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IPhone analysis through the lens of economics

## Background

The design of the first iPhone was announced by Steve Jobs in early 2007. Over the past years, Apple Inc. has tweaked and refined the product into what it is currently. The revolution of the product has made it become what it is today (Garsten, 68). Over the past decade, iPhone has transformed the operations of apple Inc. and made it the world's biggest and profitable company. Several chip makers, app developers, and other electronic industries depend on the Apple economy for business and also for their survival.

## Introduction

An iPhone is a not anew garget but can be considered a new technological ecosystem.
The product is powered by an operating system referred to as iOS. The operating system has been the key to, the success of iPhone. There is, however, concern on the dominant position that the product has taken with its suppliers and the consumers. In its make, an iPhone does not have to be price competitive. The current model iPhone X is the most expensive smartphone ever. Analysts suggest that the components inside an iPhone can be priced at $\$ 200$ and this does not take into account the money and the time spent on research, transport, and software. Statics shows that the top-selling phone in the world in 2017 was iPhone 7 from Apple Inc. The small handheld device is considered to have a large impact on the economy as well as the culture.

Apple has currently unveiled their new models of iPhoneX and iPhone 8. While the customers are still waiting for the official launch of iPhoneX, the booking for the device had started, and the demand for the product has sent the share price of the company rising.

In this economic analysis, there will be a look at the market structure that the product operates, the competitors in the market, the application of vertical integration in the manufacture of the product, the demand and supply of the product, costs in the production process and the prices of the product and how they are determined.


Source: Apple inc. (2013)

## The concept of demand and supply

The general rule of demand and supply in economics is that when the prices of a given good or services increases, then the demand declines. When the supply of the product decreases, then the demand increases. When the demand for the product increases, the market will satisfy more to satisfy the demand and in the process adjust the prices. The rule, however, does not fully apply to the economics of iPhone.

The demand of iPhone follows the tastes of the consumers. The demands of the consumers are favorable to the Apple product as compared to other product. iPhone is a luxury
brand and is highly demanded by consumers who value it for its high-quality features and its quality structure. The various needs that the product satisfied have made it a valuable product for the consumers.

As any other products, several factors affect the demand for iPhone. One of the factors that have affected its demand is the demand for substitutes. When the iPhone was launched in 2007, there was a gap between the product and its competitors, but after sometimes, the gap was closed, and there are some close substitutes for the product. The demand then decreases when products with the same technology were launched. Brand image is another factor that has greatly affected the demand for the product. The products have had a positive image, and the consumers have been faithful to it and recommended others to use the product. The technology of the product is another factor that has encouraged its use such that the consumers are willing to pay higher prices for the advanced versions of the product. The demand for the product is backed by the willingness of the consumers to pay.

The supply of iPhone can be defined as the amount of the product that can be sold in the Apple store. When the demand for the product increases, the organization will be willing to manufacture more. The increases in sales in iPhone show increases in the demands of the product. The prices, however, do not affect the supply of iPhones. The demand for the product is the need of the people to use the product at the set price. The demand for iPhone is high despite the high prices as compared to the other manufacturers and competitors. The supply and demand curve for iPhone can be used to show the connection between the supply and demand of the product. Equilibrium is obtained in the market when the amount of iPhones that are supplied to the market meets the demands of the consumers. This is however not the case and mainly in the
iPhone market. In some cases, there are supplies such that the amounts of products manufactured are more than the demanded.

In the demand-supply curve for iPhone, there is always a shortage. Any time that a new model of iPhone is released into the market, there are many people who are willing to buy it and art many of the cases, there is not enough to supply to meet the demands. The substitution effect is then experienced in these cases. Substitution effects come about when a product has a high demand and the supply cannot satisfy the demand. The consumers in these cases will then opt to use other substitutes. In the case of iPhone, when apple is not able to meet the demands of the consumers; they opt for substitutes such as Samsung that have similar characteristics.


## Market structure



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The market structure refers to the competitive environment in which the sellers and buyers of a product. iPhone products operate in the market where there are a few sellers of homogenous and differentiated products. In this market, almost $60 \%$ of the sales are mainly from five sellers including Samsung, Apple, Lenovo, LG, and Huawei. The products that are sold in the same niche in the market are differentiated. The theory in an oligopoly market is that when a producer increases the prices of its good, then it would lose much of its market share. iPhone is
partially affected by this theory since Apple has the product iPhone being the most expensive smartphone in the world but still has the largest market share.

The smartphone is one of the prominent oligopolies, and it is also considered one of the most profitable markets in the whole world. The most identified characteristics of this market structure are the number of sellers. In the market structure that iPhone operates, the number of sellers is small, and each of them holds a sizable percentage of the market share. In this market, iPhone and Samsung continue to hold the dominant share. In the market, Samsung has always looked the price of iPhone before making their pricing decisions. iPhone is not affected much by the pricing decisions of the other competitors in the market.

The market structure that iPhone operates being an oligopoly, the barriers to entry to the market is high. The barriers are high since there are several factors such patent rights, control of most of the production resources and customer loyalty for the brands that already exist in the market. Apple has existing loyal customers, and they will not be encouraged to switch their taste when other brands get into the market. The market structure makes iPhone operates it has joint control over its prices. The independence between firms in these cases is mutual so that they enjoy the mutual higher profits. The main competitor of iPhone in the market is Samsung which tends to manufacture products with similar characteristics.

From research, iPhone still dominates the market despite its high princes since the organization has been a leader in the innovation hence the organization has been able to build a loyal customer base. The marketing campaign for the product has also been strong, and this has made the product appear to be fun despite the high prices. The trust that the organization has created in the market enable it still has a large market share. iPhone is durable as compared to the other products by the competitors.

## Competition

Any time that there is an upgrade in iPhone or unveiling of a new product, the rest of the industries have tried to anticipate the moves of the organization to come up with phones and smartwatches with the same characteristics. Competition has been stiff in the industry, and any time there is a new product in the market, the main competitors tend to develop strategies through which they will keep their market share. The range of products that are offered by Apple which is the manufacturer of iPhone is wide, and the company is considered a fierce competitor in several industries.

The smartphone industry was at one time dominated by Blackberry until there was the introduction of iPhone. The introduction of iPhone in the market forced Blackberry to restructure its operation several times. Despite the other smartphones being sold in the United States, iPhone has still maintained a large market share. Apple and iPhone in the current market face competition from smartphones that have the Android operating system. The Android operating system is installed on other devices that are non-Apple phones. Some of the products that have installed the Android operating system in their products include HTC, Huawei, Sony, Samsung, and Lenovo. The main competitor of iPhone is Samsung. The competition is fierce regarding the operating system, the capabilities and the prices of the products.

## Vertical integration

Vertical integration is the principle that a single company controls the end product together with its parts. In the operation of Apple for 35 years, it has championed vertical integration model. The organization has integrated the development of hardware and software for the manufacture of its products such as iPhone. iPhone has its software and hardware manufactured by Apple. The organization also designs its processors. The integration ensures
that the innovations that are done to the processors keep up with the innovations in the hardware and the applications that the device uses.

Vertical integration in the manufacturing process of iPhone has been an advantage in terms of innovation and performance boost. Designing the processes by Apple has boosted the performance of the product. The A4 processor used in the product runs at 1 GHz is slow as compared to those that are used in computers but the product becomes faster regarding performance when on some tasks. The speed is because the software is optimized to the processor from which the product is manufactured. Through vertical integration, the decisions made by Apple in the manufacture and upgrade of iPhone have been easy.

## iPhone economic environment

The general economic environment affects the sales and the demand for iPhone. In January 2016, Apple as the manufacture forecasted a decline in sales for the fists time since the start of the operations of the company. Some of the factors that affect the managerial decisions of iPhone include the extension of markets and the saturation of the market. The economic conditions have made the product be in a situation that even pushing the expansion of its manufacturing in China is not enough to save the situation.

In the changing economic environments, Apple has to make decisions on what to produce, how the production is to be done and those that are targeted in the changes. iPhone manufacture has responded to these forces and on several occasions upgrade of products. In making the decisions on the changes in the economy the product always considers the costs and the supply of raw materials, the advancement in technology and the impacts that these also cause to the competitors.

The changes in the economic environment that iPhone is sold are together with the inflation. Inflation has affected the sales of the product, and in such regions where inflation is experienced, Apple has to make decisions to ensure the prices of its products are not affected. The other external factor that has affected the sales and the manufacture of iPhone is a growth of interest rates in some of the market that the organization operates. Other factors that affect the decisions of Apple in the sale of iPhone include taxes, the saving rates of the consumers, unemployment rates, recession, depression, the confidence levels of consumers and the consumer disposable incomes.


The economic environment is important in determining the success or the failure of a business or a product, iPhone is not an exception. In the considering these factors, iPhone has always forecasted the market and make the right adjustments to maintain a si8gninfuicant market share even in cases that there are changes in the factors. While iPhone remains profitablegenerating a record of 18.4 billion dollars in the last quarter of December 2016, it is currently not profiting as expected. The external factors have affected the profitability of the product. In such conditions, even the competitors of the product still make losses since the economic environment factors are not controllable, but decisions and strategies can be made to ensure the factors do not adversely affect the operation of the products.

Changes in laws, rules, and regulations are other factors that have affected the operation of the organization. Apple and the sale of iPhones are done in many countries with different regulations. The changes in the rules, regulations, and policies in these countries affect the operations of the organization. The organization in its sale of the product has to consider the ethical regulations in the market. The political situations in the countries also affect the decisions made on the sales and the supply of iPhones in some of the countries. In cases when the political
stability in some of the areas that the organization operates such in the manufacturing countries, the operations are affected, and the decisions of launching and sales are affected too.

## Elasticity of demand

Demand elasticity measures how the changes in the quantities that are demanded responds to changes in prices. The most important factor in the elasticity of demand is available of substitute of a product. When there are more substitutes, the product becomes more elastic. Despite the availability of substitutes, iPhone is inelastic because of its uniqueness. Price elasticity of demand can be shown as in the figure below.

Demand for a normal good


If price goes down, demand increases
Source: TheTechnalyzer.com

In the normal elasticity of demand, it shows that when the price of normal goods goes down, the demand for the good goes up. When P1 moves top P2, Q1 shifts to Q2. The opposite of the demand is also true. The graph of iPhone price elasticity is as shown below

## Demand for the iPhone



The iPhone demand is quite inelastic
Big changes in price have small effect on demand
Source: TheTechnalyzer.com

The price elasticity of the demand for iPhone tends to be more vertical. This implies that when there is an increase in the prices for iPhone, the demand for the product is not much affected. This can be determined by comparing the distance between P1 and P2 and Q1 and Q2.

The demand for iPhone is almost similar to that of a necessary good. Its demand is like that of a good that people cannot do without. The reasons for the demand are not clear, but only few can be mentioned. Some explanations that have been given to the inelasticity are worldwide reach and distribution, excellent design and material, effects of the ecosystem where having most products of the company adds value and great customer service. The elasticity of iPhone depends on the model and the product phase.

## Cross price elasticity

The launch of iPhone in the market has also affected the prices of other products of the competitors and the complementary products. This is referred to as cross-price elasticity. Cross price elasticity assumes that when the price of a product A changes, the price of the substitute of the product $B$ is affected. In iPhone, when there is the launch of a new model, many people tend
to shift from the use of the old models. In an example, after the launch of iPhone 5, the demand for iPhone 4 decreased, and many of the users wanted to experience the new model. The complementary goods that were used in iPhone 4 also reduced. The demand for iPhone 4 decreased when most of the users switched to iPhone 5. The cross elasticity of iPhone products is positive.

## Income elasticity

The income level of the consumers is an important aspect when determining the demand for a product. In economics, the change in the level of incomes of consumers leads to a change in the quantity of goods that the consumers demand. Income elasticity of iPhone is calculated as a percentage change in the quantity demanded when the income of the consumer's increases. In areas where the product is currently penetrating the market such as in chine, the increase in the income of the consumers increases the demand for the product. The income elasticity of iPhone is hence positive.

## Costs involved in the production of iPhone

The main inputs in the manufacture of iPhone include material and labor. The costs that are incurred in the process include manufacturing costs, labor costs, research and development costs and marketing costs. Data from the production of iPhone shows that a single product makes about 30 dollars for the manufacture of the product. When the costs of the device are compared to those of Motorola, it is evident that the manufacturers are far regarding the costs that are used in the manufacture. The costs of the product also consider the efficiency of the manufacture production of economies of scale that are achieved by the organization through the homogeneous characteristics. Apple in its production has however through strategies has ensured reduced costs
in the production of the current products. When the cost of iPhone 2 is compared iPhone 5, the variability in the costs is evident. iPhone 3 had an estimated cost of 280.63 dollars while iPhone 5 cut down the costs to 198.70 dollars with increased space and performance.

One aspect that increases cost in the manufacture of the product is the touchscreen. Other features that increase the costs of the product are the storage capacity of the products and the elements used in the enhancement of the storage. In a situation that iPhone with a storage of 16GB I sold at 659 dollars, the producer makes a margin of $55 \%$ and a profit totaling to 358 dollars. When Appleas the manufacture of iPhone want to make profits, in this case, it has to produce the large quantities were at the same time ensuring the marginal costs are equal to the marginal revenue. Profit maximization of the product can be shown as in the figure below.


In the graph, the point A shows the possible profits that the organization can make in the short term. Profit maximization by the organization is at point B.

## Pricing of iPhone

Several aspects are considered in the pricing of iPhone. Some of the factors that are considered are the product lifecycle. The main strategy that has been used in the pricing of iPhone is cost-plus pricing. The organization estimates the overall costs of manufacturing the products and then adds the oyerhead charge to come up with the price that the device can be sold. According to the estimation of Ahonen, (98) the profits that are added to the products after the costs are considered is $25 \%$. In the previous parts, it was determined that iPhone makes almost $55 \%$ profit. Why does this occur?

Another price that the iPhone products are assigned is referred to as prestige price. Prestige price is used in the marketing of the products due to the nature of the product. The organization sets the margins high and prices since the consumers are willing to pay for the prestige that they obtained when they use the products. The prestige price increases the price of the products even in cases when the prices of the other products with similar characteristics are low. The prestige price is however set with some ethical considerations. Skimming strategy is also used in the sales of iPhone. Through the strategy, different product lifecycle has a different price. Apple introduces a new model to the market at higher prices and then reduces the price of the same model to increase its sales when the product is in the growth stage. The price is reduced until the maturity stage and further reduced in the declining stage when a new model has been introduced to the market. The stages can be illustrated as in the graphs shown below

## The product lifecycle stages



The table below also shows an example of the prices of iPhone in different product stages.

| Stage of development | Price of product (\$) |
| :--- | :--- |
| Introduction | 600 |
| Growth | 500 |
| Maturity | 500 |
| Decline | 300 |

In the past few years, the prices of iPhone have hiked to at least ten times the price that the devices were being sold in 2009. The iPhone 3GS was sold at $\$ 99$, and iPhone X sold at $\$ 999$. The increased demand for the product has led to an increase in price to meet the demand to reach and demand-supply equilibrium. The changes in price with the demand can be shown in the graph below.


## Price (USD)

Conclusion


From the analysis, it can be concluded the operations of iPhone are affected by many macroeconomic factors and the characteristics of the smartphone industry may result in the loss of profit from the sale of iPhone. The competitors are currently gaining a bigger market share and despite prices not being a factor through which the operations of the organization can be affected. Since the nature of iPhone is not a primary need for many people, the risks that the consumers would change their preferences and loyalty towards are low. The demands for the product will continue to be high. Apple, however, should not stop their innovation with the assumption that the loyalty of the consumers will not change. The organization should put up the right strategies to ensure it maintains the market share. The market that iPhone operates is highly competitive, and despite the bigger share, Apple still puts up the right strategies to ensure the market size is maintained.

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