

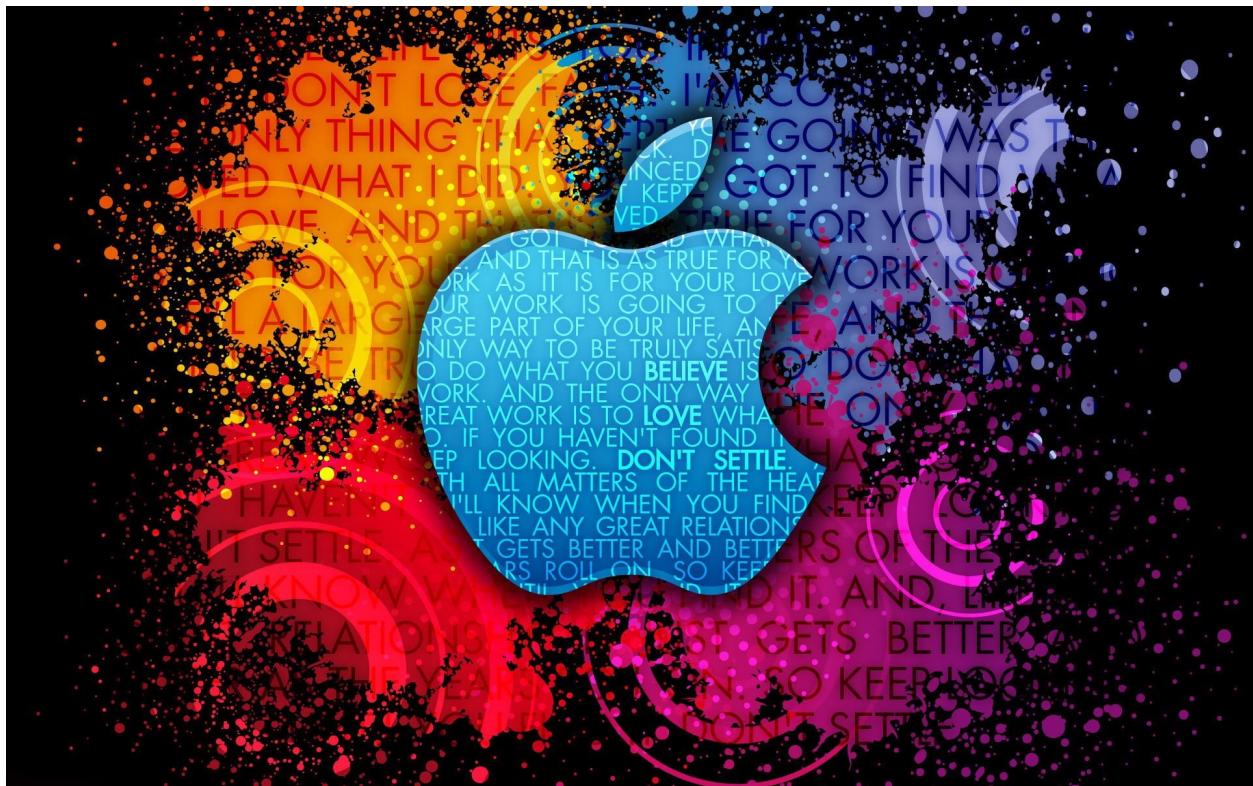
DATA ANALYTICS USING TABLEAU

IRevolution: A Data-driven Exploration of Apple'S iphone Impact in India

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1. INTRODUCTION

❖ OVERVIEW

iPhone, series of smartphones produced by Apple Inc., combining mobile telephone, digital camera, music player, and personal computing technologies. After more than two years of development, the device was first released in the United States in 2007. The iPhone was subsequently released in Europe in 2007 and Asia in 2008. Apple designed its first mobile smartphone to run the Mac OS X operating system, made popular on the company's personal computers. The device's most revolutionary element was its touch-sensitive multisensor interface. The touchscreen allowed users to manipulate all programs and telephone functions with their fingertips rather than a stylus or physical keys. This interface-perfected, if not invented, by Apple-recreated a tactile physical experience; for example, the user could shrink photos with a pinching motion or flip through music albums using a flicking motion. The iPhone also featured Internet browsing, music and video playback, a digital camera, visual voicemail, and a tabbed contact list. The iPod nano, introduced by Apple CEO Steve Jobs in San Francisco, May 2007. A revolutionary full-featured iPod that holds 1,000 songs and is thinner than a standard #2 pencils. MP3 player, music player, digital music.

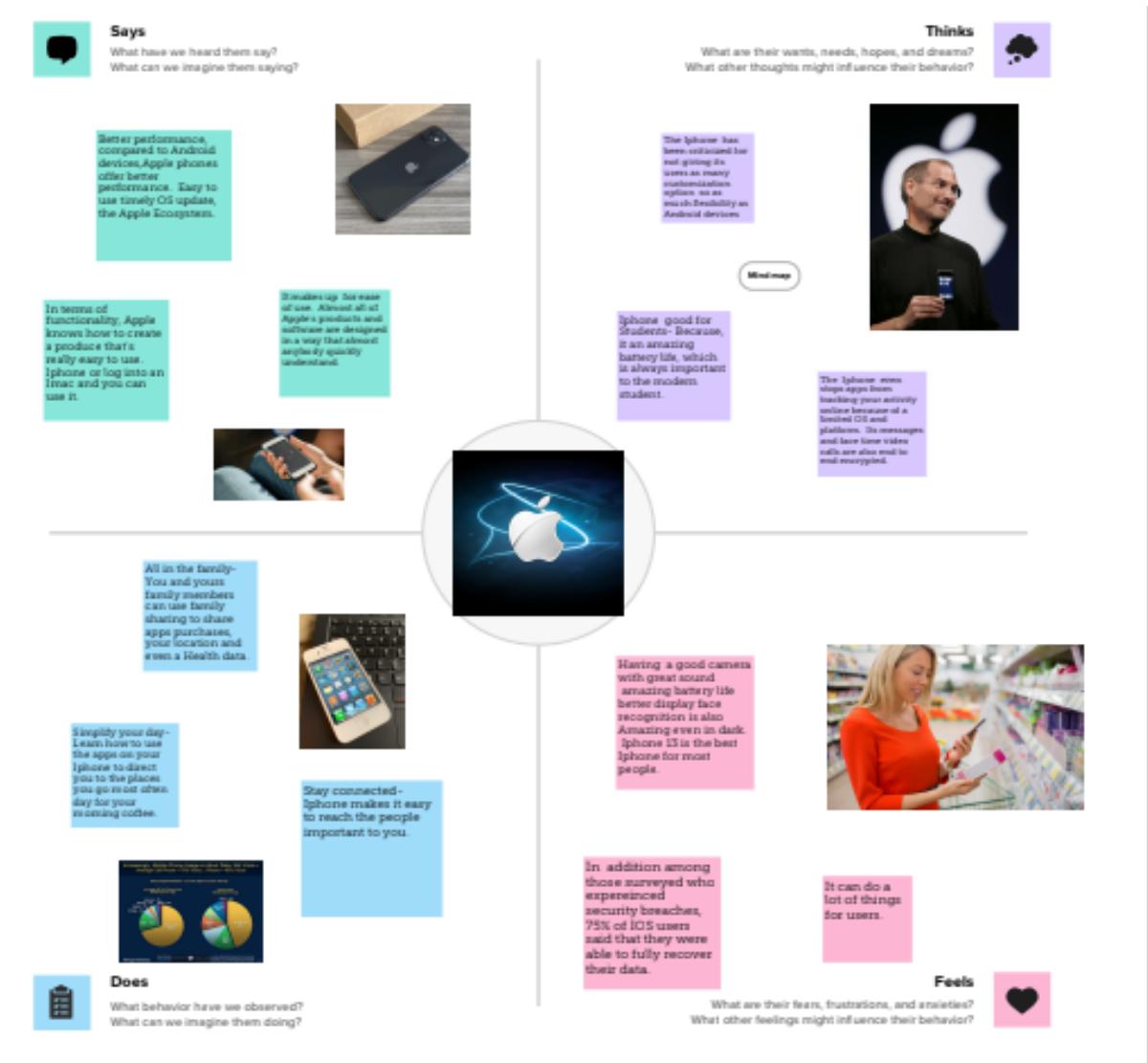
❖ PURPOSE

The Apple Watch is a line of smartwatches produced by Apple Inc. It incorporates fitness tracking, health-oriented capabilities, and wireless telecommunication, and integrates with iOS and other Apple products and services. The Apple Watch was released in April 2015, and quickly became the best-selling wearable device: 4.2 million were sold in the second quarter of fiscal 2015, and more than 115 million people were estimated to use an Apple Watch as of December 2022. Apple has introduced a new generation of the Apple Watch with improved internal components each September each labeled by Apple as a 'Series', with certain exceptions. Each Series has been initially sold in multiple variants defined by the watch casing's material, color, and size except for the budget watches Series 1 and SE, available only in aluminum, and the Ultra, available only in 49 mm uncolored titanium and beginning with Series 3, by materials. The band included with the watch can be selected from multiple options from Apple, in the aluminum

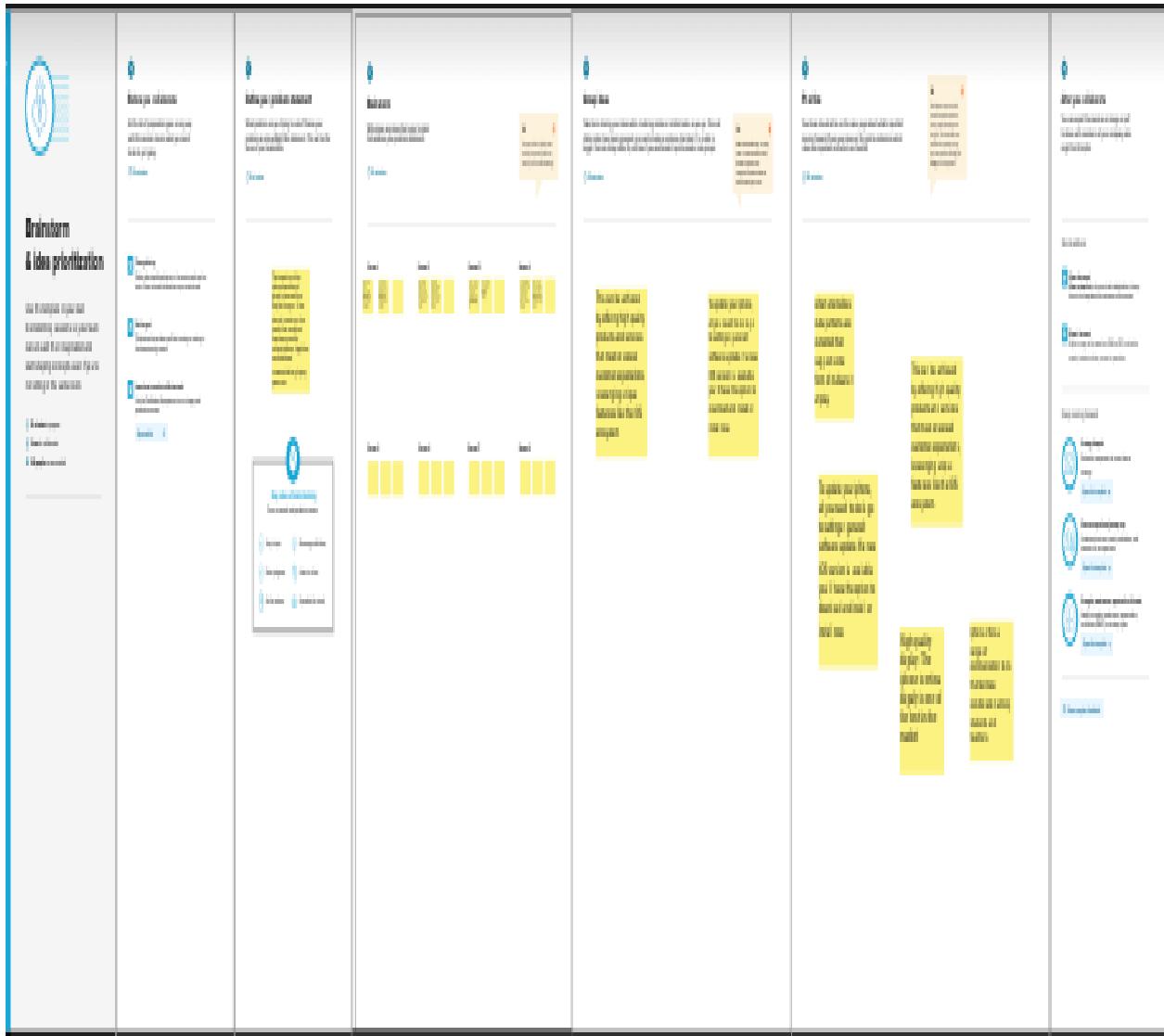
variants for LTE cellular connectivity, which comes standard with the other and watch variants in aluminum co-branded with Nike and in stainless steel co-branded with Hermès are also offered, which include exclusive bands, colors, and digital watch faces carrying those companies' branding. The Apple Watch operates in conjunction with the user's iPhone for functions such as configuring the watch and syncing data with iPhone apps, but can separately connect to a Wi-Fi network for data-reliant purposes, including communications, app use, and audio streaming. LTE-equipped models can also perform these functions over a mobile network, and can make and receive phone calls independently when the paired iPhone is not nearby or is powered-off, substantially reducing the need for an iPhone after initial setup. The oldest iPhone model that is compatible with any given Apple Watch depends on the version of system software installed on each device. As of September 2022, new Apple Watches come with watchOS 9 preinstalled and require an iPhone running iOS 16, which is available for the iPhone 8 and later.

2. PROBLEM DEFINITION & DESIGN THINKING

❖ EMPATHY MAP

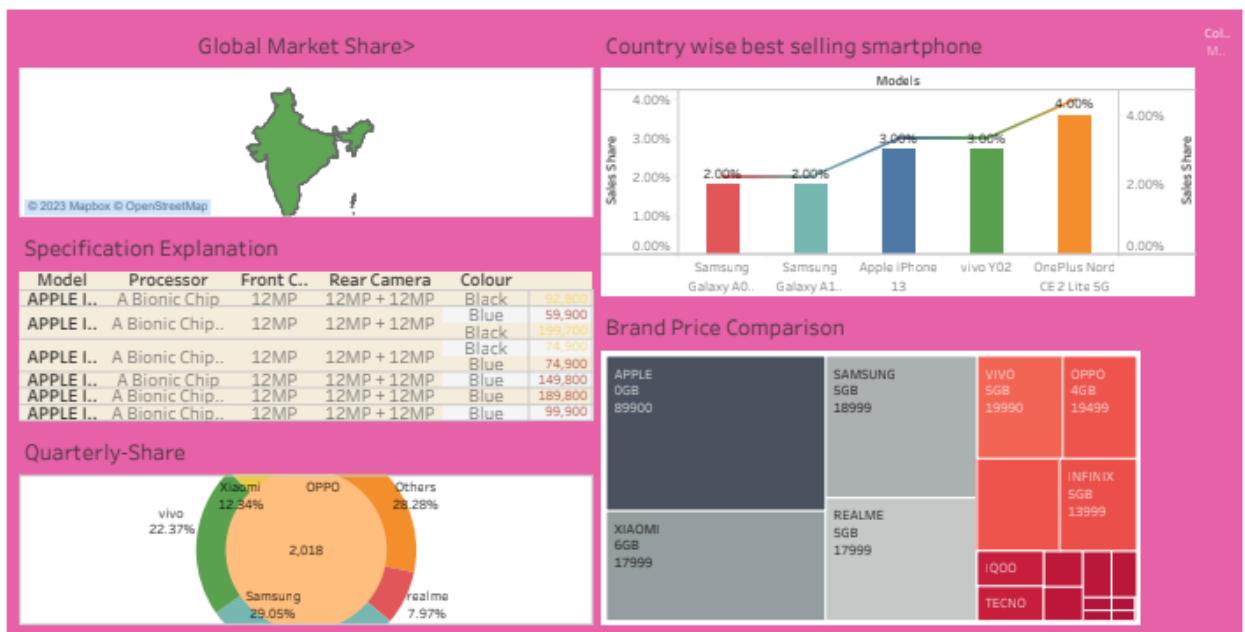
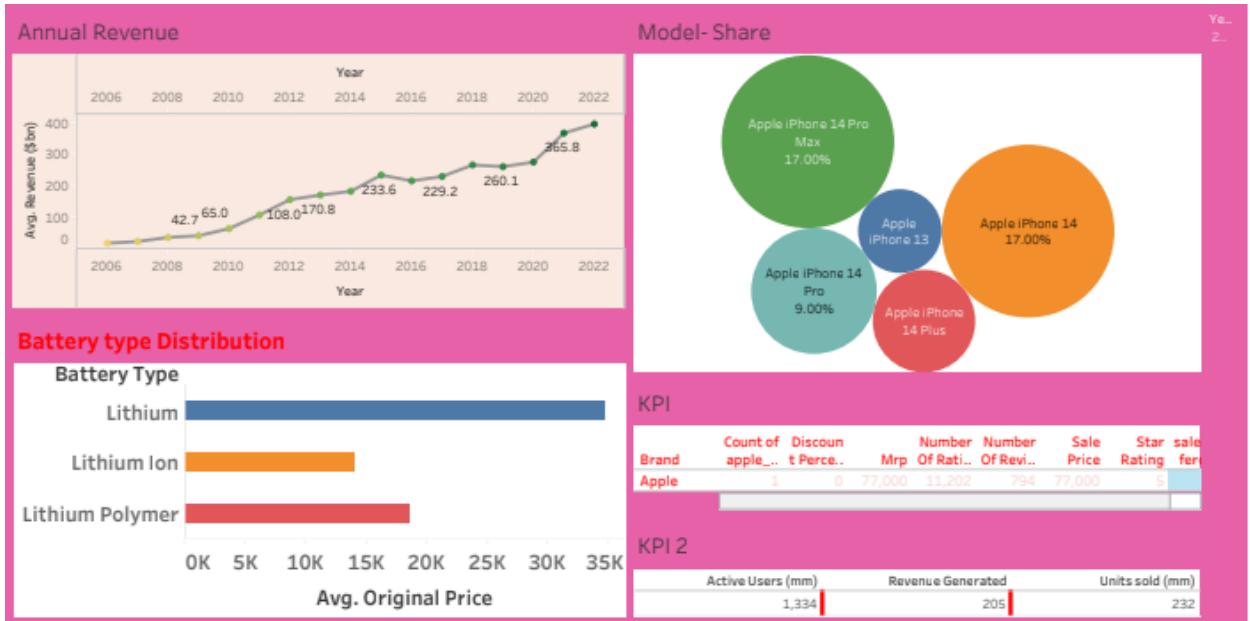


IDEATION & BRAINSTORM MAP

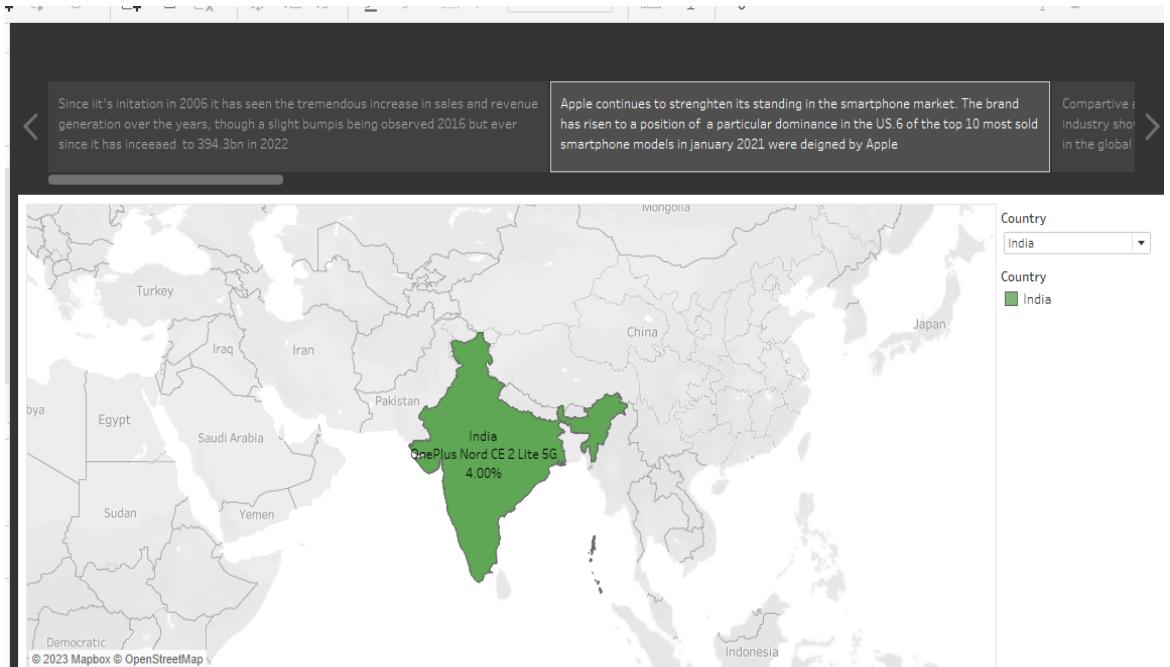
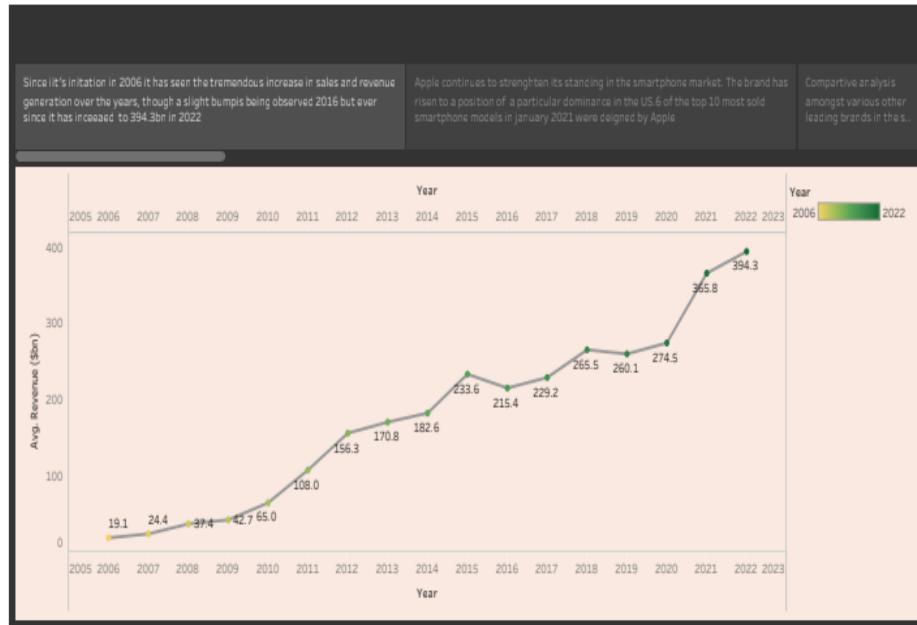


3. RESULT

❖ DASHBOARD



❖ STORY

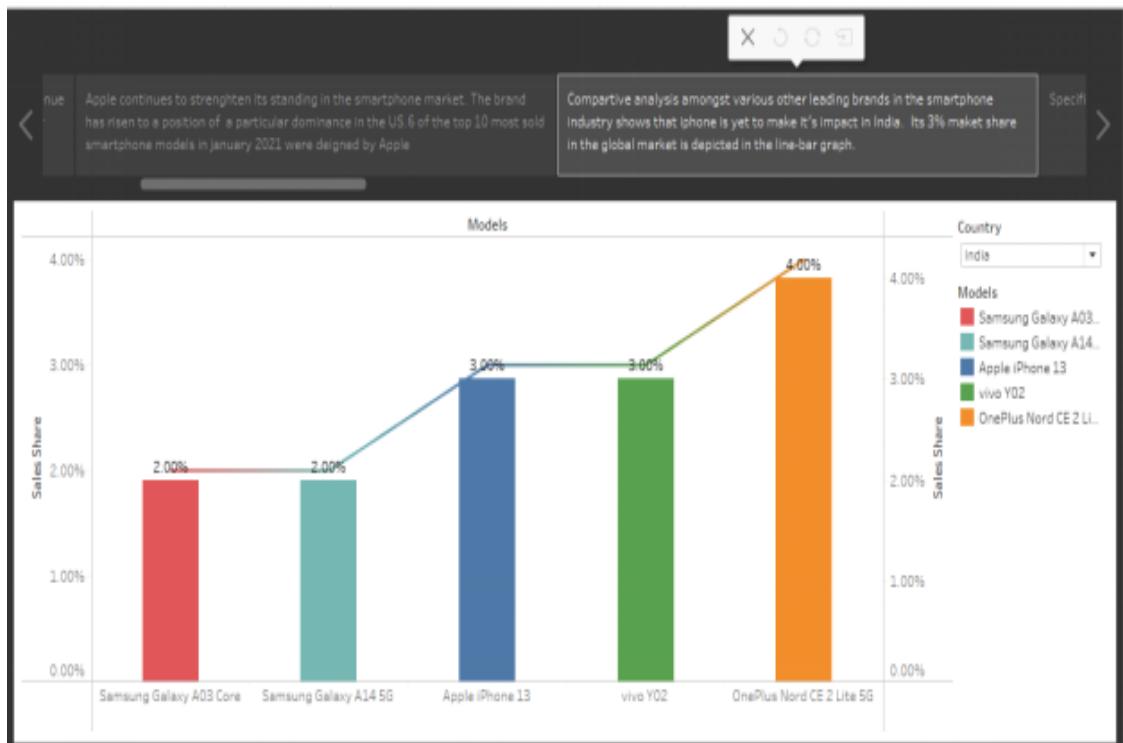


Comparative analysis amongst various other leading brands in the smartphone industry shows that iPhone is yet to make its impact in India. Its 3% market share in the global market is depicted in the line-bar graph.

Specification model based on Apple iPhone version

Brand-iphone

Model	Processor	Front C.	Rear Camera	Col..		Colour
APPLE IPHONE 11	A Bionic Chip	12MP	12MP + 12MP	Black	92,800	(Multiple values)
APPLE IPHONE 12	A Bionic Chip with Next Generation Neural Engine	12MP	12MP + 12MP	Blue	59,900	Brand1
				Black	199,700	Colour
APPLE IPHONE 12 MINI	A Bionic Chip with Next Generation Neural Engine	12MP	12MP + 12MP	Black	74,900	Black
APPLE IPHONE 13	A Bionic Chip	12MP	12MP + 12MP	Blue	149,800	Blue
APPLE IPHONE 14	A Bionic Chip, Core	12MP	12MP + 12MP	Blue	189,800	
APPLE IPHONE 14 PLUS	A Bionic Chip, Core	12MP	12MP + 12MP	Blue	99,900	



Brand-Price comparison explanation. More than 1 million consumers currently use iphones.

Model-Wise share of iphone.

Better

APPLE 0GB 8990	REALME 5GB 17999	VIVO 5GB 19990
XIAOMI 6GB 17999	OPPO 4GB 19499	INFINIX 5GB 13999
SAMSUNG 5GB 18999	IQOO	
	TECNO	

Donut chart for Quarterly

Explanation based on Apple brand rating, reviews, price etc., or KPI

Year w

Brand	Count of apple_products	Discount Percent	Mrp	Number Of Ratings	Number Of Reviews	Sale Price	Star Rating	sales difference
Apple	1	0	77,000	11,202	794	77,000	5	0

Measure Names

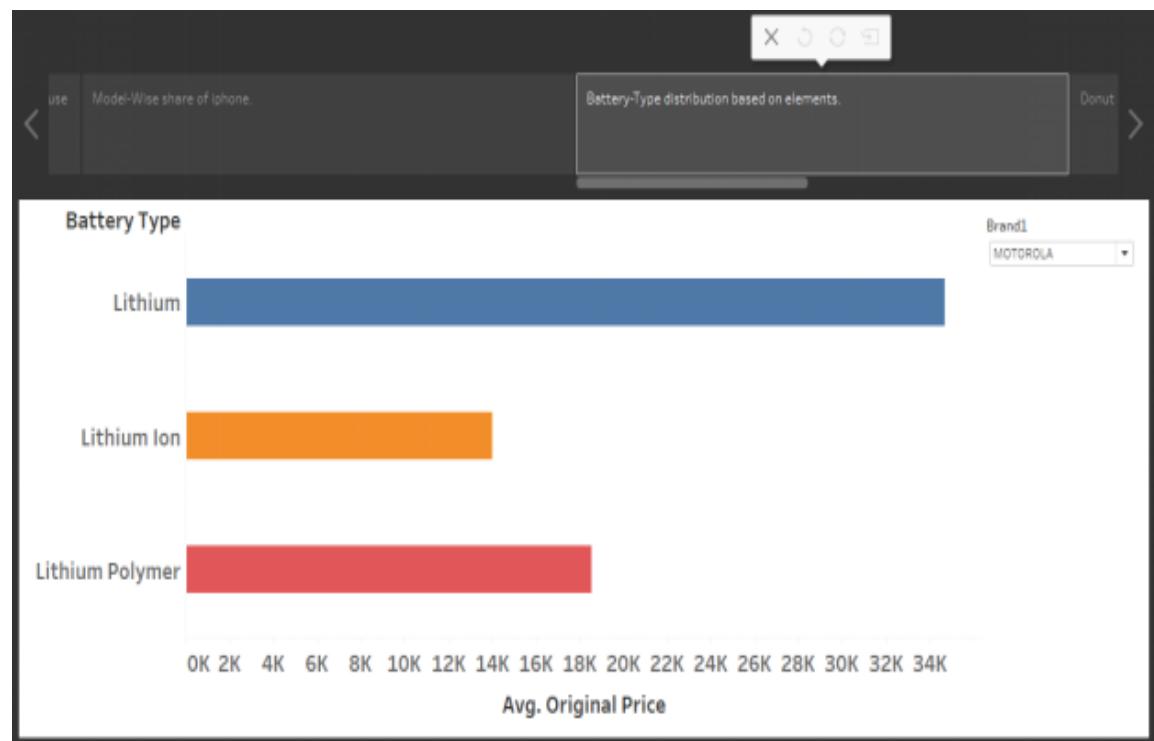
- (All)
- Count of apple_products
- Discount Percent
- Mrp
- Number Of Ratings
- Number Of Reviews
- Sale Price
- Star Rating
- sales difference

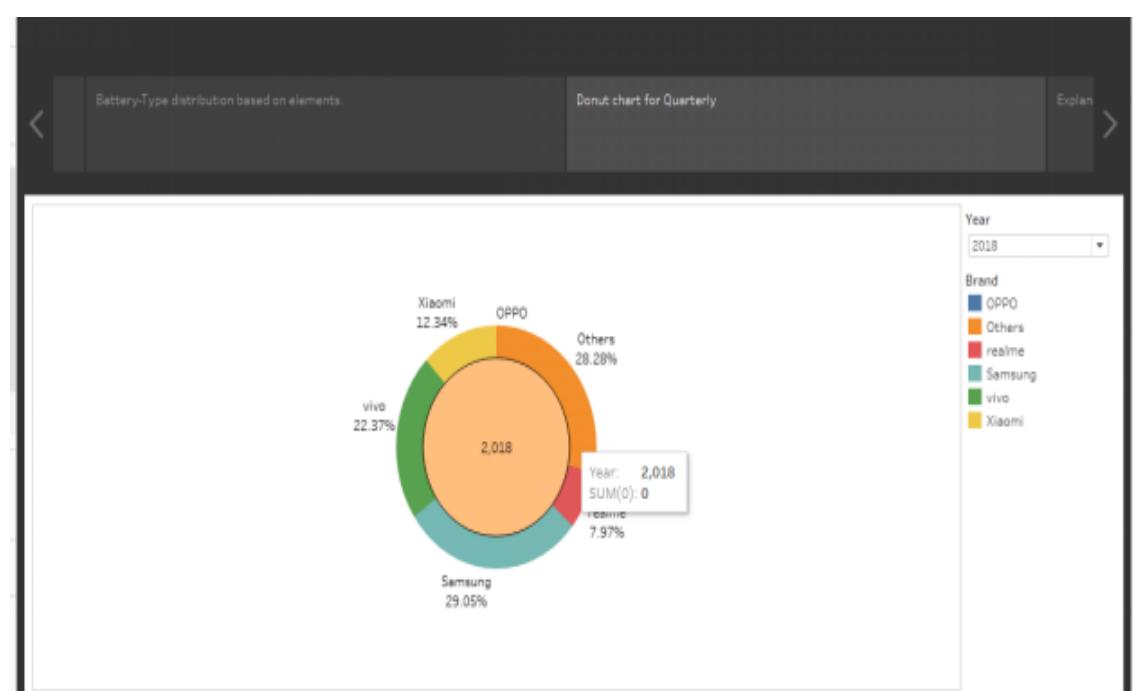
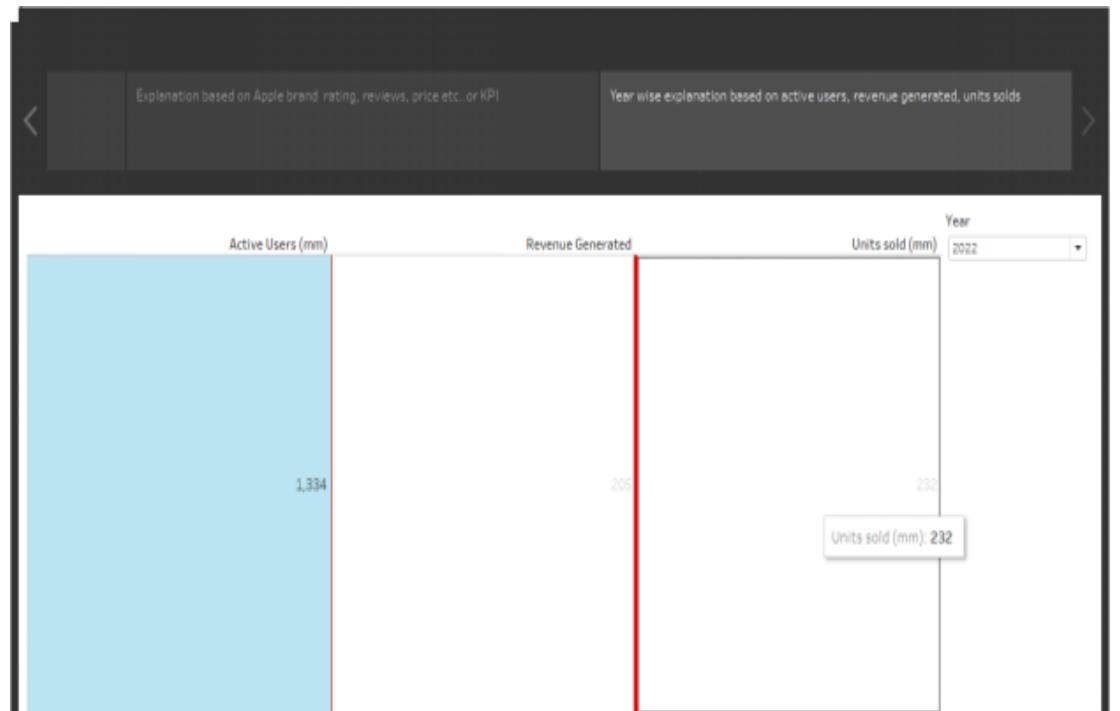
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4. ADVANTAGES & DISADVANTAGES

❖ ADVANTAGES

➤ App Store

Another major advantage that iPhones have over Androids is the App Store. With over 2 million apps available, the App Store is the largest app marketplace in the world, and it's exclusive to iPhones and other iOS devices. This means that iPhone users have access to a wider selection of high-quality apps than Android users do.

Furthermore, the App Store is known for its strict quality control standards, which ensures that all apps are safe and reliable to use. This is in contrast to the Google Play Store, which has been known to have a higher incidence of malware and other security issues.

➤ Integration with Other Apple Devices

One major advantage of iPhones over android phones is their integration with other Apple products, such as Mac computers, iPads, and Apple Watches. With features like AirDrop, Continuity, and Handoff, users can seamlessly switch between their devices and share content between them.

For example, you can start writing an email on your iPhone and finish it on your Mac without skipping a beat. Or, you can receive a phone call on your iPhone and answer it on your Apple Watch. This level of integration is not possible with Android devices, and can be a major advantage for those who use other Apple products.

➤ Privacy and Security

Privacy and Security are major concerns for many smartphone users, and iPhones have a reputation for being some of the most secure devices on the market. Apple takes privacy seriously, and iPhones are designed with a

variety of built-in security features to protect users' data and personal information. For example, iPhones use Touch ID or Face ID to securely authenticate users and prevent unauthorized access. They also use end-to-end encryption to protect messages and other sensitive Data.

❖ DISADVANTAGES

- iPhones don't come with a Headphone Jack There have been a ton of changes over the years on iPhones, but Apple getting rid of the headphone jack might be the worst mistake they ever made. headphones will always be needed and without the jack, iPhone users need to purchase a separate lightning to 3 mm jack connector.
- This extra cost is an inconvenience to the user's wallet. Without the headphone jack, the only available options are to either purchase the lightning to 3 mm jack connector or purchase their true wireless earbuds, Airpods. The Apple company continues to make these changes, costing their users more than necessary.
- **Apple Ecosystem**
The Apple Ecosystem can be a blessing yet a curse at the same time. Apple products are designed to allow the user a smoother experience with all of its other products such as the Macbook, Apple Watch or iPad.
- It is a closed ecosystem, meaning the devices seamlessly work together and only together. One disadvantage of an iPhone is that once you purchase it, there is no going back. You'll be trapped into Apple's Ecosystem as long as you use the devices and care about compatibility. If one device works best with the same company's device, it's better to stick with it in the long run.
- **iPhones Have Fixed Storage**
iPhones come with a storage range of 64 GB, 128 GB, 256 GB, 512 GB, and 1 TB. If more storage is needed, they offer 5 GB of free iCloud storage where users can store data within the online cloud rather than in their iPhone's internal storage. It may seem like a decent amount but with the number of apps and better quality photos stored in a phone, those can be used up within a year or less.

➤ With the better quality camera in these newer iPhones, the data required to keep the photos takes up more space than ever before. The only other way to get additional storage is to pay a monthly fee for more iCloud storage or look into buying an external hard drive. This can easily annoy iPhone users, especially those who work on their phones and need additional space for files. For those looking to save money, the lower storage is the better way to go, but it will cost more in the long run to purchase additional storage.

➤ **iPhone Apps Take Up Too Much Space**

The App Store offers a ton of apps that users can easily download into their iPhones. The main disadvantage of iPhones is that the apps take up a huge amount of storage space that is considered unnecessary. Users have found themselves constantly deleting apps to create space for others, which is not ideal.

There are many features that exclusively work on iOS, creating a disadvantage with iPhone. The added data within the downloaded apps cause the storage to fill up pretty quickly. Although having a huge library of apps sounds great, the user might soon start removing some to make more space for files such as pictures and Videos

5. APPLICATIONS

Use iPhone for your daily routines

- While you're going about your day, you can use the apps on your iPhone to get directions, make purchases, and control accessories in your home. You can also silence notifications while you're driving or working, or allow only specific notifications related to what you're focused on.
- iPhone turned horizontally. The left side of the screen displays a clock and the right side of the screen displays the date.
- Start the day with the info you need
- While the iPhone is charging, you can put it in StandBy to view useful and timely information at a glance. With StandBy, you can use your iPhone as a bedside clock that

displays the time, temperature, and other information you might want to see when you wake up in the morning, or before you go to bed.

- To use StandBy, connect the iPhone to a charger, stand it on its side (in landscape orientation), then tap the screen.
- The Maps screen showing the search field in the lower half of the screen. Below the search field are the following locations saved as Favorites: Home, Work, Transit, and School.

Get directions to your favorite places

- Whether you're walking, driving, or biking, you can use the Maps app to get directions to places you visit frequently, like your home or your favorite café, without entering the address every time.
- In the Maps app, tap the Add button in the row of Favorites, then add a location.
- The Wallet screen, showing multiple cards and passes.
- Set up a virtual wallet
- Keep your credit cards, transit passes, vaccination cards, and more in the Wallet app on your iPhone. When you add a credit or debit card to Wallet, you can use it to make secure payments in stores and online, and send and receive money from friends and family.
- To add your first card, open the Wallet app, tap the Add Card button, then follow the onscreen instructions.
- A screen showing four provided Focus options—Do Not Disturb, Personal, Sleep, and Work. The Share Across Devices button allows you to use the same Focus settings on all your Apple devices where you're signed in with the same Apple ID.
- Stay focused
- Whether you're driving, working, or just need to step away from your iPhone, you can set up a Focus to temporarily silence notifications that don't match your task—and let other people know you're busy.
- Go to Settings > Focus, then choose the Focus you want to use, or tap the Add button to create your own.

6. CONCLUSION

The project “**IRevolution: A Data-driven Exploration of Apple’S iphone impact in India**” which can be accomplished by “**Data Analytics Using Tableau**” various milestones. **Milestone 1** was completed by creating Empathy Mapping, brainstorming, and Idea prioritization by using Mural which is a system that offers a workspace to collaborate and contribute innovative ideas as teamwork and uploaded in GitHub which is an internet hosting service for software development and version control using Git. Repositories can be created and uploaded files into it. **Milestone 2** was completed by collecting the dataset, storing the database and connecting the database with Tableau. **Milestone 3** was completed by preparing the data into a format that can be easily visualized, exploring the data to identify patterns and trends, filtering the data to focus on specific subsets of data, preparing the data for visualization software, and ensuring the data is accurate and complete. This process helps to make the data easily understandable and ready for creating visualization to gain insights into our analysis. **Milestone 4** is Data Visualization which is the process of creating graphical representations of data to help understand and explore information. The involves No of Unique visualization are **KPI , Model Specification, Model-Wise share, Battery-Type distribution, Brand-Price Comparison, Model-Wise share of iphone, Country-Wise share best selling smartphone, Annual Revenue Year-Wise, KPI-2, GMS-Global Market Share**. **Milestone 5** is to respond to design Dashboard. **Milestone 6** was completed by creating No of Story. A data story is a way of presenting data and analysis in a narrative format, intending to make the information more engaging and easier to understand. A data story typically includes a clear introduction that sets the stage and explains the context for the data, a body that presents the data and analysis logically and systematically, and a conclusion that summarizes the key findings and highlights their implications. Data stories can be told using a variety of mediums, such as reports, presentations, interactive visualizations, and videos. **Milestone 7** is to accomplish Performing testing which includes the amount of data rendered to Database, utilization of Data Filters, calculation fields, and visualization graphs. **Milestone 8** was completed by recording an explanation Video for the project’s end-to- end solution and making **Project Documentation-Step by step project development procedure**. Conclusion Apple and the IPhone is a great example of a corporation making what the consumer wants in a global market. With limited companies competing, competition for the best phone on the market is at an all-time high. With the iPhone you get better quality and better security when dealing with your personal information. Innovation and technological advancements have kept the iPhone and Apple ahead of its competitors in this tight notch market. With the iPhone being so popular and in high demand, estimated shortages are suspected. This project concludes that **large data of the Apple Iphone over the world can be analyzed by Data Analytics with Tableau**.

7. FUTURE SCOPE

- The above said in terms of technology is ever changing and evolving. The mating between hardware and software is optimal. iOS development has a bright future, as iOS is the most preferred platform where most of the Internet of Things (IoT) gets complete compatibility and support. Moreover, ultra modern home automation apps are getting developed using iOS only.
- Things change drastically, if not given attention, it is difficult to handle the upcoming challenges.
- Apple is one of the biggest companies in the smartphone world and has a very strong user base which is ever growing and will keep doing so. The future of the iOS developers is going to be very bright and this market is going to boom in the coming years.
- However, one should keep in mind that in the market other than iOS developers there are other ways to develop iOS apps, like cross-platform app development using Xamarin and PhoneGap.
- The more technological awareness is expected for the development of the iOS applications. iOS developers should be well versed in not only iOS but also have profound knowledge of Car Play, Watch OS, Apple TV and all. With some experience on front-end technologies.