban. As a result, Samsung was able to receive the settlement document between Apple and HTC.

Apple and Samsung both added Galaxy Note II and iPad Mini to the copyright infringement lawsuit. The scale of the case grew with the addition of few more recently launched products, including the ones mentioned. Next, Apple was denied their request to ban Samsung products permanently, and the court denied Samsung's request for another trial based on juror misconduct.

The lawsuit slowly tilted in Samsung's favor. Apple had to pull Samsung's Galaxy S III from the sales ban list as the judge accepted Samsung's appeal as "Samsung argued that the device had not been officially released in the United States, and therefore shouldn't be covered" (Bishop). Furthermore, Apple's motion to revive the sales ban for Samsung Galaxy Nexus was lost in court as they failed to demonstrate the connection between consumer demand of the Galaxy Nexus and the infringing feature. Adding on to the two losses Apple faced in court, Apple's patent

request for the "Bounce-Back" patent, "the bouncing animation that takes place when a user scrolls past the end of a page" ("US Apple Bounce-Back Patents Ruled Invalid") was lost as it lacked "dignity." Within several months, Samsung was able to gain an advantage in the legal dispute. In June, Apple was also denied the right to add Samsung Galaxy IV to the patent lawsuit (Fekete).

Not long after, Samsung was blamed for leaking confidential legal documents from Apple regarding its patent licensing agreements with Nokia, Ericsson, Sharp, and Philips. These documents, labeled "Attorney Eyes Only," were leaked through a report composed by expert Dr. David J. Teece. The report was initially created to help Samsung evaluate "Samsung would be due if Apple had infringed upon some of its patents" (Bishop). This report then was shared with 90 of Samsung's employees, including executives and those who handle patent licensing and 130 outside lawyers from various law firms. Additionally, Samsung executive Dr. Seungho Ahn used privileged information as leverage when negotiating a licensing deal with Nokia. Apple and Nokia, therefore, put towards a motion to sanction Samsung. With a confidential document that they weren't supposed to have access to, Samsung could create a competitive advantage in negotiations. Although it could be perceived as a strategy, it was a deal negotiated in bad faith. The judge overseeing the case told them to explain why they shouldn't be fined. As a

response, Samsung admitted that they did not follow procedures and were "deeply sorry." Apple and Nokia then gave recommendations for Samsung's punishment. Later, it was found that Apple itself leaked the confidential documents they accused Samsung of leaking.

Apple leaking their confidential documents to punish Samsung was a strategic move in the legal dispute. Furthermore, it made Samsung's use of these documents legitimate. The strategy Apple employed to turn the tides of the lawsuit could be perceived as strategic. However, it was illegal and executed in bad faith.

In 2015 the court reduced Apple's original 930 million dollar win over Samsung, and the trial progressed to the Supreme Court. A 400 million dollar win for Apple in 2012 was overturned by the Supreme Court to reassess the damages done (Samsung Electronics Co., Ltd., Et Al. v. Apple Inc.). In 2017, Samsung was able to drag Apple back to a retrial over the patent dispute. And in 2018, the two smartphone giants were able to settle their patent lawsuit, ending the 7-year long legal conflict.

#### **Post-Lawsuit Strategies of Samsung and Apple**

After the lawsuit, the two companies set forward with different visions for their future. While Samsung focused their technological advancement on their hardware, Apple became software-focused with additional luxury items.

Samsung initially gained a brand image centered on its smartphones' durability when it released

the early Galaxy models. Promoting the image of durability, Samsung promoted mobile products from its leading brands such as Galaxy S, Note, A, and a few others that focused on their hardware. Furthermore, Samsung products garnered the reputation of a premium phone brand. With increased computing power for their latest production, larger screen, and aesthetically pleasing designs, Samsung promoted the Premium image of its brand. Furthermore, using the advantages of android being the phone's operating system, Samsung implemented a strategy of focusing on increasing the technological capabilities of the phone. Using the large number of services that the mother company of Samsung Electronics provides, the mobile phone company can add functions/apps that work hand-in-hand with such features. Another strategy that could be found in Samsung mobile products is the user-friendly interface. The consumer experience of Samsung products was vital in its establishment as the brand favored by elderly customers. By integrating top-quality hardware products and a user-friendly interface, Samsung exerted dominance in the smartphone market.

Apple differentiated their brand by focusing on the software aspects of the mobile market. Apple uses its independent platform (iOS) and application store and has specific products that only work on its platform. For instance, their applications like Logic Pro X, Final Cut Pro, Garage Band, iMovie are some products targeted

at amateurs and professionals for video and music production. With the development of Apple Pay, Apple Music, and Apple TV, Apple successfully expanded the software business. The brand image they were able to create differs from Steve Jobs's original vision. Instead of minimizing unnecessary functions and designs like their former CEO's vision, they instead endeavored to develop new services or functions that many customers do not find critical in their daily lives. People did not think supplementary products such as iPads pros, iPencil, and apple watches are important.

#### **Current Relationships of Apple and Samsung**

The current relationship between the two Smartphone giants is particularly interesting as Samsung is one of Apple's suppliers. Since Samsung is the only company that can make OLED chips, NAND display, and DRAM chips, even Apple, Samsung's biggest competitor, has to get supplied from Samsung to maintain the high quality of their products. Although Apple is becoming a more software-oriented company, the main stream of revenue is still the iPhone. Without the components Samsung provides for them, they would not maintain high production volume. On the other hand, as the only supplier of these particular technologies and critical parts of smartphones, Samsung can make contracts that significantly benefit them. The agreement with Apple states that if Apple does not buy a certain quota of components, it is obligated to

pay Samsung. This enables them to ensure financial security even when a stream of revenue is compromised. This strategy allows Samsung to benefit significantly in a situation where the market is in a slump.

#### **Samsung and Apple during COVID-19**

During the COVID-19 pandemic in February, Apple had to suspend much of its productions and sales as its infrastructure is primarily based in China, where the pandemic originated from (Clover). Most of Apple's suppliers could not operate their business due to the high risks the workers faced. This resulted in a pronounced decline in sales for the iPhone of 7%. However, they were able to gain a 17% increase in revenue from the services they provide. Furthermore, Apple gained a 23% increase in sales from wearables. The establishment of software services allowed the company to reduce losses of iPhone sales. In such times of hardship, the company's strategy to shift the main focus of sales from mobile phone products to software and wearable devices proved successful.

Samsung, on the other hand, was different from Apple. COVID-19 caused many workers and students to go online instead of the usual offline workspace. This move online increased the demand for electronic products such as monitors, cameras, and other technologies to access virtual workspaces and classrooms. Since Samsung has a monopoly over technology necessary in products for virtual communication such as NAND display and DRAM chips, they could turn a profit while

other companies were facing significant financial difficulties.

Each company's vision enabled them to work around the hardships presented to them by COVID. Apple's approach to monopolize the market through innovative software updates and services allowed them to fill in the revenue lost from phone sales and find creative ways to expand the business. Through these methods, Apple hit 4 billion USD in company value. Samsung, on the contrary, used their dominance in the technological aspect of the market to meet the market demands and thus expand its position in the technology market. These are two notable strategies that were opted for survival as Apple is firmly branded around the iPhone and IOS while Samsung Electronics is a portion of a larger international company. Apple solely depends on its line of products and services to self-sustain. And keeping users hooked on their platform and services while using their products can solidify a customer base that is unlikely to change phones or services due to the comfort and efficiency Apple currently provides. Samsung Electronics is a subsidiary of Samsung and thus has access to information and knowledge gathered in other fields. Furthermore, their business depends on their mobile phone brand to succeed as they own many patents and products aside from mobile phones. The different backgrounds of each company created different market strategies.

A rising competitor in the mobile phone industry is the Chinese mobile phone company Huawei.

Huawei benefits from the cheap labor costs offered by the Chinese workforce. Using their lower labor costs as a competitive advantage, Huawei is emerging as a mobile phone powerhouse that could threaten Samsung and Apple's position in the current market. By having access to some of the Chinese government's technical information, they can catch up rapidly with their great rivals, Apple and Samsung.

### **Game Theory, Social Darwinism, and the iPhone-Samsung Rivalry**

Game Theory is the study of behavioral economics by creating a "game" situation where the "players" compete against each other (Osborne 1). It is a mathematical study of decision-making ("What exactly is 'game theory'"). A sub-game from the game theory that can be used to represent the case of Apple and Samsung is the prisoner's dilemma (Rapoport 199). Each firm has the choice to either cooperate or compete. If both parties cooperate, both parties will benefit, but if one party competes or deceives the other while the other party does not compete, it gains a higher benefit than when both parties cooperate. If both parties compete, they both get a penalty. Although not identical to the game's setup, the situation that Samsung and Apple put themselves in, while competing for monopoly in the mobile phone market, is quite similar to the prisoner's dilemma. The unique condition in the relationship between these two is that Samsung is both Apple's supplier and competitor. So the

growth of Apple is both beneficial yet threatening to Samsung's posterity.

When Apple sued Samsung for copyright infringement, both parties could have enjoyed the rewards of cooperating in expanding the smartphone market. Apple, however, competed (legally) to gain control over the growing market. However, Samsung's retaliation in court (which can be considered competition) created a lose-lose situation for both companies. The rivalry Apple had against Samsung's successful products brought a counterintuitive result. Due to the longevity of the court-dispute, Apple failed to benefit from its aggressiveness, as well as Samsung. The loss of trust Apple caused resulted in the failed cooperation between the two rising competitors. However, this relationship was altered as Samsung has become the only manufacturer of LCD displays and DRAM, both critical for the production of Apple products (Ojo). The cooperation began again as they both benefited from the sales of Apple products either through direct revenue or supplying parts for the products.

In game theory, the choice of cooperation provides a lower return with minimal risk, while the defection provides high returns with higher risks (McNulty). The unique relationship between Samsung and Apple can also be explained through Social Darwinism.

Social Darwinism is a theory that adapted Darwin's original theory that that stronger individuals or groups are naturally selected to

survive (Rogers 268). The idea behind Social Darwinism in the context of Apple and Samsung is that more powerful companies will survive. Following this theory, Samsung and Apple have to cooperate in order to survive. With competitors like Huawei, LG, and other emerging tech powers in the mobile phone industry, the importance of Samsung and Apple maintaining their dominance in the industry is paramount. However, these new smartphone companies have been taking over these traditional brands (Mawad). To maintain this position, Apple was forced to cooperate with Samsung and use their advanced products to manufacture iPhones. Samsung also had the incentives to cooperate with Apple to maximize potential revenue. Furthermore, the cooperation of the two companies led to the increased size of the overall phone market, which benefits both parties.

#### **New Emerging Smartphone Brands and the Apple-Samsung Strategy to maintain Duopoly**

Apple and Samsung together have virtually monopolized the mobile phone industry since the release of smartphones. This duopoly of the two companies has caused friendly competition between Samsung and Apple. Both companies benefited from the rapid development in technology and the growth that followed from the competition. However, the development stopped without the entry of new competitors in the market, and the quality of products reached



stagnation. Apple, for instance, purposely slowed down the operation of the iPhone a fixed time after purchase so that customers would buy new iPhones. This allowed Apple to consistently make revenue even after the rate of development of technology for mobile phones was slowed down. Considering how Apple products have their own system and work best with other Apple products, the Apple users are more than likely to return to Apple products when their current mobile phone malfunctions. Through this strategy, Apple maintained/bolstered its revenue without significant changes or innovations in its products. Through the revenue generated with this strategy, Apple could integrate other services into their business and thus expand to different markets. With new competitors like Huawei and other Chinese competition, the cooperation between Apple and Samsung is of more significance than ever. With the Chinese market behind them, Huawei and other Chinese companies are developing at high speed. With leakages of technology from Samsung, Chinese companies might be slow starters but are catching up. Furthermore, political issues between the US and China, and South Korea and China, are causing changes to the mobile phone market in China. Due to the changes in the industry, the cooperation of Samsung and Apple will be critical in maintaining the status quo of Apple and Samsung's duopoly. Duopoly is a structure where two companies control the market and prevent others from gaining influence (Puu 573).

A duopoly is a form of Oligopoly where a few firms control the market. Apple and Samsung are contesting each other to prevent a monopolistic market from happening. However, these two companies can drive prices up for smartphone products and cause price inflation. A duopolistic market is dangerous; unlike a competitive market where the prices are driven down, the two market leaders can drive the prices up, which Apple and Samsung did by increasing prices on their newer models.

Apple and Samsung have established another common ground with Google. Google provides critical services for both Apple and Samsung. For Samsung, Google provides the Android system that Samsung phones need to operate. Furthermore, the Google Play store offers a significant portion of the services available on Samsung smartphones. Google is the default online search engine for Apple products, and while Google may have paid for this privilege, this arrangement also benefits Apple. For Google, being the default search engine for such a vast number of internet-enabled devices further secures its position as the world's most used search engine. Google is also the most advanced and reliable search engine in the world (Shaw). By establishing a firm status as the base internet platform in the two biggest mobile phone providers, Google can solidify its position as a market leader in the internet search industry. With the increasing usage of smartphones in the modern era, internet service providers and phone

providers' interdependence is significant. Without cooperation, both parties will not benefit.

### **An Alternative Scenario**

An alternative scenario to the Apple and Samsung smartphone market, since the introduction of the iPhone and the smartphone era, the conventional 2G phone providers, such as Blackberry and Nokia, could have entered the market following those trends. If brands such as Blackberry did not fail, things could have been different (Holla et al. 1). If they entered the market with Samsung and Apple, it would have become a perfectly competitive market, and the prices would have been driven down. Apple would likely still have become a market leader as they brought the innovation and created trends. Samsung would cooperate with other competitors in the market and gain a higher market share. With other firms sharing the oligopoly market, positive competition would be promoted, and firms would discover their method of survival (Mazzeo 24). The more evenly spread out market would encourage the higher quality products to be sold at lower prices. Thus the equilibrium price of smartphones would be significantly lower with better quality products. The increased quality of smartphones would also improve quality of life.

To survive in a perfectly competitive market, brands would cooperate with others. Through cooperation, they would gain advantages in the

market and provide better products. The cooperation, for instance, would be a merger or a collaborative product that brings together the strengths of the firms. However, other firms may select to defect and take over other competing firms of smaller sizes to increase the market share. Such strategies would significantly alter the outlook of the market.

### **Conclusion**

The Apple vs. Samsung patent war was one of the most important developments in the tech world as it established the future of this industry. Without a doubt, Apple had come up with revolutionary technology and was highly protective of its copyrights. Steve Jobs had been especially vocal about protecting what was theirs. The touch screen that spanned the entire phone was revolutionary, as most phones previously had analog buttons on them for typing. Those buttons took up a lot of space at the expense of cell-phone screens, so the phones were primarily limited to being used for communication only.

With the introduction of the first iPhones, the phone industry was changed for the better. It became revolutionized even more with the emergence of 3G technology as the iPhone could do so many tasks and become a real "smartphone." All this was not without risks for Apple Inc. as other phone brands copied this revolutionary technology into their phones. Samsung was the only competitor that could

threaten Apple sales, so the company sued them. The result was not what Apple was expecting, and there were many technicalities that the courts had to consider. Also, in some countries, Apple had success, while lawsuits in other countries failed.

It all proved unimportant as Apple and Samsung eventually joined to maintain their hegemony against other competitors. Apple now relies heavily on Samsung for many critical components used in its phones. Although having been bitter rivals, the brands now specialize in different areas of the industry and have gone past their old feud. The results of the duopoly are undoubtedly excellent for these two international brands but devastating for an average smartphone user. These two companies now have the ability to set the minimum prices of smartphones in the market. If there were multiple competitors, the prices would have been lower.

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