

# GOVERNMENT ARTS COLLEGE, PARAMAKUDI

## UG DEPARTMENT OF MATHEMATICS

**PROJECT TITLE:**

**IREVOLUTION: A Data Driven Exploration Of Apple**

**iPhone's Impact In India**

**SUBMITTED BY:**

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ATSHAYA K	1421121002	14D7E961BA0D4A7A7E249430A3F5D080	
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**DEPARTMENT OF MATHEMATICS**

**GOVERNMENT ARTS COLLEGE, PARAMAKUDI.**

## INTRODUCTION

One year after Apple Inc. CEO Steve Jobs announced the company's industry-changing iPhone on January 9, 2007, at the Macworld convention in San Francisco, the share price of Apple's stock has more than doubled to a January 9, 2008, value of \$179.40 (See Chart 1). This stock price incorporates all of Apple's business, but a large part of the rise in value can be attributed to the launch of the cutting-edge iPhone, of which four million have already been sold through mid-January 2008 (Carew, 2008). Based on this simple observation of the stock price, the iPhone can so far be declared a success, at least from a shareholder standpoint. This paper will explore both the pre- and post-launch activities surrounding the iPhone to explain why it was such a success for the stockholders and why Apple's reputation for unparalleled marketing success is deserved.



**Chart 1:** This chart depicts the astounding growth of Apple's stock from January 9, 2007, to January 9, 2008.

## Project Description

The world has changed as a consequence of the increasing use of smartphones, which have improved communication, connected people, and revolutionized many different businesses. With its main product, the iPhone, capturing markets around the world, Apple Inc. has emerged as a prominent player among the top smartphone makers. India, one of the economies with the greatest economic growth, has seen a tremendous increase in smartphone usage, making it an interesting market to study the effects of Apple's iPhone.

# Empathy map



## Says

What have we heard them say?  
What can we imagine them saying?



## Thinks

What are their wants, needs, hopes, and dreams?  
What other thoughts might influence their behavior?



Persona's name  
Short summary of the persona

Reviews of iPhone Resuming iOS 16

iPhone 16 and iPhone 16 Plus feature iOS 16, offering a new Lock Screen along with new communication sharing and emergency features that together change the way users experience iPhone.

iPhone app store Apple launched its App Store in 2008 — a year after the iPhone's launch — with 500 apps. Now there are 2.1 million on the App Store and 3.4 million on Google Play according to app measurement company App Annie.

Negative: iPhone seems to do many things once. But studies show that makes multitasking — that is, for example, those of us who are simultaneously listening to music, paying Typing — think more slowly and have worse long-term memory because they find it harder to clear out relevant information.

Biggest achievement: One of the signature achievements of Cook's career at Apple has been his work creating its relationship to China, which is unusually positive compared with those of other US tech companies.

Impact of the iPhone on the environment: Apple says the 20% electricity and some components manufacturing come from renewable energy sources. And Company and Regiole services like iPhone manufacturing in 2022 were significant and leading the way in the world.

Future: Future: we believe we will be able to see iPhone users to learn to be and enjoy in the 2020s and 40s and even if they don't have an Apple Watch.

Phone users Apple Fitness+ for iPhone users

Phone users will have access to the entire service featuring over 3,000 studio-style workouts and meditations, all led by a diverse and inclusive team of trainers.

Phones offer more security and privacy: The iPhone even stops apps from tracking your activity online because of a limited OS and platform. Its iMessages and FaceTime video calls are also end-to-end encrypted.

The iPhone Has Changed The Way We Communicate: Before the first iPhone hit the market, a few cell phone companies put cameras in their phones, but the camera used in these iPhones were held and shoulders above the rest.



## Does

What behavior have we observed?  
What can we imagine them doing?



## Feels

What are their fears, frustrations, and anxieties?  
What other feelings might influence their behavior?

[See an example](#)

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

🕒 10 minutes

TIP

You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

Person 1

1. How do you think about it?

2. What is the main problem?

3. What is the main problem?

Person 2

What is the main problem?

What is the main problem?

What is the main problem?

Person 3

What is the main problem?

What is the main problem?

What is the main problem?

Person 4

What is the main problem?

What is the main problem?

What is the main problem?

Person 5

Person 6

Person 7

Person 8



# 3. sheets

Filters

Measure Names

Upc: MOBEXRGVMZ...

SUM(Sale Price)

Marks

Automatic

Color

Size

Text

Detail

Tool...

Measure Va..

Measure Values

SUM(Discount Perc..

SUM(Mrp)

SUM(Sale Price)

SUM(Number Of Rat..

SUM(Star Rating)

KPI

Brand	Disco..	Mrp	Sale P..	Numb..	Star ..
Apple	0	77,000	77,000	11,202	5

Measure Names

☐ (All)

☐ Count of i...

☒ Discount ...

☒ Mrp

☒ Number O...

☐ Number O...

☒ Sale Price

☒ Star Rating

Upc

MOBEXRGVMZWUHC...

Filters

brand: APPLE

Colour

Marks

Automatic

Color

Size

Text

Detail

Tooltip

Colour

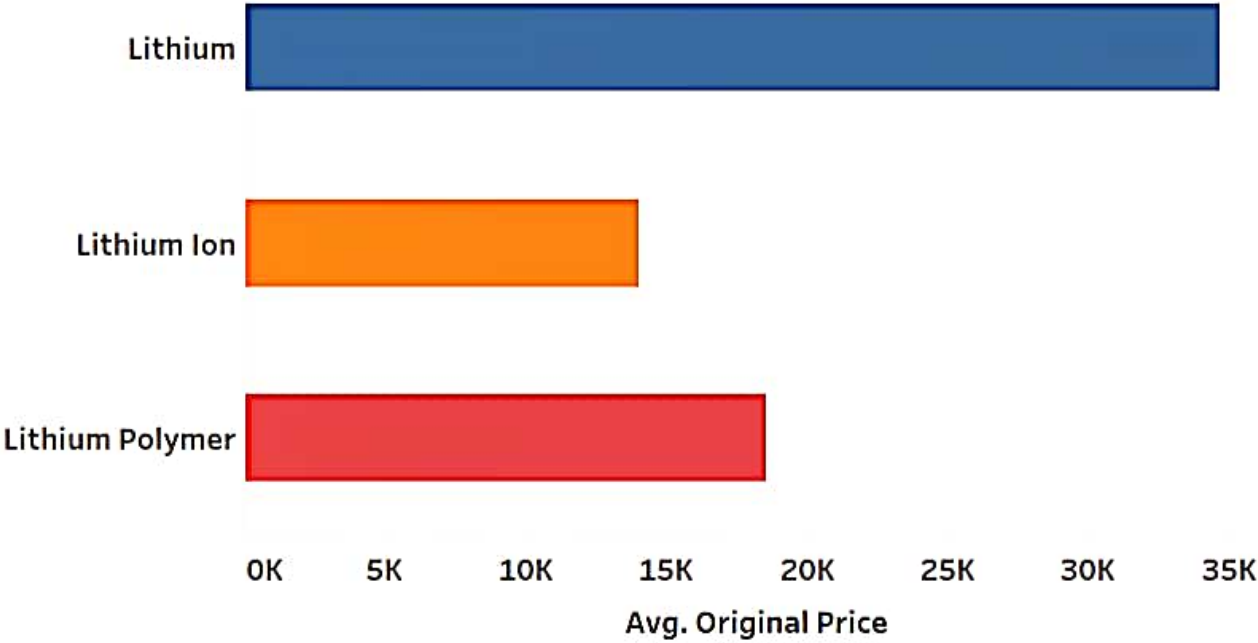
SUM(Original ..

MODEL SPECIFICATION

Model	Processor	Front Ca..	Rear Camera	Col..	
APPLE IPHONE 11	A Bionic Chip	12MP	12MP + 12MP	Black	92,800
APPLE IPHONE 12	A Bionic Chip with ..	12MP	12MP + 12MP	Blue	59,900
				Black	1,99,700
APPLE IPHONE 12 ..	A Bionic Chip with ..	12MP	12MP + 12MP	Black	74,900
				Blue	74,900
APPLE IPHONE 13	A Bionic Chip	12MP	12MP + 12MP	Blue	1,49,800
APPLE IPHONE 14	A Bionic Chip, Core	12MP	12MP + 12MP	Blue	1,89,800
APPLE IPHONE 14 P..	A Bionic Chip, Core	12MP	12MP + 12MP	Blue	99,900

BATTERY TYPE DISTRIBUTION

Battery Type



Battery Type

- ☐ (All)
- ☐ Null
- ☒ Lithium
- ☒ Lithium Ion
- ☒ Lithium Polymer

brand

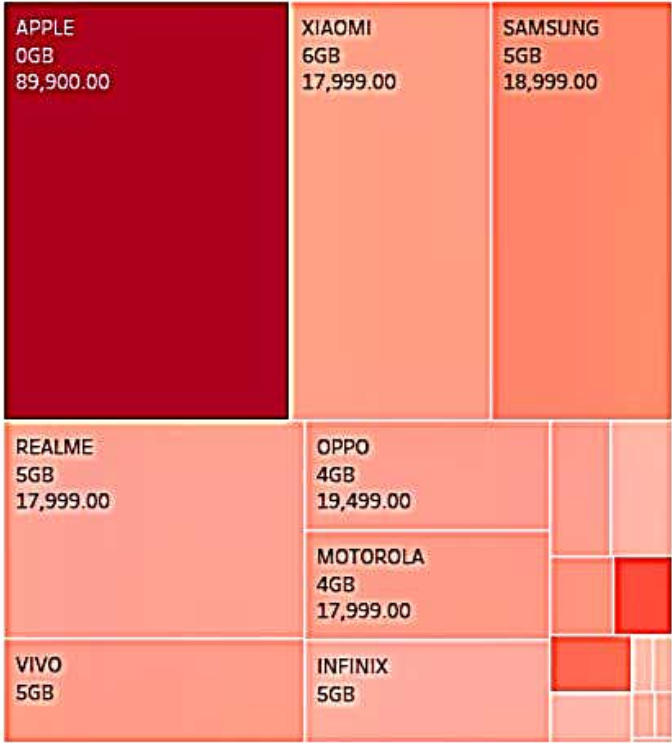
MOTOROLA

Battery Type

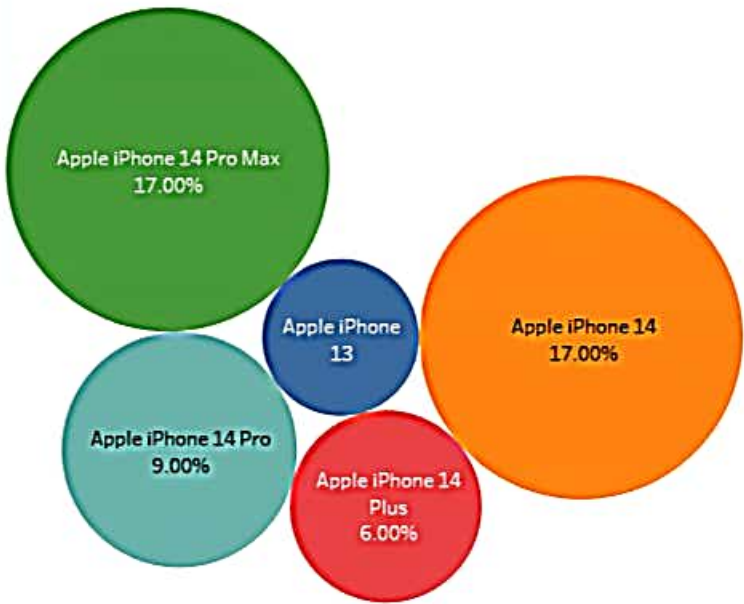
- ☒ Lithium
- ☒ Lithium Ion
- ☒ Lithium Polymer



BRAND PRICE COMPARISON

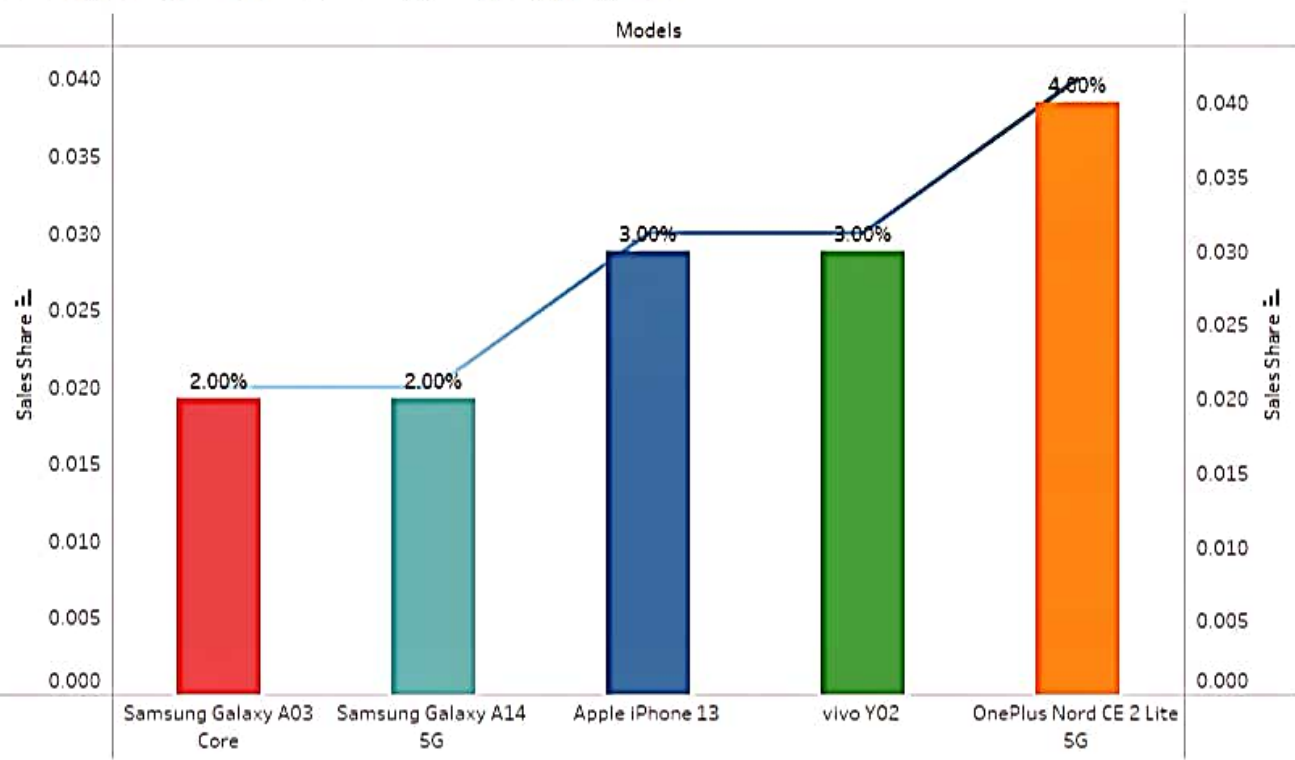


MODEL SHARE



- Models
- Apple iPhone 13
  - Apple iPhone 14
  - Apple iPhone 14 Plus
  - Apple iPhone 14 Pro
  - Apple iPhone 14 Pro...

COUNTRY WISE BEST SELLING SMARTPHONES



Country

India

SUM(Sales Share)

0.02000 0.04000

Models

Apple iPhone 13

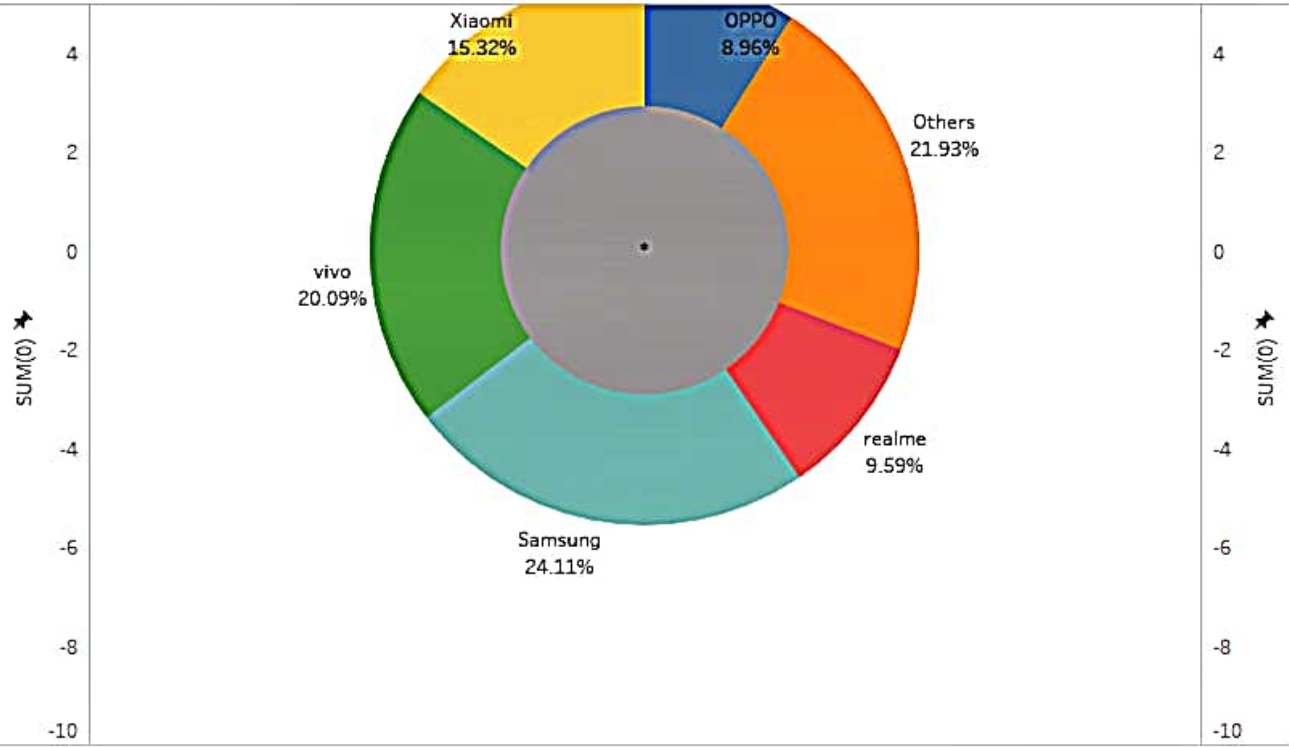
OnePlus Nord CE 2 Li..

Samsung Galaxy A03..

Samsung Galaxy A14..

vivo Y02

QUARTERLY SHARE

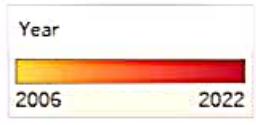
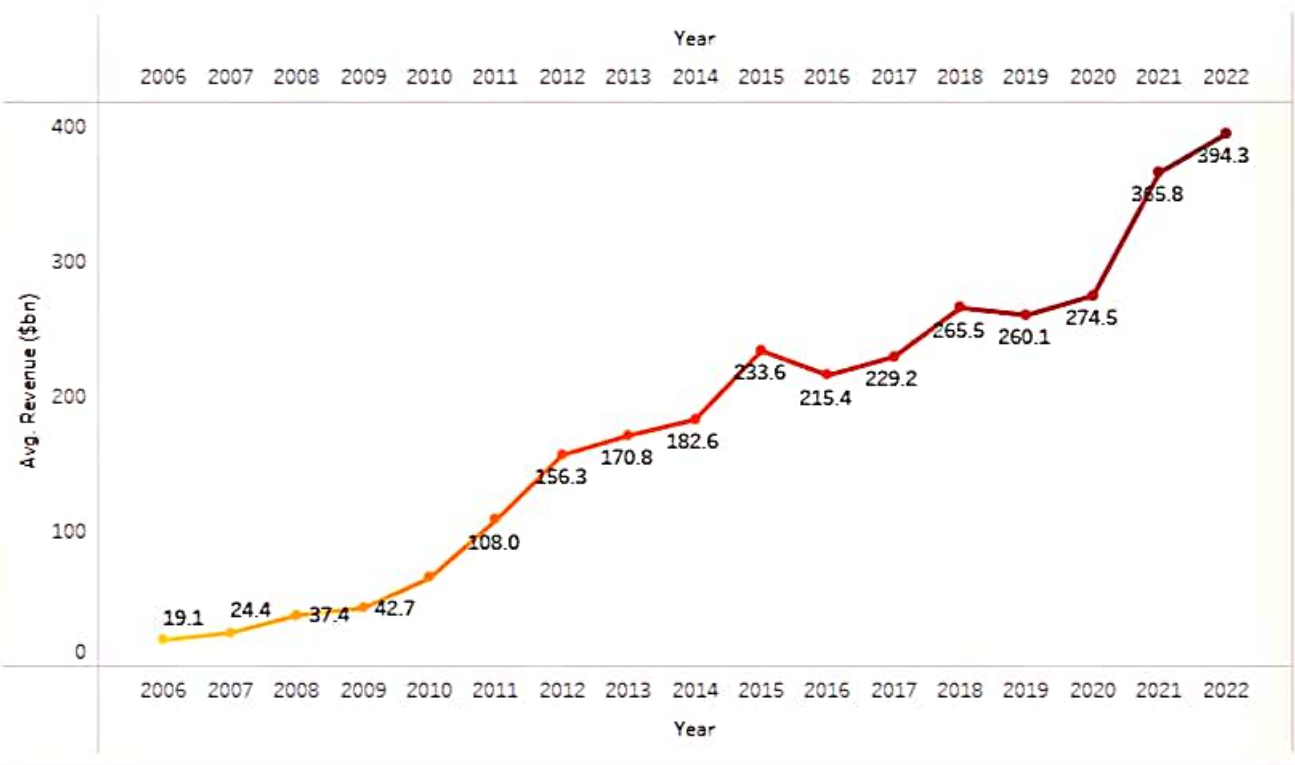


Year  
(All) ▼

Brand

- OPPO
- Others
- realme
- Samsung
- vivo
- Xiaomi

ANNUAL REVENUE

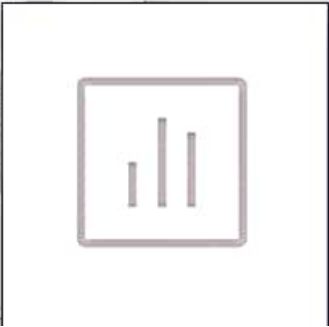
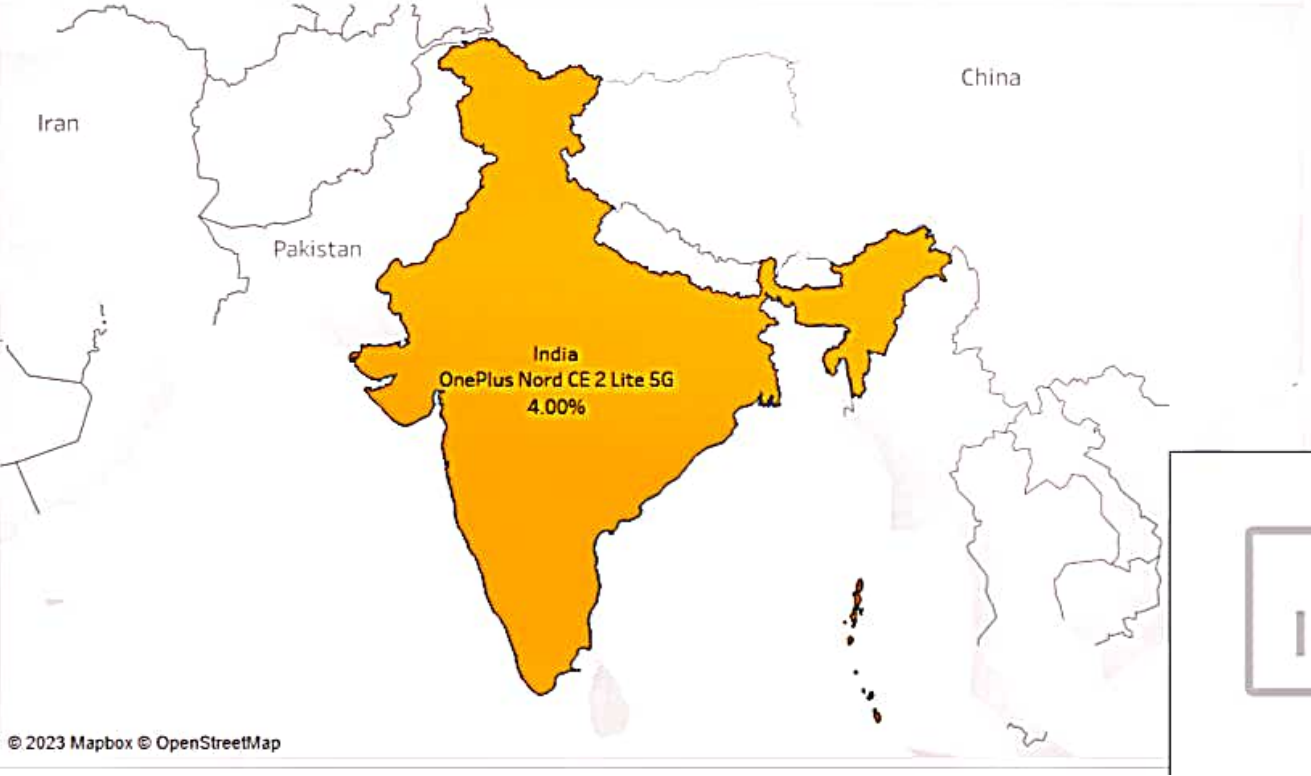




GLOBAL MARKET SHARE

Country

India



KPI 2

Year

2022

Active Users (mm)

Revenue Generated

Units sold (mm)



## 4.DASHBOARDS

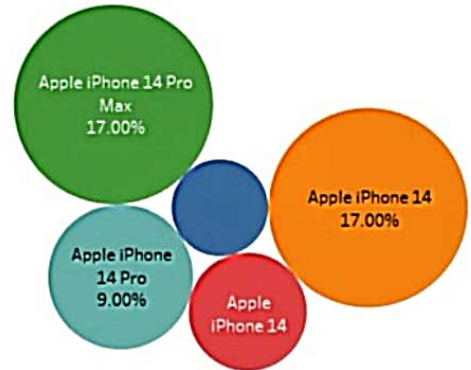
### KPI

Brand	Disco..	Mrp	Sale P..	Numb..	Star..
Apple	0	77,000	77,000	11,202	5

### KPI 2

Active Users (mm)	Revenue Generated	Units sold (mm)
1,334	205	232

### MODEL SHARE



### ANNUAL REVENUE



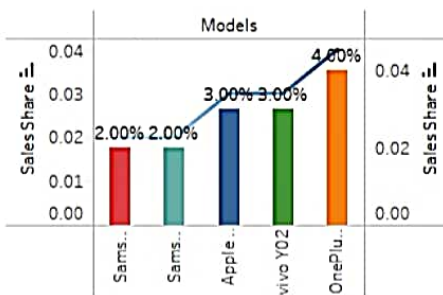
### MODEL SPECIFICATION

Model	Processor	Front Ca..	Rear Camera	Col..	Price
APPLE IPHONE 11	A Bionic Chip	12MP	12MP + 12MP	Black	92,800
APPLE IPHONE 12	A Bionic Chip with ..	12MP	12MP + 12MP	Blue	59,900
APPLE IPHONE 12	A Bionic Chip with ..	12MP	12MP + 12MP	Black	1,99,700
APPLE IPHONE 12	A Bionic Chip with ..	12MP	12MP + 12MP	Blue	74,900
APPLE IPHONE 13	A Bionic Chip	12MP	12MP + 12MP	Blue	1,49,800
APPLE IPHONE 14	A Bionic Chip, Core	12MP	12MP + 12MP	Blue	1,89,800
APPLE IPHONE 14	A Bionic Chip, Core	12MP	12MP + 12MP	Blue	99,900

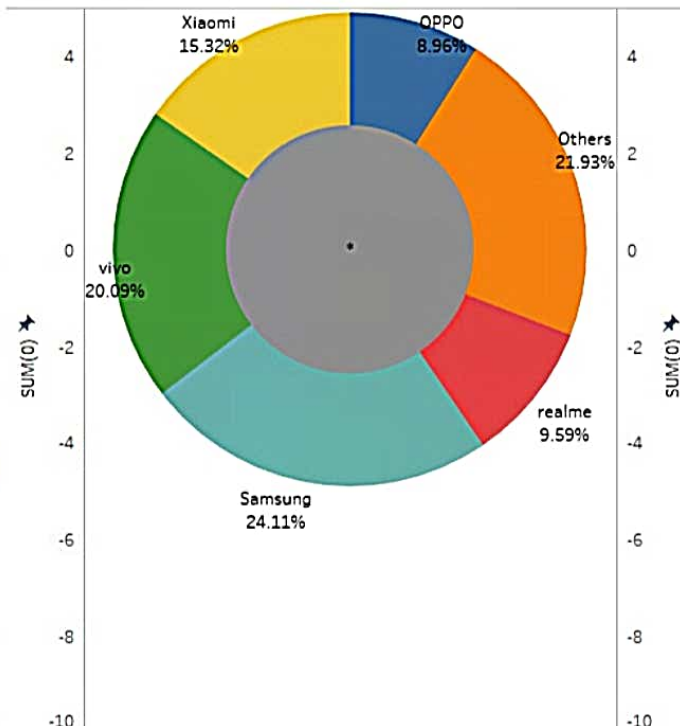
### GLOBAL MARKET SHARE



### COUNTRY WISE BEST SELLING SMARTPHONES



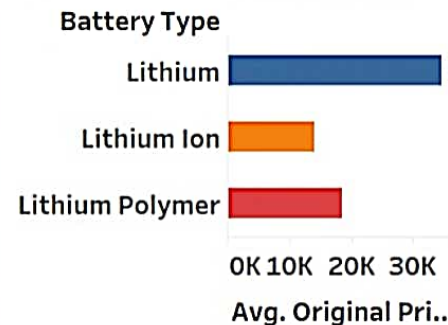
### QUARTERLY SHARE



### BRAND PRICE COMPARISON

APPLE 0GB 89,900.00	REALME 5GB 17,999.00
XIAOMI 6GB 17,999.00	
SAMSUNG 5GB	

### BATTERY TYPE DISTRIBUTION



## 5.STORIES

### Story 1

KPI	MODEL SPECIFICATION	BAR CHART SHOWING BATTERY TYPE	BRAND PRICE COMPARISON	BUBBLE CHART SHOWING MODEL WL..	LINED BAR CHART SHOWING COUNTRY ..	DONUT CHART FOR ..
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Brand	Disco..	Mrp	Sale P..	Star ..
Apple	0	77,000	77,000	5

Measure Nam..

- ☐ Count of iR..
- ☒ Discount P..
- ☒ Mrp
- ☐ Number Of..
- ☐ Number Of..
- ☒ Sale Price
- ☒ Star Rating

Upc

MOBEXRGVM..

KPI	MODEL SPECIFICATION	BAR CHART SHOWING BATTERY TYPE	BRAND PRICE COMPARISON	BUBBLE CHART SHOWING MODEL WL..	LINED BAR CHART SHOWING COUNTRY ..	DONUT CHART FOR ..
Model	Processor	Front Ca..	Rear Camera	Colour		Colour
APPLE IPHONE 11	A Bionic Chip	12MP	12MP + 12MP	Black Red White Yellow		All
APPLE IPHONE 12	A Bionic Chip with Next Generation Neural Engine	12MP	12MP + 12MP	Blue Black Green Purple Red		APPLE
APPLE IPHONE 12 MINI	A Bionic Chip with Next Generation Ne..	12MP	12MP + 12MP	Blue Black Red		Colour Blue Black Null Deep Purple Gold Green Midnight Pink Purple Red Silver Space Black Starlight White Yellow
APPLE IPHONE 13	A Bionic Chip	12MP	12MP + 12MP	Blue Null Midnight Pink Starlight		
APPLE IPHONE 13 P..	A Bionic Chip	12MP	12MP + 12MP + 12..	Silver		
APPLE IPHONE 14	A Bionic Chip, Core	12MP	12MP + 12MP	Blue Null Midnight Purple Starlight		
APPLE IPHONE 14 PLUS	A Bionic Chip, Core	12MP	12MP + 12MP	Blue Null Midnight Purple Starlight		
APPLE IPHONE 14 PRO	A Bionic Chip, Core	12MP	48MP + 12MP + 12MP + 12MP	Deep Purple Gold Space Black		
APPLE IPHONE 14 PRO MAX	A Bionic Chip, Core	12MP	48MP + 12MP + 12MP + 12MP	Deep Purple Gold Silver Space Black		

KPI	MODEL SPECIFICATION	BAR CHART SHOWING BATTERY TYPE	BRAND PRICE COMPARISON	BUBBLE CHART SHOWING MODEL WL..	LINED BAR CHART SHOWING COUNTRY ..	DONUT CHART FOR ..
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Battery Ty..

Brand

All

Battery Type

- ☐ Null
- ☐ Lithium
- ☒ Lithium Ion
- ☐ Lithium Polymer

Battery Type

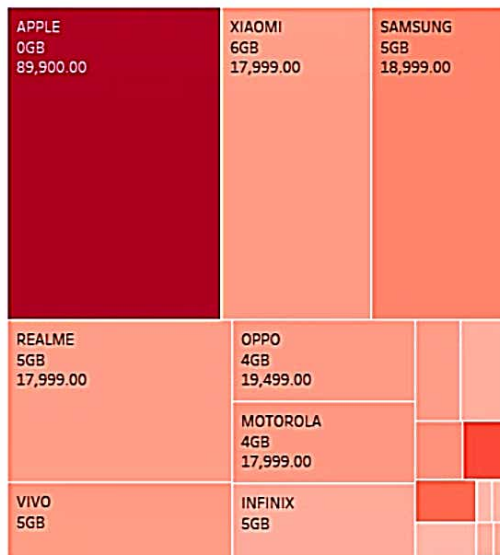
Lithium Ion

Lithium Ion

0K 2K 4K 6K 8K 10K 12K 14K 16K 18K 20K 22K 24K 26K 28K

Avg. Original Price

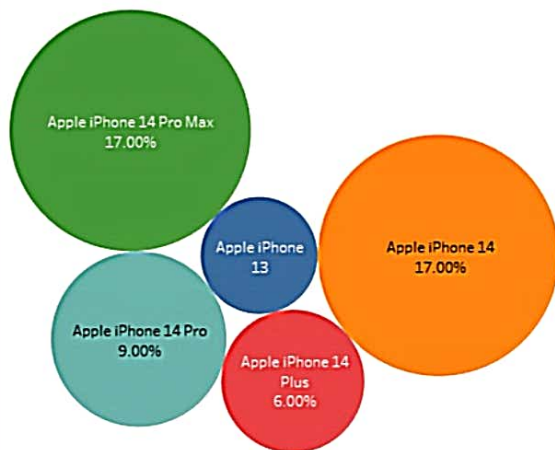
## BRAND PRICE COMPARISON



AVG(Original Price)

7,999.0 90,900.0

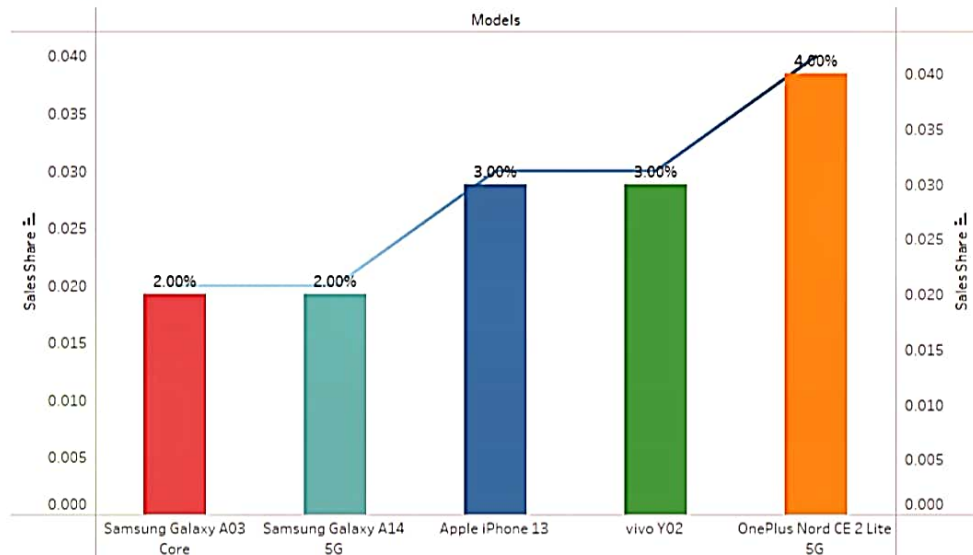
## MODEL SHARE



Models

Apple iPhone 13  
Apple iPhone 14  
Apple iPhone 14 Plus  
Apple iPhone 14 Pro  
Apple iPhone 14 Pro...

## COUNTRY WISE BEST SELLING SMARTPHONES



Country

India

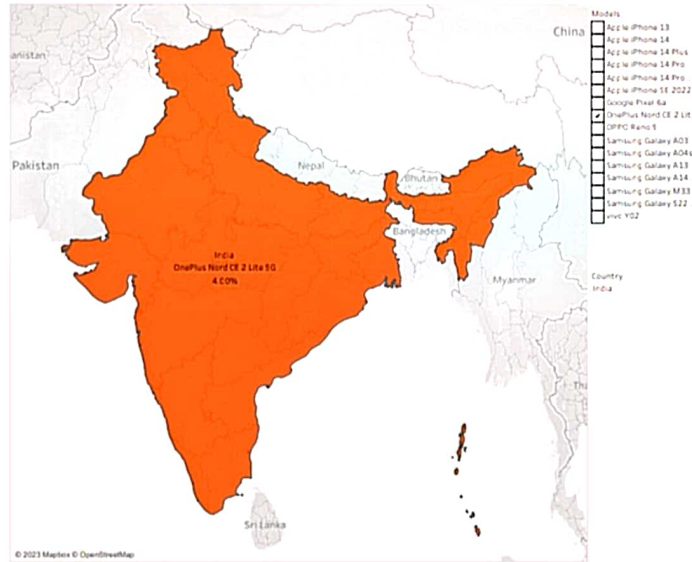
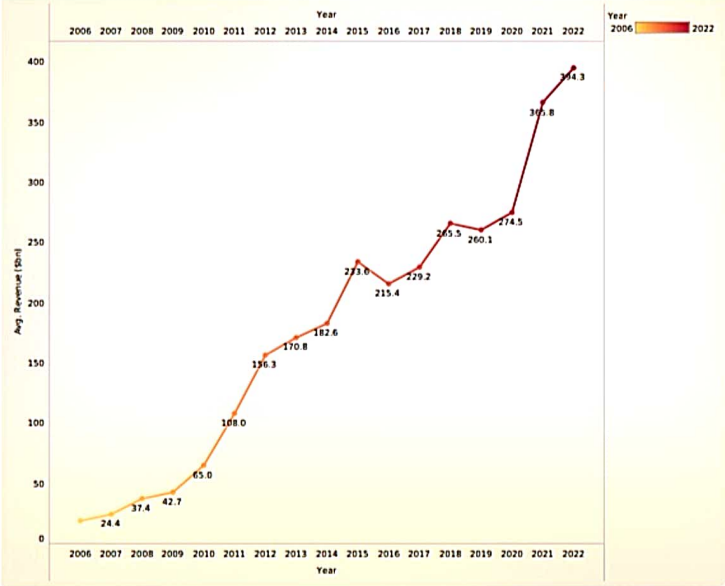
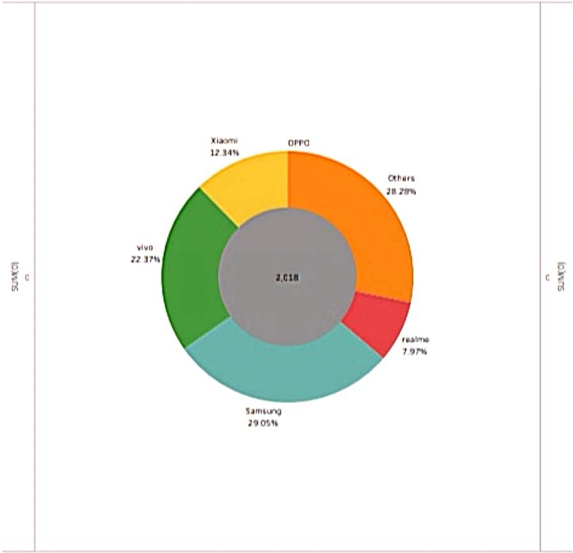
SUM(Sales Share)

0.02000 0.04000

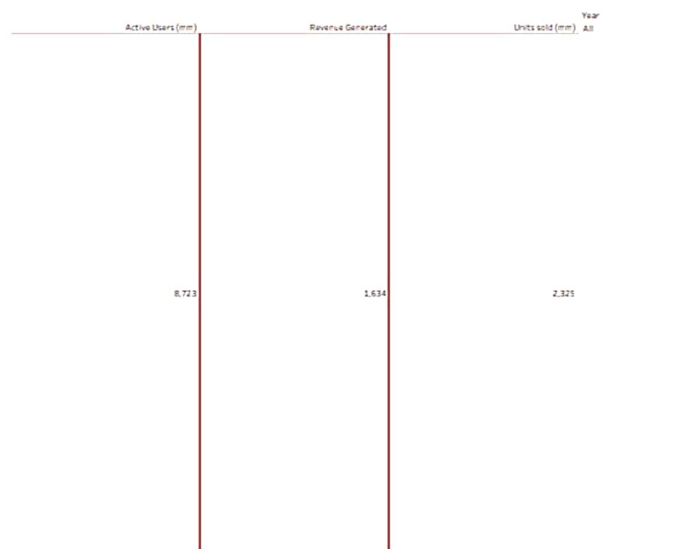
Models

Apple iPhone 13  
OnePlus Nord CE 2 Li..  
Samsung Galaxy A03..  
Samsung Galaxy A14..  
vivo Y02





LINED BAR CHART SHD...	DONUT CHART FOR QUARTERLY SHARE	LINE CHART FOR ANNUAL REVENUE YE...	MAP SHOWING GLOBAL MARKET SHA...	TEXT TABLE FOR YEARLY KPI	ABOUT KPI	ABOUT GLOBAL MARKET SHARE
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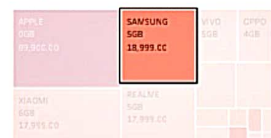


LINED BAR CHART SHD...	DONUT CHART FOR QUARTERLY SHARE	LINE CHART FOR ANNUAL REVENUE YE...	MAP SHOWING GLOBAL MARKET SHA...	TEXT TABLE FOR YEARLY KPI	ABOUT KPI	ABOUT GLOBAL MARKET SHARE
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KPI

Brand	Disco..	Mrp Sale P..	Star..
Apple	0	77,000	77,000
			5

BRAND PRICE COMPARISON



KPI 2



ANNUAL REVENUE

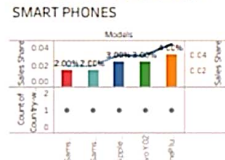


MODEL SPECIFICATION

Model	Process	Front Ca.	Rear Ca.	Colour
APPLE iPhone 11	A Bionic Chip	12MP	12MP + 12MP	Black, Red, White, Yellow
APPLE iPhone 12	A Bionic Chip with Next Generat...	12MP	12MP + 12MP	Blue, Black, Green, Purple
APPLE iPhone 12	A Bionic Chip with...	12MP	12MP + 12MP	Blue, Black, Red
APPLE iPhone 13	A Bionic Chip	12MP	12MP + 12MP	Blue, Null, Midnight

LINED BAR CHART SHD...	DONUT CHART FOR QUARTERLY SHARE	LINE CHART FOR ANNUAL REVENUE YE...	MAP SHOWING GLOBAL MARKET SHA...	TEXT TABLE FOR YEARLY KPI	ABOUT KPI	ABOUT GLOBAL MARKET SHARE
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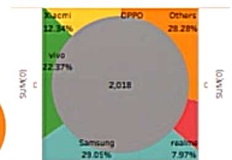
COUNTRY WISE BEST SELLING SMART PHONES



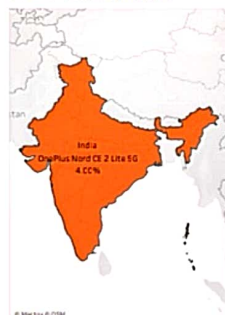
MODEL SHARE



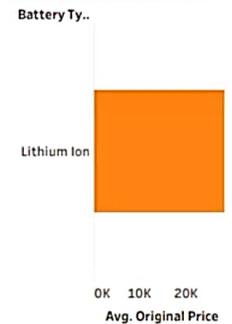
QUARTERLY SHARE



GLOBAL MARKET SHARE



BATTERY TYPE DISTRIBUTION



## **REVIEW AND JUSTIFICATION OF IPHONE FEATURES**

The Wall Street Journal's technology guru, Walter Mossberg, finally published his review of the iPhone only two days before its launch. Overall, he described the iPhone as a breakthrough handheld computer despite some shortcomings (Mossberg and Boehret, 2007). The iPhone's design is creating problems with some iPhone accessories. For example, the headphone jack is deeply recessed on the multimedia device, meaning an adapter will be needed in order to use certain headphones with the iPhone. Secondly, the device does not have the ability to cut, copy, and paste text, which could be extremely annoying if people are going to use the device to send and receive emails throughout their workday. The iPhone is also missing instant messaging software, but it still has the ability to send and receive standard text messages. Though the phone has a two-megapixel camera, it lacks the ability to record videos, a common feature on competing smart phones. Finally, when the iPhone is first released it will not have the ability to play most video on the Internet because it does not utilize Adobe's Flash technology.

Mossberg still has plenty of features to brag about on the iPhone, starting with the gorgeous 3.5-inch screen. Most importantly, during the two-week test the device lacked any protection, and it never received a single scratch on the screen or on any other part of the device. This is potentially very important to the early majority adopters because the iPod plastic screen scratched easily. The highly touted virtual keyboard lived up to the hype as Mossberg found it to be functional during the test. One important question mark regarding the iPhone is its battery life; consumers are concerned the battery will not be sufficient to last all day and still utilize all of the iPhone's capabilities. But Mossberg writes that the battery is adequate and gave him seven hours and 18 minutes of continuous talk time while retrieving email constantly (Mossberg and Boehret, 2007).

Apple is still trying to justify to consumers why the device will use AT&T's EDGE network instead using 3G, which is the fastest wireless technology from AT&T. Jobs is quick to admit the iPhone will not surf the internet as fast as most users would like, but just as quickly he says that is why the device has the ability to seamlessly switch to Wi-Fi, giving the consumer the best of both worlds. AT&T's CEO and Chairman Randall Stephenson says the utilization of the EDGE network is common among smart phones. He notes, "EDGE is the only ubiquitous nationwide broadband network deployed today" (Wingfield and Sharma, 2007). The two executives believe users will find the EDGE network to be sufficient, at least initially.

## **DIFFERENTIATION FROM COMPETITORS**

Apple has been working hard since Jobs made the announcement to differentiate itself from other smart phone on the market. Newspaper articles are constantly mentioning the 3.5-inch screen as an industry first. Also, Mr. Jobs has been obdurate from the beginning that the phone must have a touch-sensitive keyboard because he dislikes the keyboards on Research in Motion's BlackBerry and Palm's Treo (Sharma et. al., 2007). Since January, Apple has worked hard to make sure that their iPhone stays on the front page of newspapers across the country. This has severely limited competitors from fighting back with their new smart phones. Nokia is selling the N95, which is a smart phone geared to compete against the iPhone with its ability to play music and DVD-quality video (Yuan and Sharma, 2007). The N95 has more features than the iPhone, but it lacks a major U.S. partner for widespread distribution and carries a \$749 price tag in the U.S. market. Other competitors such as LG Electronics are also rushing high-end smart phones to the market in an attempt to keep customers using their devices instead of switching to Apple's iPhone.

## **iPhone:**

- **Advantages:**

1. **Sleek and user-friendly design, with a consistent look and feel across all devices.**
2. **Strong ecosystem, with seamless integration between devices and services, such as iCloud and Apple Pay.**
3. **Regular updates and timely access to new features, ensuring users have the latest and most secure software.**

- **Disadvantages:**

1. **Limited options in terms of device sizes and designs, as well as higher prices compared to some Android devices.**
2. **Some users may find the lack of customization options frustrating, as iPhones have a more rigid operating system.**
3. **Not all apps and services may be available on iPhone, as some developers may prioritize Android.**



## **IPHONE SALES**

Since the release of Apple's iPhone on June 29, 2007, it has sold an astounding four million units (Carew, 2008). The hype surrounding its release helped it become the fourth most popular handset in the U.S., and by the end of the October, Apple reported selling 1.12 million units. Additionally, it has become AT&T's most popular handset, commanding nearly 13 percent of its overall sales (Appleinsider, 2007). During Apple's 2008 Macworld keynote address Jobs announced that the iPhone had a 19.5 percent share of the smart phone market in the same quarter (Carew, 2008). Consumer satisfaction with the iPhone has been significantly higher than its competitors, according to a 2008 ChangeWave survey. Additionally, the survey shows the iPhone is the top choice among those planning to buy a new phone in the next six months (2008). Despite the fears of a looming consumer-led economic recession, Apple executives still believe the goal of selling 10 million iPhones by the end of 2008 is attainable.

Reaching this goal, however, will depend on future modifications to the iPhone and marketing efforts in the slowing economic conditions. The normally secretive Jobs let it slip in September that consumers can expect a 3G iPhone in 2008 (Miles, 2007). He expects that improvements in technology will allow for the faster network without affecting the battery life of the device. The recent release of a 16 gigabyte iPhone demonstrates Apple's continued ability to recreate their products and spur sales as market conditions change. Additionally, Apple is releasing a software development kit (SDK) which will allow third parties to market software for the iPhone. This is an excellent example of the emerging two-party platform business model (Eisenman, Parker and Van Alstyne, 2006).

## **CONCLUSION**

Apple created a very strong overall marketing strategy for the iPhone and managed every aspect of the iPhone's launch very effectively. Like almost all products, the iPhone has some flaws and drawbacks, but Apple was able to develop a unique product for tech-savvy consumers interested in a combination smart phone-music player and make those customers aware of the product through well-managed marketing efforts and strong publicity. The iPhone exemplifies Apple's knack for creating excitement about products among its fiercely loyal customer base, who keep attention focused on the company, and then justify the hype by delivering a high-quality, desirable product. In addition to satisfying consumers with a great product, Apple built a powerful partnership with AT&T and also conferred benefits to overseas suppliers of parts and manufacturers. All of these efforts boosted Apple's stock price considerably and further solidified Apple's image as a leader in consumer electronic gadgetry.