A

PROJECT REPORT

ON

# "VAS (VALUE ADDED SERVICES) ANALYSIS OF DISH TV D2H THROUGH POWER BI DASHBOARD"

For

## DISH TV PVT. LTD.

SUBMITTED TO

IN THE PARTIAL FULFILMENT OF THE REQUIREMENT OF

MASTER OF BUSINESS ADMINISTRATION (M.B.A.)

Under the guidance of


Submitted by

Rohit Bansal

MITU21MBDS0002: 2021-23

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## Certificate

This is to certify that Mr. **ROHIT BANSAL (MITU21MBDS0002)** has submitted a dessertation project on "**VAS (VALUE ADDED SERVICES) ANALYSIS OF DISH TV D2H THROUGH POWER BI DASHBOARD**" to MIT-ADT University, Pune for the partial fulfilment of Master in Business Administration (MBA)

We further certify that to the best of our knowledge and belief, the matter presented in this project has not been submitted to any other degree of diploma course.

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01st September 2022

# CERTIFICATE

## TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Rohit Bansal** a student of **MIT, Pune** has undergone Internship with us from 20th June 2022 to 20th August 2022.

During his training with us, he was assigned to Information Technology department and has completed the assignments successfully.

**Mr. Rohit** was found regular, punctual, sincere and willing to take on more responsibility during his tenure with us.

We wish him every success in future career.

**For Dish TV India Limited**

**Ankur Saxena**
**Divisional Manager - HR Operations**

# DECLARATION

I hereby declare that the following project report titled "**VAS (VALUE ADDED SERVICES) ANALYSIS OF DISH TV D2H THROUGH POWER BI DASHBOARD**" is an original and authentic work done by me for the partial fulfilment of **Master of Business Administration in Applied Data Science** degree programme at "**Dish TV India Ltd.**"

I hereby certify that all the endeavours put in the fulfilment of the task are genuine and original to the best of my knowledge & I have not submitted it earlier elsewhere.

Rohit Bansal

Master of Business Administration in Applied Data Science

MITU21MBDS0002

MBA-2022-23

(Signature of the Student)

# ACKNOWLEDGEMENT

I take this opportunity to express my heartiest gratitude to Maharashtra Institute of Technology College of Management for permitting me to undertake this research and supporting me during this research and otherwise also.

I would like to thank Mr. Vipin Mishra who not only played the role of my philosopher and guide me but also mentored me at every stage of my project work. I would like to extent my hearty thanks to entire faculty members of MBA in Data Science department for their constant corporation and support to take decision during the course of my research.

I would also like to give my heartiest thanks to Mr. Nitin Goswami, Mr. Shashi Shekhar, Mr. Subhash Kumar Singh and, Mr. Gajender Kumar Karan for giving me regular guidance and showing me the smartest and best way towards a successful internship period.

I deem it my duty to record my gratitude towards my Internal Project Supervisor Dr. Anup Shivanechari to guide me and encourage me to the best.

ROHIT BANSAL

MITU21MBDS0002

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# EXECUTIVE SUMMARY

Asia's largest Direct to Home Entertainment Brand, Dish TV is the pioneer when it comes to digital entertainment. A division of Dish TV India Limited, the innovative offerings and revolutionary features of Dish TV has earned it a prestigious place of being India's Most Trusted DTH Brand, for 4 years in a row.

In the year 2016, Dish TV and Videocon d2H (major DTH service provider) agreed to an all-stock merger. To date Dish TV and Videocon d2H have been one entity. Now also known as Dish the company have over 23 million subscribers.

To run a big enterprise in the current market situation it becomes important to analyze and upgrade according to the trends and reports. As a part of my internship, I was in the IT department of the company where I was part of a team that was responsible to summarize and visualize the data. Major tools used in the process were **SQL**, **Excel**, **Power BI**, **Microsoft Azure**, etc.

My project report highlights the Data visualization of the Value-Added Services subscribed by Dish TV and/or d2H users. The tools and software used were majorly Excel and Power BI with many supporting files like SQL, Microsoft Azure, etc for various support programming.

Data is the coming era in predicting and analysing the world. With a huge amount of data all over the servers, it is now important to have a different team in every organization which must focus on the data part of the company. This project majorly focuses on the Data Visualization part of the Data which is used in various other parts of research, analysis, and/or prediction strategies by top-level management.

Initially for practice and study and/or to gain beginner-level experience on the tools many sample data were used screenshots of which are added in the project below. As a major part of the project is based on user analysis the data provided by the company was nothing but the data generated by the users on a daily/weekly/monthly/yearly basis bifurcated by States and districts of India.

After the basic self-study we were given access to part of company's server to start with corporate level work. The task assigned to our team was to use provided software and present a dashboard on Power BI representing the VAS ground level status of the company VAS represents the value-added services provided by the company.

In the end of the report, it was concluded that although due to market trend and other variables users have shown more interest in OTT platforms, dish TV have shown not a bad outcome. Over the months the graph shows a decline but it is believed to show a positive curve sooner or later as the market shifts back to normal.

This successful internship helped me to learn various new and creative tools helpful in Data Science and/or Data analysis. This also helped me to gain corporate experience and be in the corporate world by myself which increased my confidence for my coming future. Various secondary factors were also faced while going through with the process, challenges such as new methods, speed of work, time management, tips and tricks for quick and efficient working, etc.

This internship program helped me improve professionally as well as personally through various factors mentioned above and even more.

# CHAPTER 1

# INTRODUCTION

## 1.1 INTRODUCTION

The 21st century which we live in is the era of data. Every hour huge amount of data is generated by the digital platform users and the research professionals. It becomes important for few people to step-up and take the role of data analyst and share valuable insights to the world.

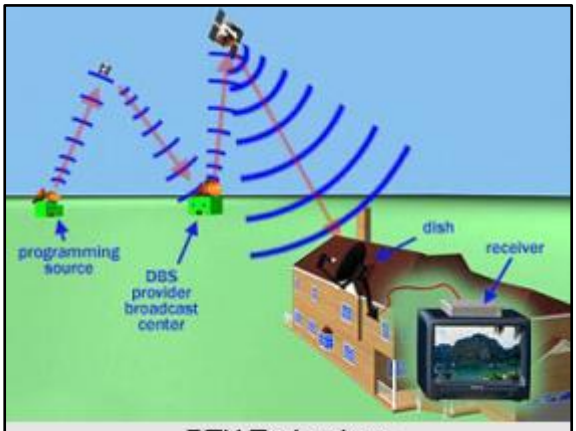
Data visualization is one of the key factors which helps the data analyst and data users understand the data easily. Data visualization makes it easier for the users to take out meaningful insights out of huge data (big data) which if studies in raw form is impossible to interpret.

Dish TV is Asia's largest Direct to Home Entertainment Brand, Dish TV is the pioneer when it comes to digital entertainment. A division of Dish TV India Limited, the innovative offerings and revolutionary features of Dish TV has earned it the prestigious place of being India's Most Trusted DTH Brand, for 4 years in a row.

In this project 2 KPIs are taken to analyse and study the VSA (Value Added Services) subscribers of Dish TV on a PAN India scale. Data used is user-generated data from January 2022 till June 2022.

## 1.2 INDUSTRY PROFILE

In India, Cable and satellite television are delivered by the means of satellite communication and received by a satellite dish and set-top box/satellite television provides a wide range of channels and services, often to areas that are not serviced by terrestrial or cable providers.



DTH Technology

Cable and satellite television have been entertaining the world for more than half a century now. Even after the upcoming online platforms and OTT platforms, TV still enjoys the bigger chunk of the audience which is the mass.

Over the coming decade, it is believed that online entertainment platforms will be

evolving even more which makes it important for cable and satellite television to upgrade and evolve.

In the financial year, 2020 India's broadcasting and cable TV market was valued at $11.61 billion which is expected to read $19.06 billion in the financial year 2026. Factors impacting growth even after such competition for the industry are favourable regulation towards the industry, technological advancement, and growing investment opportunities.

According to a study done by techsci research, cable TV & satellite dominate the Indian market in the financial year 2020 with a surprising 98.89% of the market share. Users tend to go for DTH or cable services that offer sufficient regional channels at a very affordable and feasible process.

## 1.3 COMPANY PROFILE

### Dish TV

Asia's largest Direct to Home Entertainment Brand, Dish TV is the pioneer when it comes to digital entertainment. A division of Dish TV India Limited, the innovative offerings and revolutionary features of Dish TV has earned it the prestigious place of being India’s Most Trusted DTH Brand, for 4 years in a row.

Being the leader in DTH services, Dish TV has changed the face of Indian Television by making it possible for every customer to have access to premium quality digital entertainment. Enhancing the viewing experience, the tri-satellite technology that broadcasts Hi-Definition and Standard Definition signals, Dish TV has taken the standards of television to incredible heights.

Adding to the world-class TV viewing experience, Dish TV gives freedom to its customers to select channels of their choice, customize their entertainment packages and pay just for the same. As a plethora of channel packs are accessible, the customers have the free hand to build their packages to suit their tastes and budget. Upping the entertainment quotient,

Dish TV also provides its customers with features like radio channels, an electronic program guide, parental lock, and the capacity for more than 655+ channels and services.

**As a part of its growth and development strategy, Videocon d2H merged into and with Dish TV India Ltd. On March 2018.**

D2H, the youngest entrant in the DTH category in India, started its operations in 2009. Today it is the fastest-growing DTH service with a net subscriber base of more than 23 million subscriber homes. It has a strong pan-India distribution network and penetration across 93% of all consumer durable trade outlets. D2H has over 650* channels and services which includes 60*HD channels and services. The brand has been a pioneer in bringing the latest technology to India. It has the distinction of introducing India's first Satellite DVD player, Satellite LED, Radio Frequency Remote for DTH, first 1000 GB HD DVR set-top box, Wireless DTH Headphones, 4K Ultra HD Set-top box, and its latest Internet app enabled Smart set-top box "d2h stream". These innovations have made d2h a leader in its own right in the industry.

The success story of d2h has been its value-added services. It has a wide range of value-added services: Dance Active, Cooking Active, Movies Active HD, Comedy Active, Bhakti Active, Ibadat Active, Music Active, Jyotish Active, Aapla Manoranjan, Evergreen Classics Active, Thirai Ulagam, Kids Active, Games Active, Topper TV, & Smart English, all available on a subscription basis and are for every member of the family right from an infant to a housewife.

D2H has been awarded as India's Most Trusted Brand 2013, 2014 & 2015, India's Best Brand 2014 by Economic Times, India's Most Promising Brand 2015 by Economic Times, Pay TV Operator of the Year at MIPCOM Cannes 2015, India's Most Trusted Brand 2016, Outstanding Hospitality Brand 2017 by Economic Times & recognized as top 50 dream companies to work for by World HRD Congress.

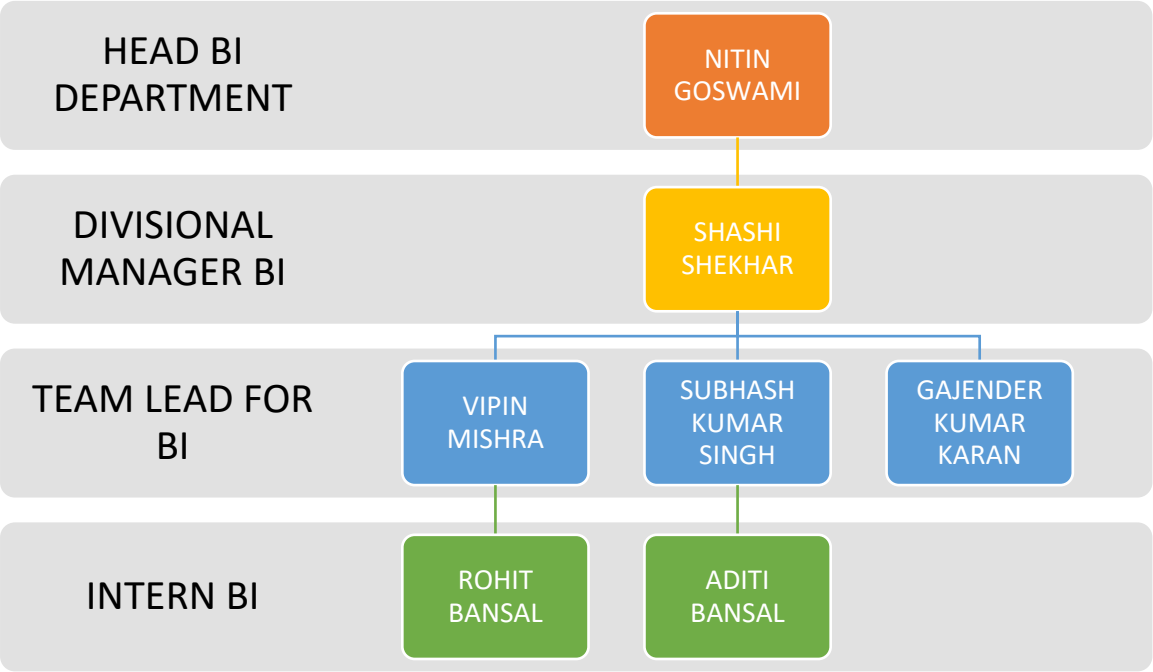
Dish TV has its head-quarter at Sector 16A, Film City, Noida, Uttar Pradesh, India. With a current share price of 11.45 Δ 0.20 (1.78%) its share is registered under NSE.

On 11th November 2016, the BOD of Dish TV and Videocon d2H agreed to an all-stock merger of their DTH operations. It was but until February 2018 that Dish TV announced finally

that it intended to go through with the merger. The amalgamation was officially and legally completed on 22nd March 2018.

As part of the internship program, I was included in the IT analysis team with 11 members with 2 interns (including me).

## 1.4 ADMINISTRATIVE TREE (BI TEAM)




## 1.5 ORGANIZATION CHART

Today the headquarter of Dish TV is located at Sector 16A, Film City, Noida, Uttar Pradesh, India. The regional office is located at 1D, Udyog Vihar, Ecotech-II, Greater Noida, Uttar Pradesh 201306 which was also my reporting location for my internship

Dish TV Headquarters Building

Dish TV Greater Noida Office

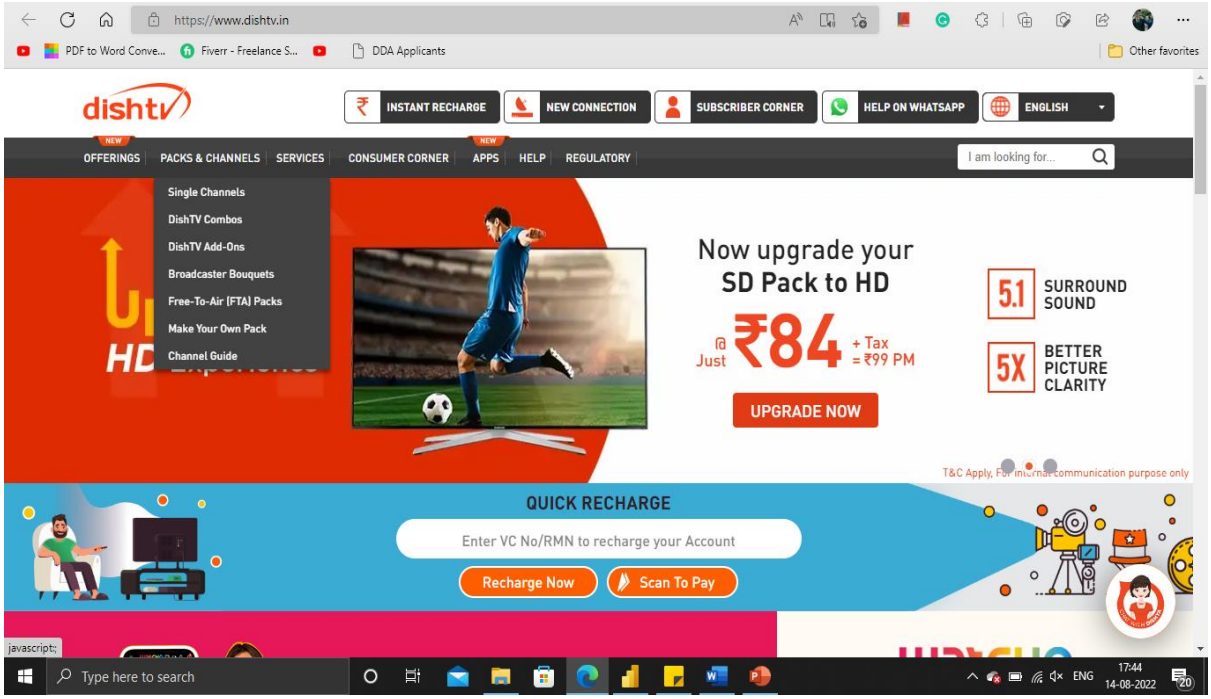
Dish TV Greater Noida Office

## 1.6 PRODUCT RANGE AND VARIETY

Since Dish TV is a cable network that provides its basic services including broadcasting requested and eligible channels as per many factors like company policies, government guidelines, customer interest, etc.

The physical form of products issued by the company included a set-up box, remote, and dish antenna for the network.

As a cable network company, Dish TV has a major product range in the form of services. After the new guidelines by the Telecom Regulatory Authority of India set up by the government of India under section 3 of the Telecom Regulatory Authority of India Act 1997 customers have the option to select channels individually as per their needs and interest. A fixed price rate policy is issued by TRAI which has to be followed by every cable network company. This policy mandates cable network companies to give the power of channel selection to the customer but does not stop them from offering special combos/packages/services etc. On the domain page of dish tv, customers can select from various options provided by the providers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SERVICES
CONSUMER CORNER
APPS
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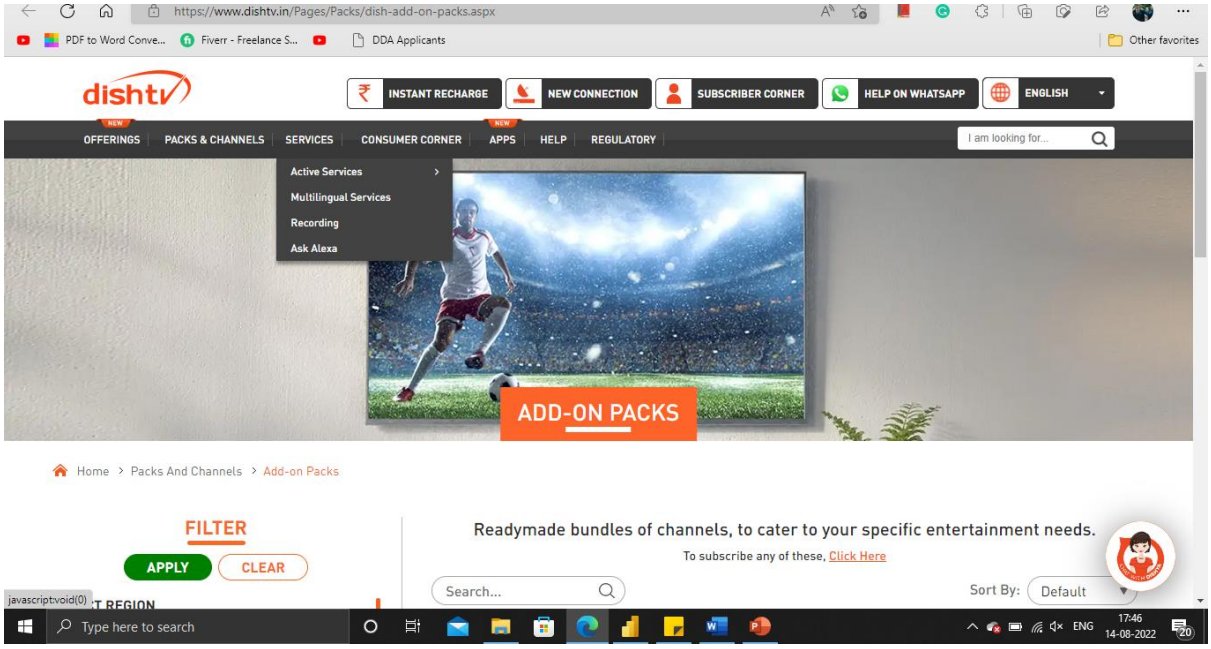
Single Channels
DishTV Combos
DishTV Add-Ons
Broadcaster Bouquets
Free-To-Air (FTA) Packs
Make Your Own Pack
Channel Guide
Now upgrade your
SD Pack to HD
Just ₹84 + Tax = ₹99 PM
UPGRADE NOW
5.1 SURROUND SOUND
5X BETTER PICTURE CLARITY
QUICK RECHARGE
Enter VC No/RMN to recharge your Account
Recharge Now
Scan To Pay
Type here to search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SERVICES
CONSUMER CORNER
APPS
HELP
REGULATORY
I am looking for...
Active Services
Multilingual Services
Recording
Ask Alexa
ADD-ON PACKS
Home > Packs And Channels > Add-on Packs
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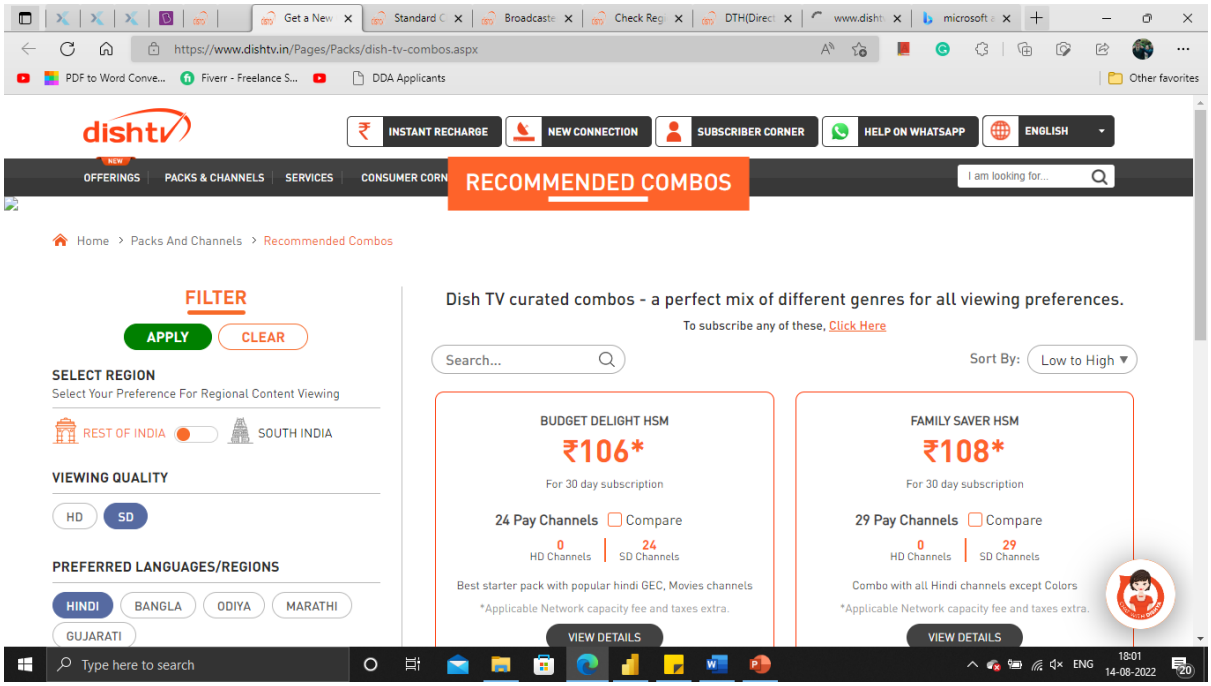
APPLY
CLEAR
Readymade bundles of channels, to cater to your specific entertainment needs.
To subscribe any of these, Click Here
Search...
Sort By: Default
Type here to search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SERVICES
CONSUMER CORN
RECOMMENDED COMBOS
I am looking for...
Home > Packs And Channels > Recommended Combos
FILTER
APPLY
CLEAR
SELECT REGION
Select Your Preference For Regional Content Viewing
REST OF INDIA
SOUTH INDIA
VIEWING QUALITY
HD
SD
PREFERRED LANGUAGES/REGIONS
HINDI
BANGLA
ODIYA
MARATHI
GUJARATI
Dish TV curated combos - a perfect mix of different genres for all viewing preferences.
To subscribe any of these, Click Here
Search...
Sort By: Low to High
BUDGET DELIGHT HSM
₹106*
For 30 day subscription
24 Pay Channels
Compare
0 HD Channels
24 SD Channels
Best starter pack with popular hindi GEC, Movies channels
*Applicable Network capacity fee and taxes extra.
VIEW DETAILS
FAMILY SAVER HSM
₹108*
For 30 day subscription
29 Pay Channels
Compare
0 HD Channels
29 SD Channels
Combo with all Hindi channels except Colors
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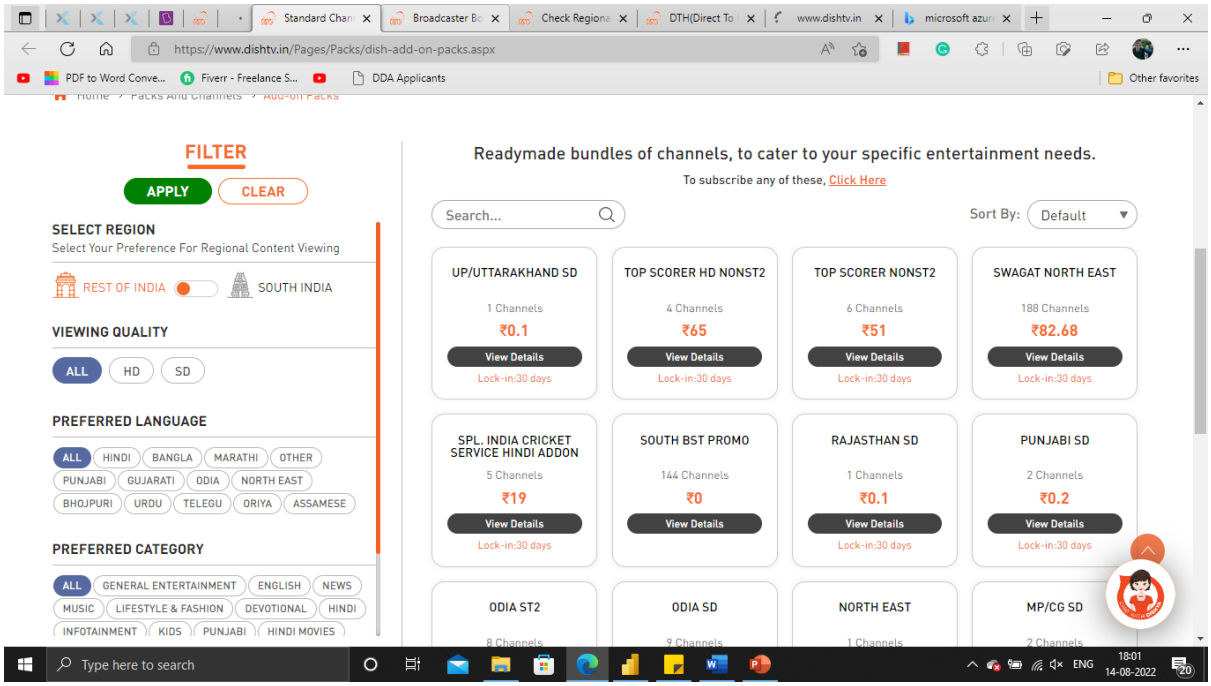
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SOUTH INDIA
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ALL
HD
SD
PREFERRED LANGUAGE
ALL
HINDI
BANGLA
MARATHI
OTHER
PUNJABI
GUJARATI
ODIA
NORTH EAST
BHOJPURI
URDU
TELEGU
ORIYA
ASSAMESE
PREFERRED CATEGORY
ALL
GENERAL ENTERTAINMENT
ENGLISH
NEWS
MUSIC
LIFESTYLE & FASHION
DEVOTIONAL
HINDI
INFOTAINMENT
KIDS
PUNJABI
HINDI MOVIES
Readymade bundles of channels, to cater to your specific entertainment needs.
To subscribe any of these, Click Here
Search...
Sort By: Default
UP/UTTARAKHAND SD
1 Channels
₹0.1
View Details
Lock-in:30 days
TOP SCORER HD NONST2
4 Channels
₹65
View Details
Lock-in:30 days
TOP SCORER NONST2
6 Channels
₹51
View Details
Lock-in:30 days
SWAGAT NORTH EAST
188 Channels
₹82.68
View Details
Lock-in:30 days
SPL. INDIA CRICKET SERVICE HINDI ADDON
5 Channels
₹19
View Details
Lock-in:30 days
SOUTH BST PROMO
144 Channels
₹0
View Details
RAJASTHAN SD
1 Channels
₹0.1
View Details
Lock-in:30 days
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2 Channels
₹0.2
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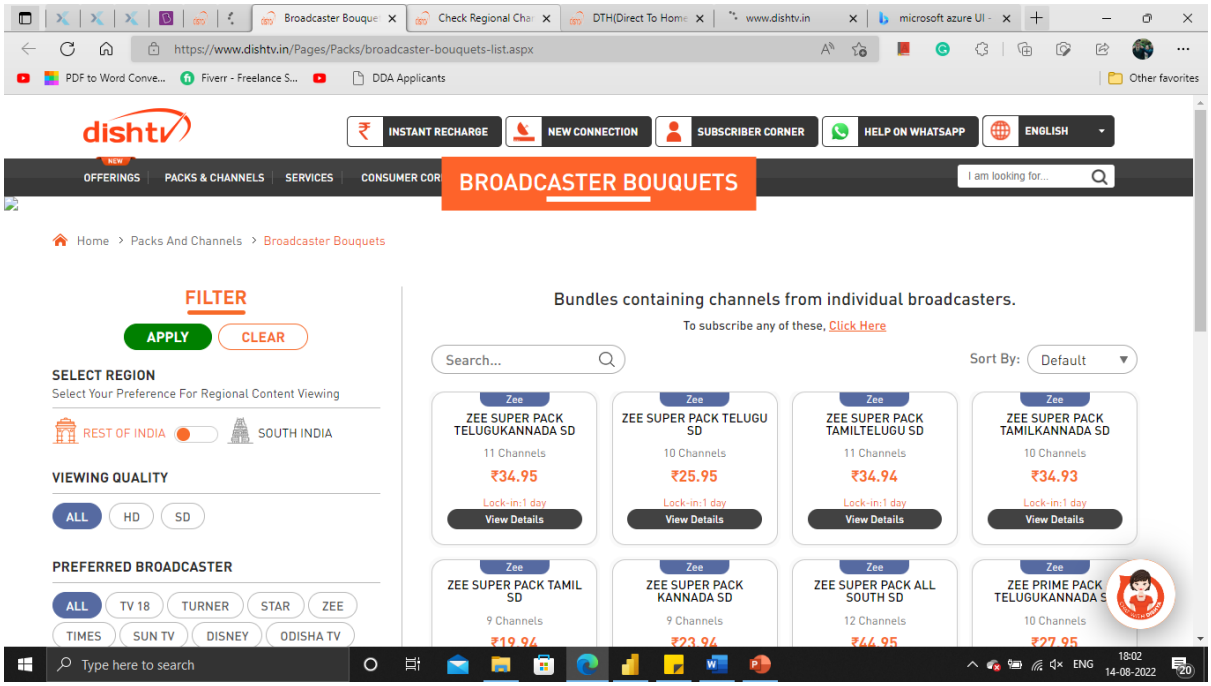
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VIEWING QUALITY
ALL
HD
SD
PREFERRED BROADCASTER
ALL
TV 18
TURNER
STAR
ZEE
TIMES
SUN TV
DISNEY
ODISHA TV
Bundles containing channels from individual broadcasters.
To subscribe any of these, Click Here
Search...
Sort By: Default
ZEE SUPER PACK TELUGUKANNADA SD
11 Channels
₹34.95
ZEE SUPER PACK TELUGU SD
10 Channels
₹25.95
ZEE SUPER PACK TAMILTELUGU SD
11 Channels
₹34.94
ZEE SUPER PACK TAMILKANNADA SD
10 Channels
₹34.93
View Details
ZEE SUPER PACK TAMIL SD
9 Channels
ZEE SUPER PACK KANNADA SD
9 Channels
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12 Channels
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10 Channels
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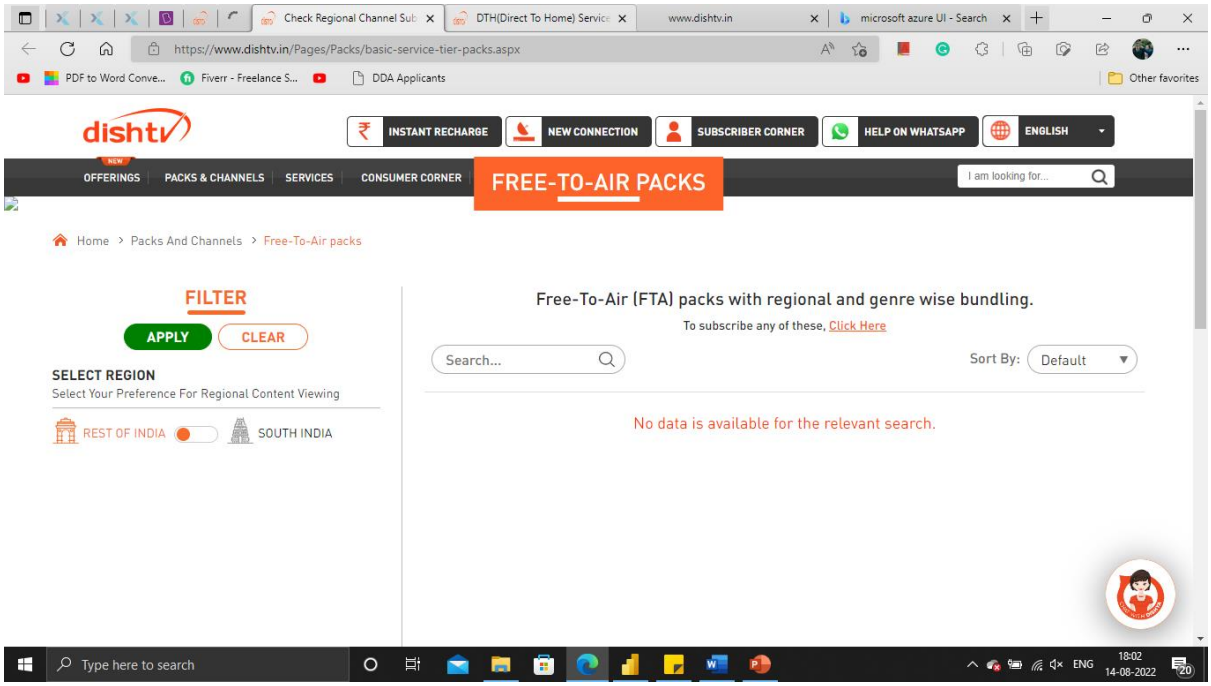
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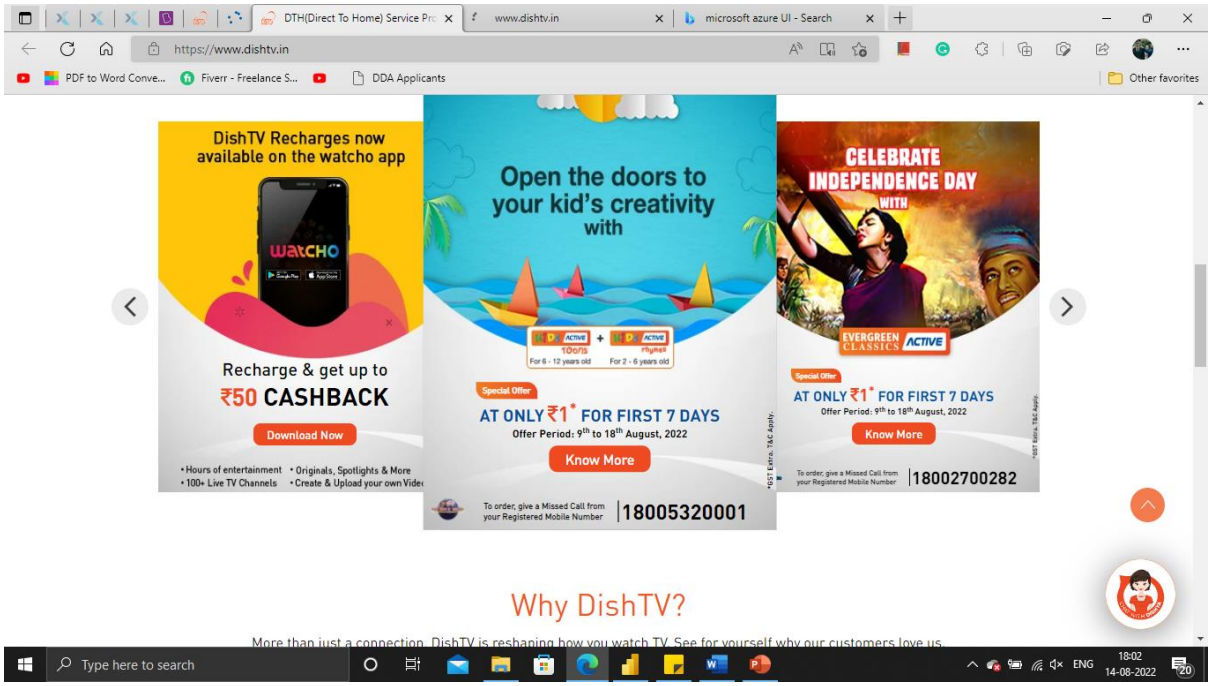



## 1.7 COMPETITORS

As a cable network company dish tv have to update and develop its policies and services as they regularly have to compete with various leading companies like: -

- TATA sky (32.09% market share).
- Airtel (29.72% market share).
- OTT market ($121.61 billion industry in 2019).

## 1.8 SWOT ANALYSIS

STRENGTH: -

- Strategies based on logical and updated data.
- Customer-friendly packages (optional).
- Provides satellite television audio programming and interactive television services. (USP).
- Customers including rural customer base as well.
- All packages include high definition (HD).

- Being a dynamic company Dish TV is now working towards growth in the OTT segment.

WEAKNESS: -

- Vulnerable to signal distribution during bad weather conditions. (The issue is more a technical issue that is difficult to overcome for every cable service provider due to many barriers).

OPPORTUNITIES: -

- Offer premium packages that let viewers choose the perfect combination of channels.
- Employ out-of-market distant network channels (ABC, CBS, NBC, FOX, and PBS).
- Acquisitions and takeovers.
- Impart international programming and professional installation services.

THREAT: -

- Competition due to greater services from cable and wireless companies.
- Lower-cost competitors and imports.
- Constant battle between the network provider and satellite companies over carriage fees.
- Challenge from traditional cable companies which offer bundled services.

## 1.9 COMPANY's MARKET SHARE (growth, turnover and market share, special achievements)

With a market share price of 11.35▼ 0.15 (1.30%), (as of 1632hrs, 15-08-2022) dish tv has successfully maintained an average share price of 54.30 and highest of 134.50 (on May 31, 2007) and lowest of 4.05 (on Mar 31, 2020). Dish TV is expected to cover 15.6% of the market share by the end of 2022 and has captured approximately 15.5% of the market share till the end of 2021.

The company management has analysed the rapid growth and public interest towards OTT platforms and hence designed its own OTT equivalent platform called **"WATCHO"** with Rs.29 per month. Watcho offers originals, Live TV, Channels, and lots more.

| **DISH TV India Ltd.** | |
|---|---|
| **Parent Company** | Essel Group |
| **Category** | Broadcasting & Cables |
| **Sector** | Media & Entertainment |
| **Tagline/ Slogan** | Wish Karo, Dish Karo |
| **Segmentation** | TV viewers, Internet users having broadband connection who can view TV using the internet |

# CHAPTER 2

# LITERATURE REVIEW

**Mercurio Ralph & Merrill Brian (June 2021): *Power BI***

In the first chapter, you created the Microsoft 365 environment to begin your journey through the collaboration apps. An important piece of Microsoft's "Power Platform" is Power BI. Power BI is Microsoft's data visualization software. Power BI is a lot more than the graphs and charts that you can make in Excel. The charts and graphs are not static, but reactive. When you click an element, the rest of the report will change to reveal information specific to where you clicked. Your data can also be drilled down into more specific information or related information to what is currently being displayed. It is more than just that a single graph or dataset, but how multiple sets of data are related to one another. In this way, you are able to explore your data in a way you never could with static charts.

**Ms. Singh Sarika & Ms. Jadhav Lavina (12 June 2022): *Data Analysis and Visualization of Sales Dataset using Power BI***

Power BI has completely revolutionized the worlds of business intelligence, data visualization, and analytics. Power BI is an online service that allows users to search for data, transform it, visualize it, and share the reports and dashboards they create with other users in the same or different departments/organizations, as well as the general public. Power BI is used by over 200,000 organizations in 205 countries as of February 2017. Power BI\'s Quick Insights feature is an innovative feature that is built on a growing set of advanced analytical algorithms. This function may be activated with a single click after uploading a data set to Power BI, and it generates a number of reports depending on the data\'s analysis without any need for human participation. This also aids in reducing human errors in calculations and statistical techniques, which can lead to research that isn't verifiable. Power BI is simple to use and ready for adoption as a platform for Research Data Analysis, accepting even Excel spreadsheets as input. The pandemic of the coronavirus has hastened the adoption of mobile-friendly analytics and business intelligence platforms. Companies all over the world now want their employees and customers to have access to data and analytics from any location. The mobile BI market will be worth more than $20 billion by 2024, according to Mordor Intelligence. Furthermore, mobile devices such as smartphones and tablets are expected to account for more than 72 percent of all internet traffic. As a result, implementing mobile-friendly BI platforms across your organization in 2022 makes even more sense from a business perspective. The purpose of this paper is to show how Power BI can quickly transform a piece of research data into a set of shareable analytical reports and dashboards.

**Matthew N O Sadiku, Adebowale E. Shadare, Sarhan M. Musa & Cajetan Akujuobi, *Data Visualization.***

Data visualization involves presenting data in graphical or pictorial form which makes the information easy to understand. It helps to explain facts and determine courses of action. It will benefit any field of study that requires innovative ways of presenting large, complex information. The advent of computer graphics has shaped modern visualization. This paper presents a brief introduction to data visualization.

**Leena Gokhale & Kirti Nilesh Mahajan, *Comparative Study of Data Visualization tools.***

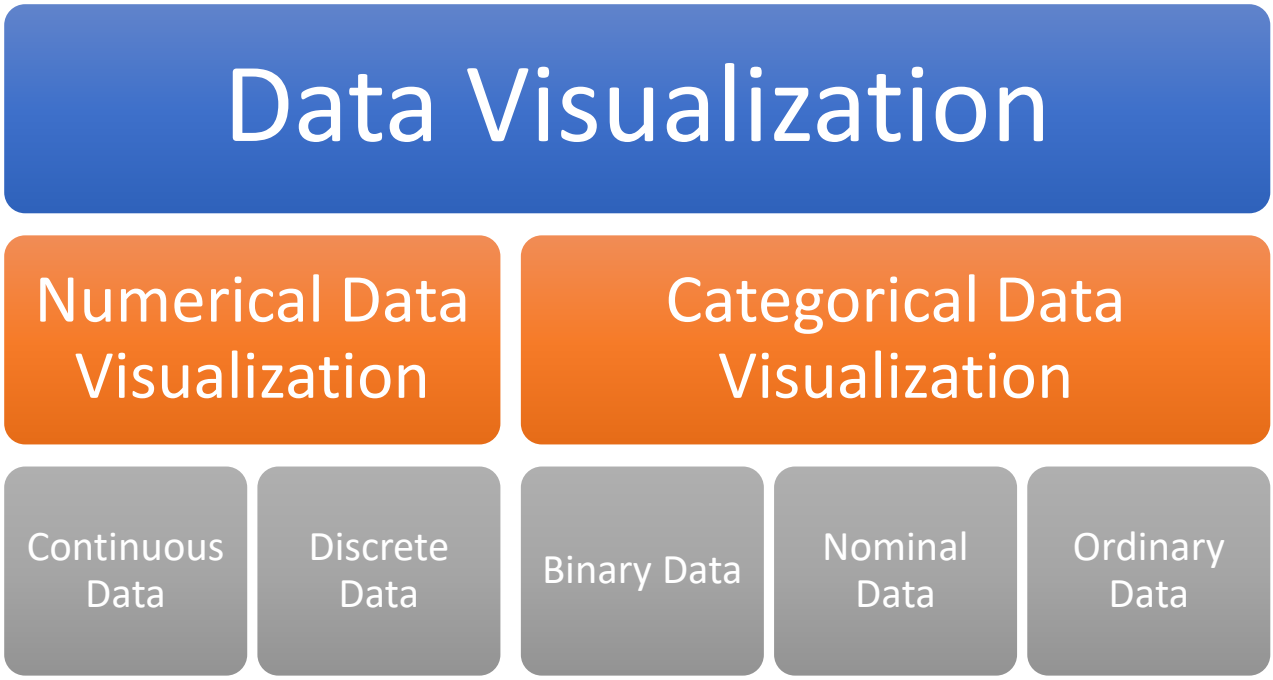
Data visualization is a robust technology that has the power to present large dataset in a graphical format. Significance of data visualization technology is not limited to mere data presentation. It also supports the users in understanding the data and making decisions. Two key goals of data visualization technology are Data Presentation and Data Exploration. There are numerous decision makers who depend upon visualization of data for making several data driven decisions and predictions. Data visualization technology integrates data visualization tool and data visualization technique. While data visualization tool is software which accepts the data, processes it and present it in graphical format, data visualization technique is the way in which this data is graphically presented such as chart, graph or map. Various data visualization tools and techniques are in practice. However, a major challenge for the decision makers is to select an appropriate data visualization tool and technique depending upon the purpose of visualization. The purpose of this research paper is to present the comparative study of data visualization tools and techniques.

In the era of information which we live in, an enormous amount of data has become available on hand to decision-makers. The term "**Big Data**" has recently been applied to datasets that grow so large that they become awkward to work with using traditional database management systems. The big data sizes are constantly increasing, currently ranging from a few dozen TB (terabytes) to many petabytes (PB) of data in a single data set. When a huge number of datasets are produced every second by users and others the decision makers can make more effective and efficient decisions after logical data analysis.

To analyze data, decision-makers need to study the generated data in a summarized and categorized manner. It is impossible to study big data hence decision-makers use data

visualization. Data visualization is the representation of data through the use of common graphics, such as: -

- Charts
- Plots
- Infographics
- Animations. Etc.




Importance of Data Visualization: -

- Better Agreement
- A Superior Method
- Simple Sharing
- Deals Investigation
- Discovering Relations between Occasions
- Investigating openings and patterns
- Discovers the trends in data
- Provides a perspective on the data
- Saves time

Data visualization can be more helpful when certain data visualization tools help with templates and guidance on how what and when to use visualization tools for example.

1. Microsoft Power BI.
2. Tableau.
3. Looker
4. Zoho Analytics
5. Sisense
6. IBM Cognos Analytics

As the work was majorly focused on data visualization using Power BI, SQL and Excel below is the introductory part of all the 3 software with examples: -

## 2.1 INTRODUCTION TO POWER BI

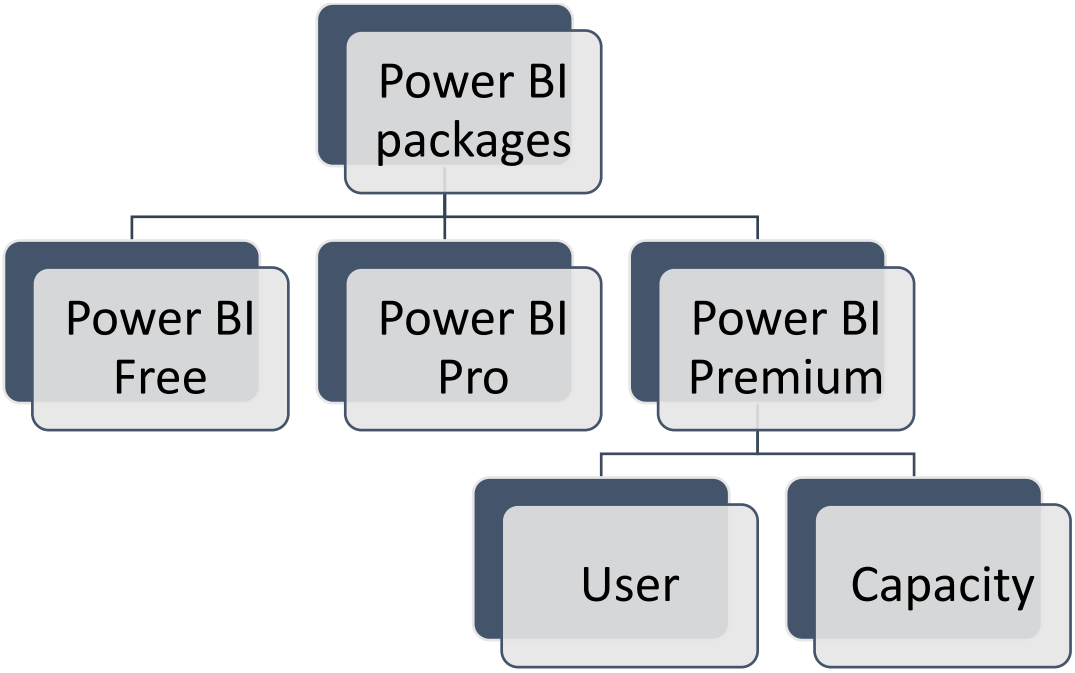
In the upcoming era of data, it has become important to develop more and more effective and efficient software to help the human race create, collect, visualize, analyze and make quality business decisions. Power BI provides many different categories of visualization and a variety of options to select from to help the user analyze data from as many perspectives as possible. With the growing need to arrange and manage data generated throughout the globe Power, BI comes as a saviour and helps analysts present the data in an organized and understandable format.

Power BI is an interactive data visualization software product developed by Microsoft with a primary focus on business intelligence. Power BI is another part of the Microsoft Power Platform. Developed by Microsoft Power BI was launched initially on 11 July 2011.

Power BI offers data warehouse capabilities including data preparation, data discovery, and interactive dashboards.

| Power BI Free | Power BI Pro | Power BI Premium | |
|---|---|---|---|
| Per user | Per user | Per user | Per capacity |
| $0<br>Per user/month | $9.99<br>Per user/month | $20<br>Per user/month | from<br>$4,995<br>Per capacity/month |
| Explore your reports to find and generate the quick insights you need for better business decisions.<br><br>Collaborate on reports with colleagues, then easily share the reports and insights when and how you want — in workspaces, on the web, in apps, or using Microsoft Teams. | License individual users with modern, self-service analytics to visualize data with live dashboards and reports, and share insights across your organization.<br><br>• Power BI Pro is included in Microsoft 365 E5.<br><br>• Available to buy now with a credit card. | License individual users to accelerate access to insights with advanced AI, unlock self-service data prep for big data, and simplify data management and access at enterprise scale.<br><br>• Includes all the features available with Power BI Pro.<br><br>• Available to buy now with a credit card. | License your organization with capacity to accelerate access to insights with advanced AI, unlock self-service data prep for big data, and simplify data management and access at enterprise scale — without per user licenses for content consumers.<br><br>• Requires a Power BI Pro license for publishing content into Power BI Premium capacity.<br><br>• Enable autoscale with your Azure subscription to automatically scale Power BI Premium capacity. |

Initially, Power BI was launched as Project Crescent which was later renamed Power BI in the year 2013 with major updates. Power BI is free for learners but, Power BI also provides additional benefits and features according to what the users of the plan wish to purchase.




Each of the Power BI packages benefits a selected segment of the user.

Microsoft Power BI team has made a superb YouTube channel (https://www.youtube.com/user/mspowerbi/videos) and there are lots of video tutorials

available from basic to advanced, you can pick the video from there and can learn at your own pace. It is up to you how quickly you complete the tutorials. If you want to get Power BI Instructor-led Training, then you can find MS authorized training provider in your nearby location and get trained along with certification after completing the 70-778 exam which will prove that you have earned the required knowledge and skills.

## 2.2 SCOPE OF POWER BI

Power BI has been in the corporate world for a long time but, recently it has bounced in the Indian market along with the scope of data and importance of data management and visualization. Scope of Power BI can be understood by studying the roles and responsibilities such as: -

- Develop custom visuals for Power BI
- Integrate Power BI reports with other applications using embedded analytics such as Power BI service or API automation
- Should know about prototyping, designing, and requirement analysis
- Develop data models as per business requirements
- Design methodologies and prepare project documentation
- Develop warehouse standard tabular and multidimensional models
- Build analysis services reporting models
- Translate raw data into informative visuals and reports
- Have an understanding of the application security layer
- Build DAX queries on the Power BI desktop.

Power BI can be helpful to visualize each factual and quantitative field in the corporate world. Every department needs well-organized and easy-to-understand reports for effective and smooth business flow.

- Sales report for Marketing Department.
- Revenue report for Finance Department.
- Performance reviews for HR Department.
- Inventory report for Logistics Department.

- Software efficiency report for IT Department. Etc.

## 2.3 GETTING STARTED WITH POWER BI

Step 1: - Install Power BI Desktop free version.

Step 2: - Run the Power BI Desktop.

Step 3: - Import Data.

Step 4: - Know what and how you wish to represent the data.

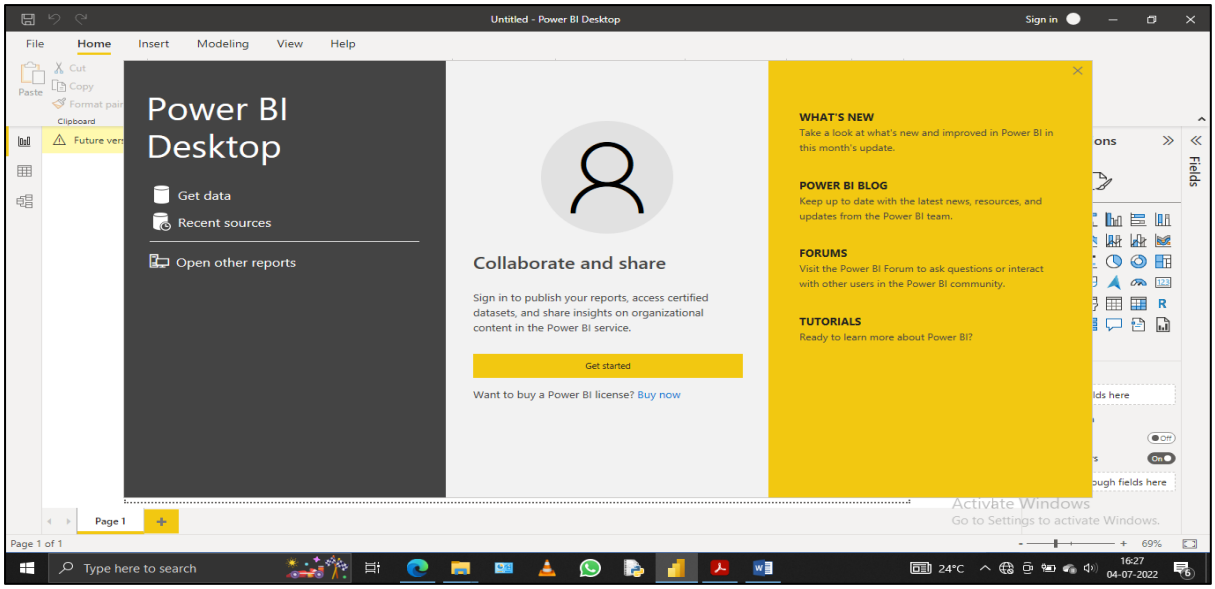
Step 5: - Plan a dashboard.

Step 6: - Arrange the charts and tables in a presentable manner.

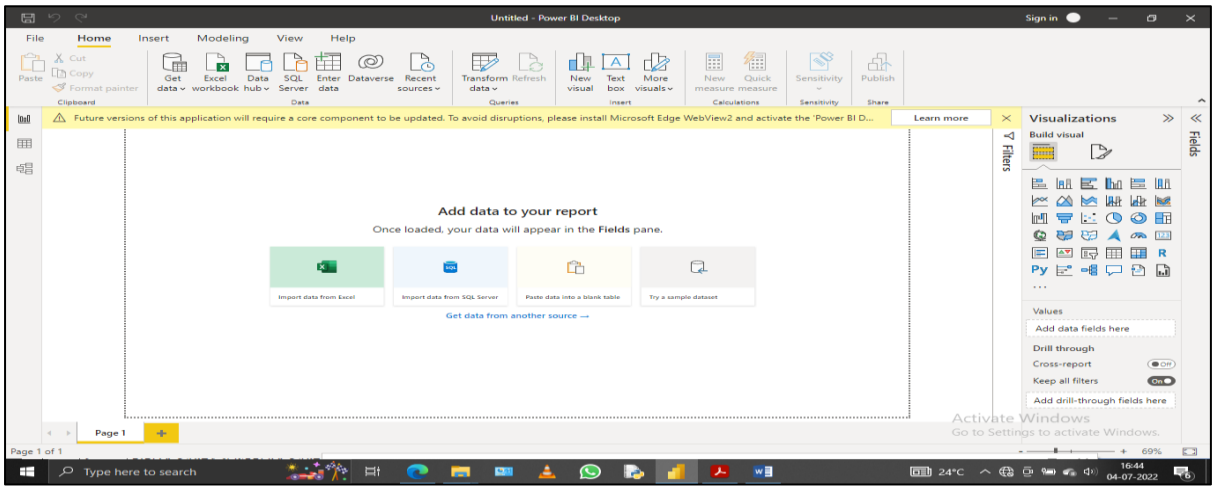
Step 7: - Publish your report.

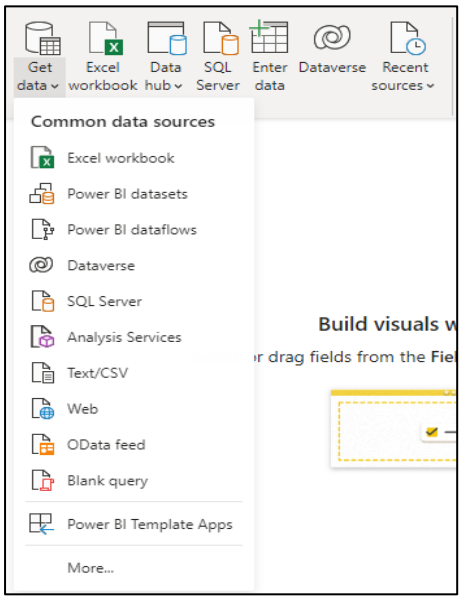
## BASIC EXAMPLES ON REPORTS MADE ON POWER BI

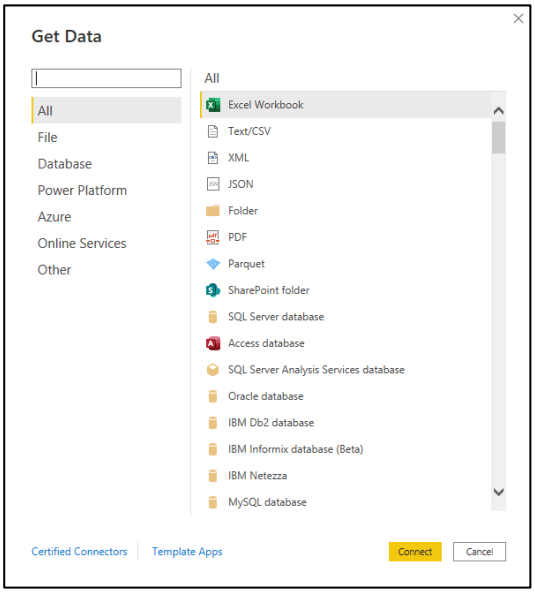
Example 1: - Report for a short manual data of company's revenue.




Note: - Power BI does not support personal email IDs to sign in. To start through the "Get Started" button (in red circle) you need a work email ID. If you don't have a work email ID there are other ways to have a work email ID for a certain period of time. For others they can directly "cross" (in blue circle) this page and start with importing the data.



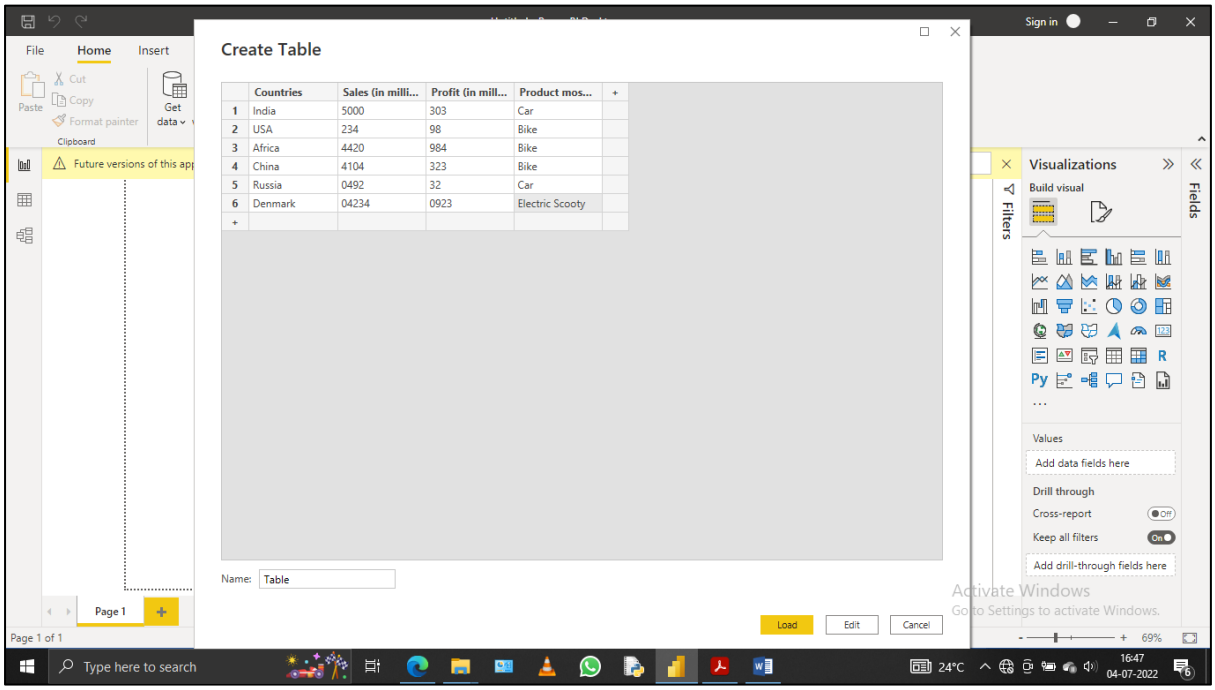




Note: - Power BI supports many import files to import data from. User or developer can import datasets or data from various options available at the platform. Options available are more than enough for the developer to import quality and as accurate as possible data.

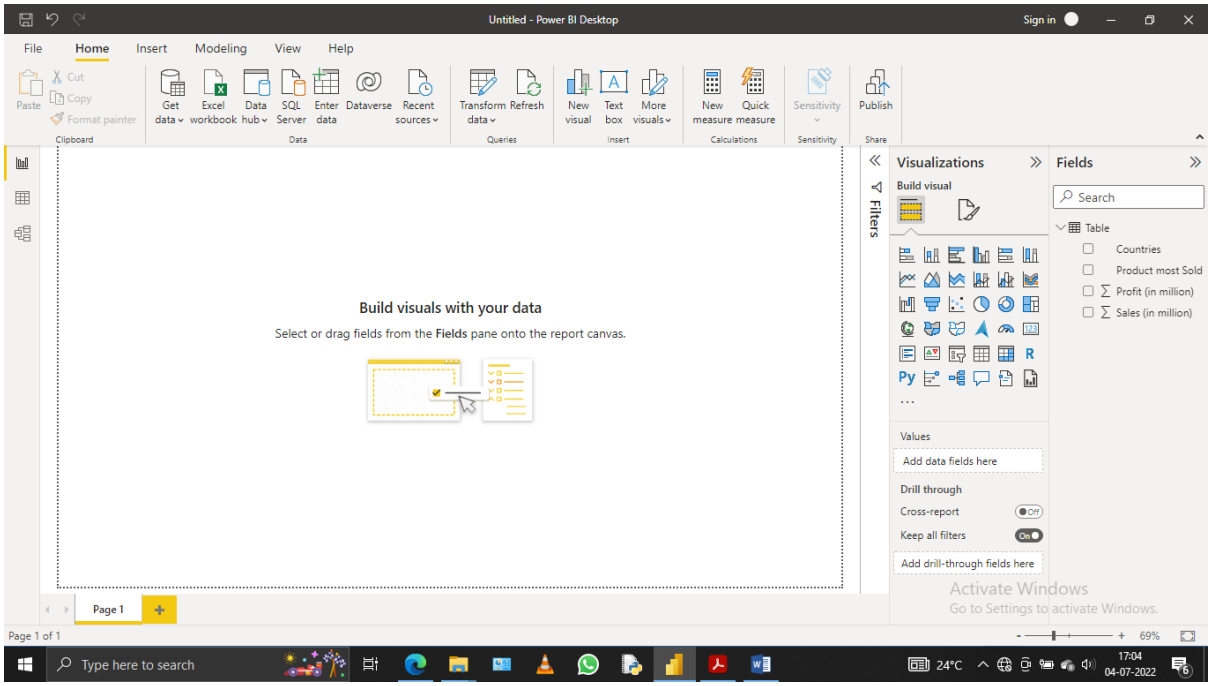
EXAMPLE 1 –

| COUNTRIES | SALES (IN MILLION) | PROFIT (IN MILLION) | PRODUCT MOST SOLD |
|---|---|---|---|
| **India** | 5000 | 303 | Car |
| **United States of America** | 234 | 98 | Bike |

| | | | |
|---|---|---|---|
| **Africa** | 4420 | 984 | Bike |
| **China** | 4104 | 323 | Bike |
| **Russia** | 0492 | 32 | Car |
| **Denmark** | 04234 | 0923 | Electric Scotty |

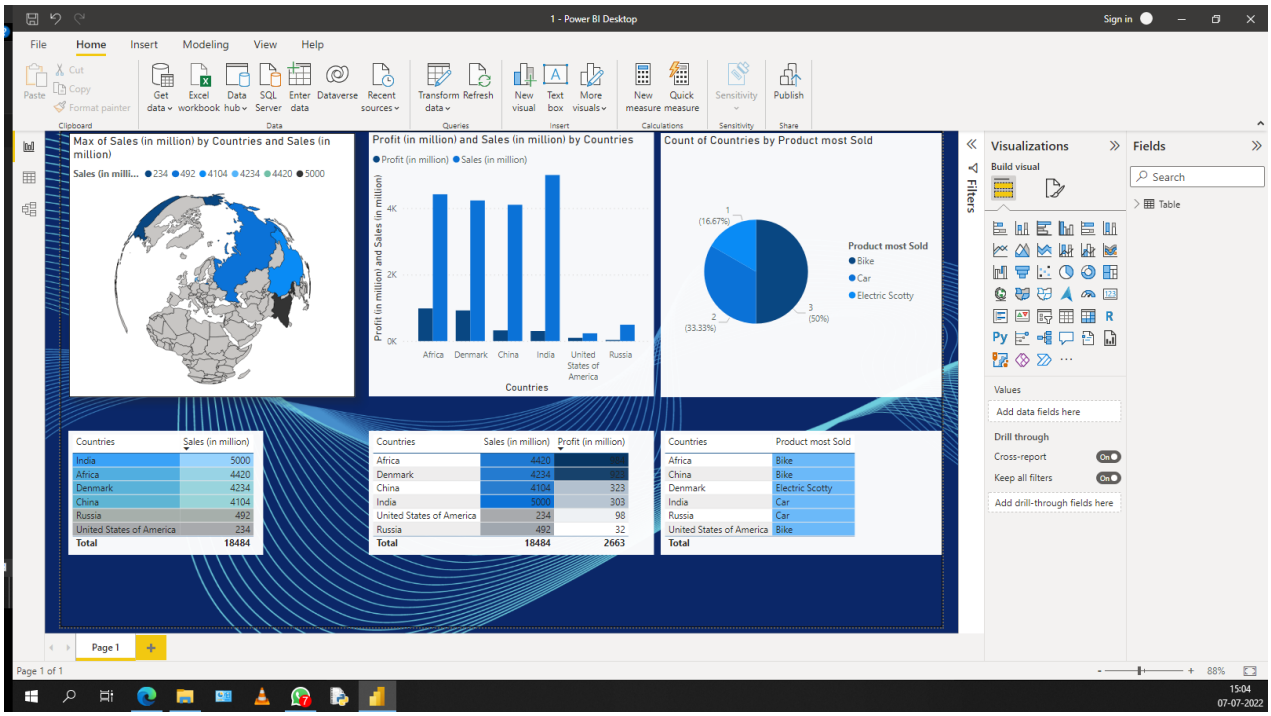



Note: - To import the data directly through the data entered developer goes to the Load option but to edit even further or if data imported from other source and the developer needs to edit the data the developer can go to Edit option available beside Load option.




This is how the imported data is shown after importing.

Developer can now select the type of chart/graph or any visualization he/she wishes to use from the Visualization portion. Below will be the final report through the available chart.



Note: - Above dashboard was designed on various basis assuming some general hypothetical requirement imagined according to the sample data.

1. Globe chart: - Represents the sales (in million) by countries. Data of which is also shown in tabular form below the maps.
2. Clustered column chart: - Represents profit (in millions) and sales (in million) by countries. Data of which is also shown in tabular form below the chart.
3. Pie chart: - Represents count of countries by products most sold. Data of which is also shown in tabular form below the chart.

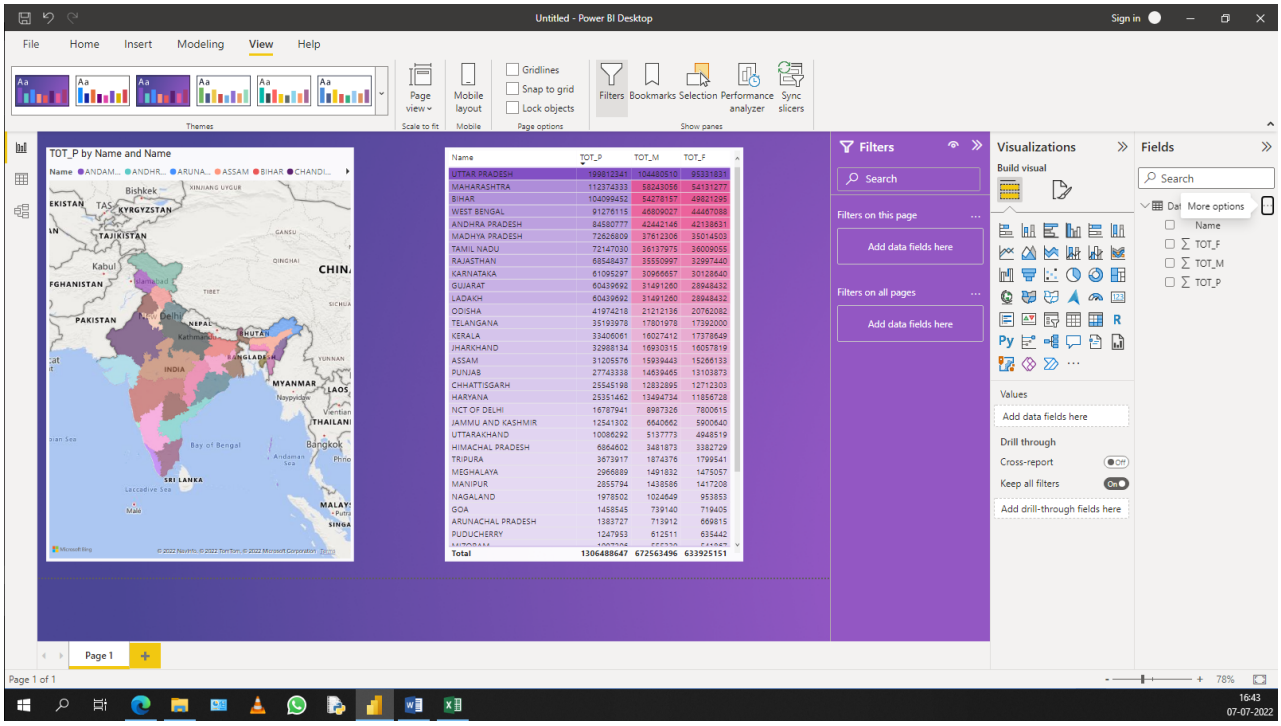
***To make the topics and software skills clearer and more accurate another data was taken representing the census of India.***

EXAMPLE 2: -

| Name | TOT_P | TOT_M | TOT_F |
|---|---|---|---|
| JAMMU AND KASHMIR | 12541302 | 6640662 | 5900640 |
| LADAKH | 60439692 | 31491260 | 28948432 |
| TELANGANA | 35193978 | 17801978 | 17392000 |
| HIMACHAL PRADESH | 6864602 | 3481873 | 3382729 |
| PUNJAB | 27743338 | 14639465 | 13103873 |
| CHANDIGARH | 1055450 | 580663 | 474787 |
| UTTARAKHAND | 10086292 | 5137773 | 4948519 |
| HARYANA | 25351462 | 13494734 | 11856728 |
| NCT OF DELHI | 16787941 | 8987326 | 7800615 |
| RAJASTHAN | 68548437 | 35550997 | 32997440 |
| UTTAR PRADESH | 199812341 | 104480510 | 95331831 |
| BIHAR | 104099452 | 54278157 | 49821295 |
| SIKKIM | 610577 | 323070 | 287507 |
| ARUNACHAL PRADESH | 1383727 | 713912 | 669815 |
| NAGALAND | 1978502 | 1024649 | 953853 |

| Name | TOT_P | TOT_M | TOT_F |
|---|---|---|---|
| MANIPUR | 2855794 | 1438586 | 1417208 |
| MIZORAM | 1097206 | 555339 | 541867 |
| TRIPURA | 3673917 | 1874376 | 1799541 |
| MEGHALAYA | 2966889 | 1491832 | 1475057 |
| ASSAM | 31205576 | 15939443 | 15266133 |
| WEST BENGAL | 91276115 | 46809027 | 44467088 |
| JHARKHAND | 32988134 | 16930315 | 16057819 |
| ODISHA | 41974218 | 21212136 | 20762082 |
| CHHATTISGARH | 25545198 | 12832895 | 12712303 |
| MADHYA PRADESH | 72626809 | 37612306 | 35014503 |
| GUJARAT | 60439692 | 31491260 | 28948432 |
| DAMAN & DIU | 243247 | 150301 | 92946 |
| DADRA & NAGAR HAVELI | 343709 | 193760 | 149949 |
| MAHARASHTRA | 112374333 | 58243056 | 54131277 |
| ANDHRA PRADESH | 84580777 | 42442146 | 42138631 |
| KARNATAKA | 61095297 | 30966657 | 30128640 |
| GOA | 1458545 | 739140 | 719405 |
| LAKSHADWEEP | 64473 | 33123 | 31350 |
| KERALA | 33406061 | 16027412 | 17378649 |
| TAMIL NADU | 72147030 | 36137975 | 36009055 |
| PUDUCHERRY | 1247953 | 612511 | 635442 |
| ANDAMAN & NICOBAR ISLANDS | 380581 | 202871 | 177710 |

Report: -




***For our "SAMPLE DATA" we imported the data manually, for our 2nd report we used data from excel. Power BI supports various other import sources as well as mentioned above. For database in Dish TV Microsoft SQL Server Management Studio is used generally as Microsoft SSMS allow users to edit, format and manipulate data according to the need and in a presentable and understandable manner.***

## 2.4 Microsoft SMSS

To connect with Microsoft SMSS first it is important to install the software and the server file for the same. Server file enables to user to input coding and experiment with the data. At first it would seem difficult to use as compared to excel but if given equal time Microsoft SMSS is more effective and considered more relevant software in Dish TV.

Below are few important codes in Microsoft SMSS: -

CREATE A TABLE: -

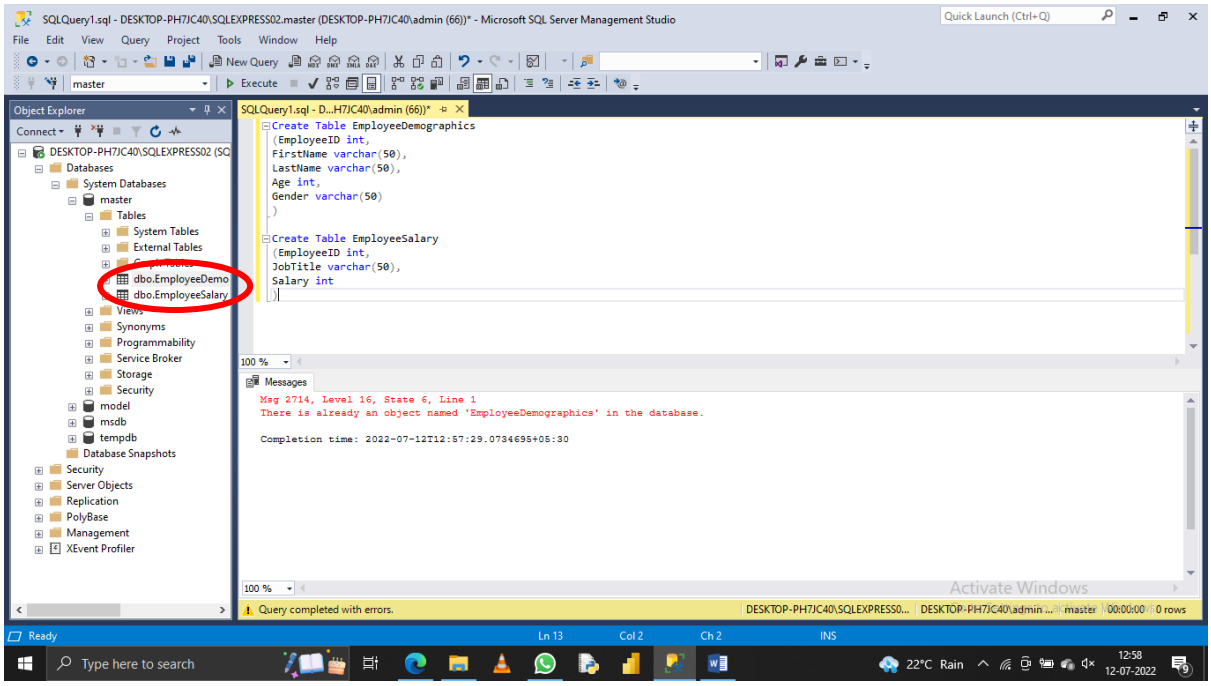
Input-

```
Create Table EmployeeDemographics
(EmployeeID int,
FirstName varchar(50),
LastName varchar(50),
```

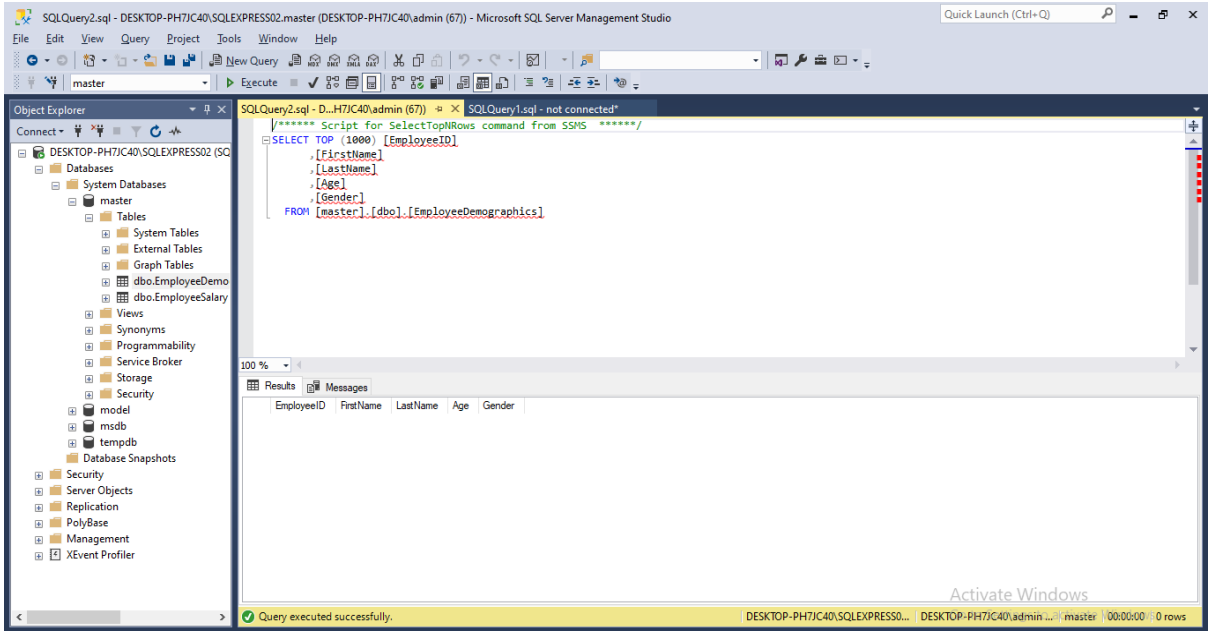
```
Age int,
Gender varchar(50)
)

Create Table EmployeeSalary
(EmployeeID int,
JobTitle varchar(50),
Salary int
)
```

## Output-




We created 2 tables with table name EmployeeDemographics and EmployeeSalary as it can be seen in the circled area. Above figure shows the tables created. Inside bracket first is the Name of column and then the type of data which will be inserted later. Following will be the output of empty table.




## INSERT VALUES TO THE TABLE

Insert into EmployeeDemographics VALUES

(1001, 'Jim', 'Halpert', 30, 'Male'),

(1002, 'Pam', 'Beasley', 30, 'Female'),

(1003, 'Dwight', 'Schrute', 29, 'Male'),

(1004, 'Angela', 'Martin', 31, 'Female'),

(1005, 'Toby', 'Flenderson', 32, 'Male'),

(1006, 'Michael', 'Scott', 35, 'Male'),

(1007, 'Meredith', 'Palmer', 32, 'Female'),

(1008, 'Stanley', 'Hudson', 38, 'Male'),

(1009, 'Kevin', 'Malone', 31, 'Male')

Insert Into EmployeeSalary VALUES

(1001, 'Salesman', 45000),

(1002, 'Receptionist', 36000),

(1003, 'Salesman', 63000),

(1004, 'Accountant', 47000),

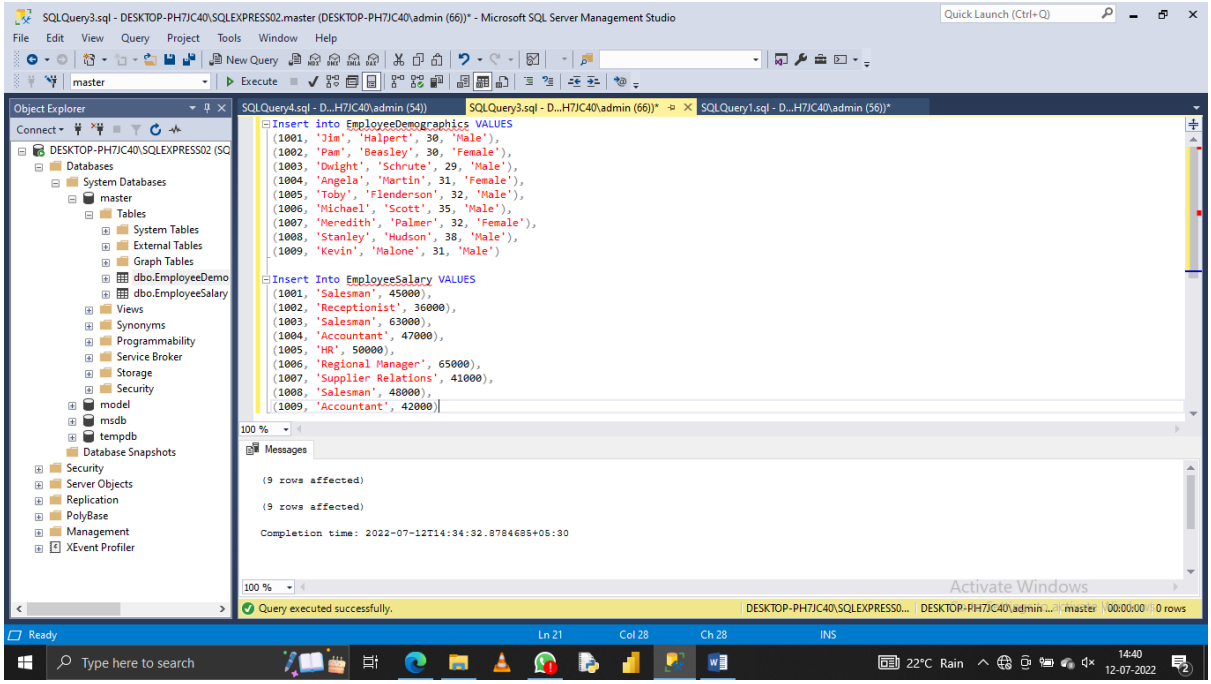
(1005, 'HR', 50000),

(1006, 'Regional Manager', 65000),

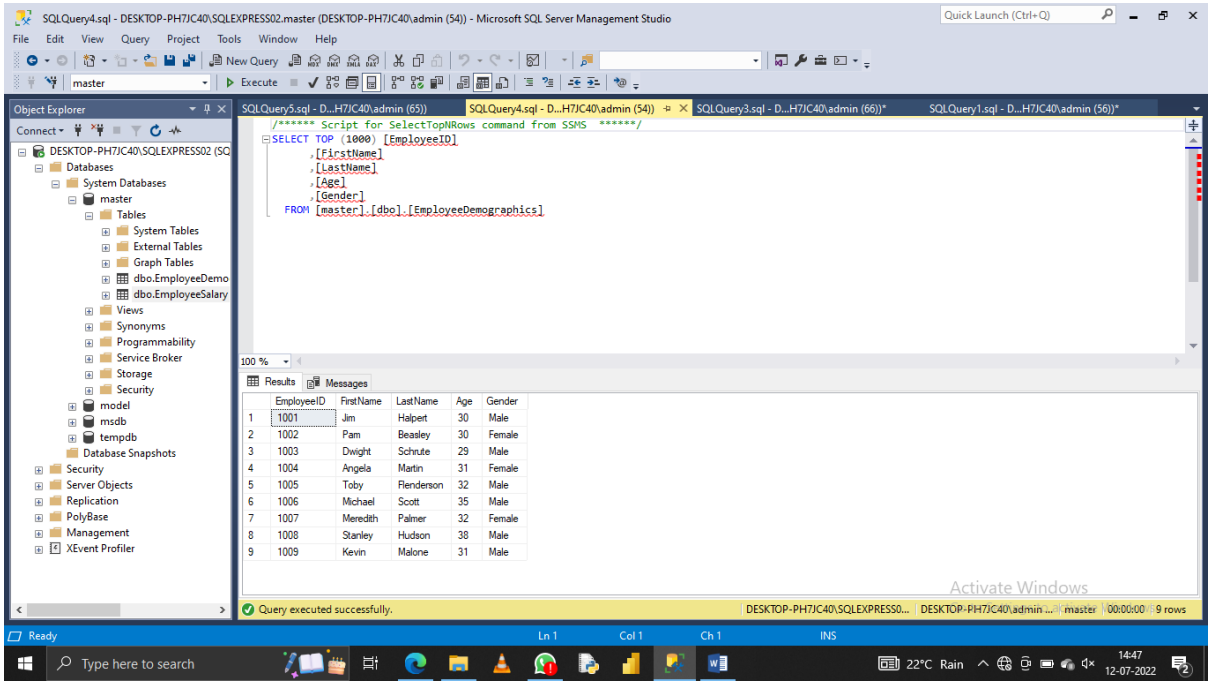
(1007, 'Supplier Relations', 41000),

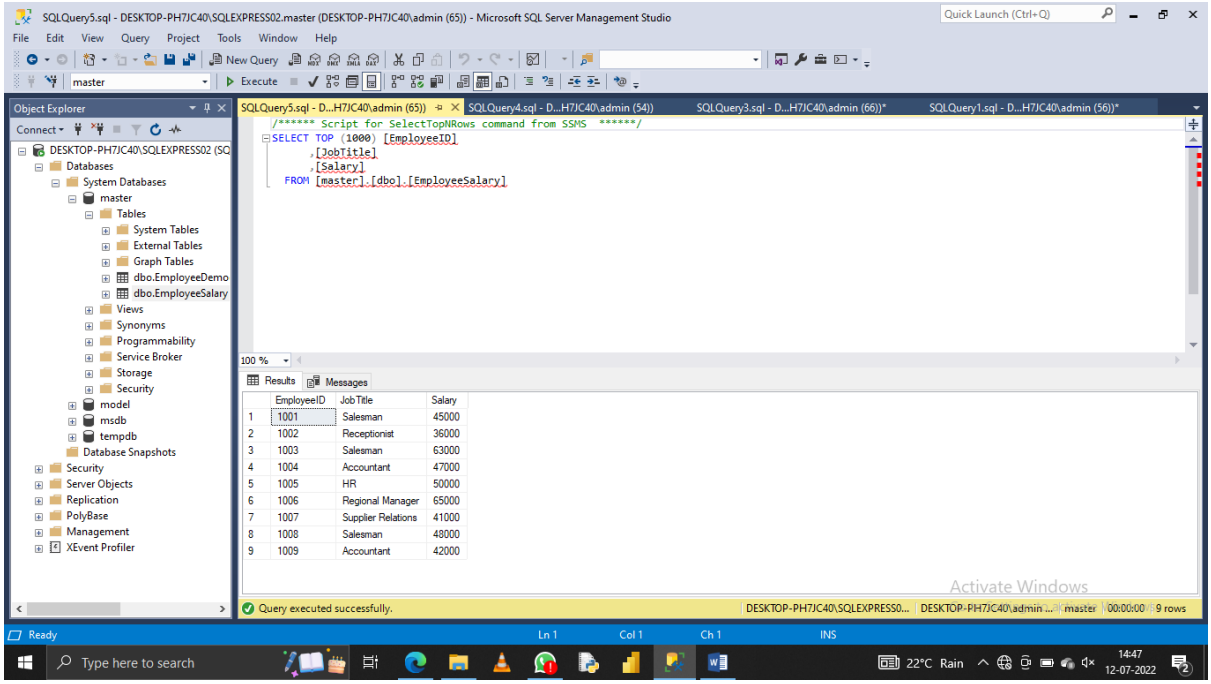
(1008, 'Salesman', 48000),

(1009, 'Accountant', 42000)




In the above photo 2 sets of values are added to both the tables. Following will be the output of updated table.






The values can be manipulated by using various functions like where, or, like, and, group by, order by, =, <>, <, <=, >, >=, and many more which we might use in coming projects and reports.

Till now we were requested to self-study about the theory and the practical part ourselves. For our first assignment, we were given an excel data of 7,21,873 distributors and were asked to present a dashboard for analysis and insights. Since the data is huge and confidential it cannot be published in the project file but below are the charts and analysis explaining the uses and outputs of each.

## 2.5 OBJECTIVE OF THE REPORT

PRIMARY OBJECTIVES

- Analyze the relationship between the target and achieved VAS subscribers in Dish TV.
- Use Power BI to visualize big data generated by regular functioning and usage by the customers.

SECONDARY OBJECTIVES

- To test the scope and efficiency of Power BI in data visualization.
- Learn the process of data visualization using Power BI.
- Explore Power BI and test various ideas on its dashboard using creative tools. Explore Power BI and test various ideas on its dashboard using creative tools.

# CHAPTER 3

# RESEARCH METHODOLOGY

Throughout the internship, I was assigned various projects and opportunities to show and highlight my skills. My team leader guided me with the process and helped me in every step so that I can learn and enhance my skills.

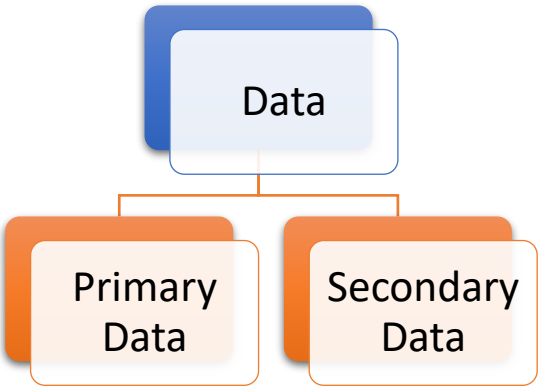
For the 1st two weeks, I was advised to study and understand the software as much as I can. I had brief and detailed discussions with my team members. Few of them were experienced in the field with more than a decade of experience in the company whereas a couple of my team members were newly recruited through campus interviews or job vacancies. In my team, I was the only intern and the fresher of all.

After my 2 weeks of study, my team mentor started taking my advice on reports and projects assigned to our team. I also started by recording my activities to track my progress and actions toward my successful internship.

***Note: - The data provided was confidential and no one was allowed to transfer or even make a second copy. The reports submitted were also limited to the data which the user needs. Hence, the reports and the data of the company in this project have been modified to keep the secrecy of the company's performance and documents secret. ****

As the topic says this is a research dashboard project from a live generated data by the users of Dish TV Pvt. Ltd.

Types of data: -



i. Primary data:

Data collected for the first time through personal experience or evidence. This is also described as the raw data of first-hand information.

In this research as the data is collected from the user (user-generated data) entire data collected is primary data. The data is collected for the first time through personal experience (user-experience).

ii. Secondary data:

Secondary data is a second-hand data that is already collected and recorded by some researchers for their purpose, and not for the current research problem. This method of gathering data is affordable, readily available, and saves costs.

As the data in this research is user-generated and the analysis done is of that user-generated data no secondary data is used.

## SCOPE OF THE STUDY

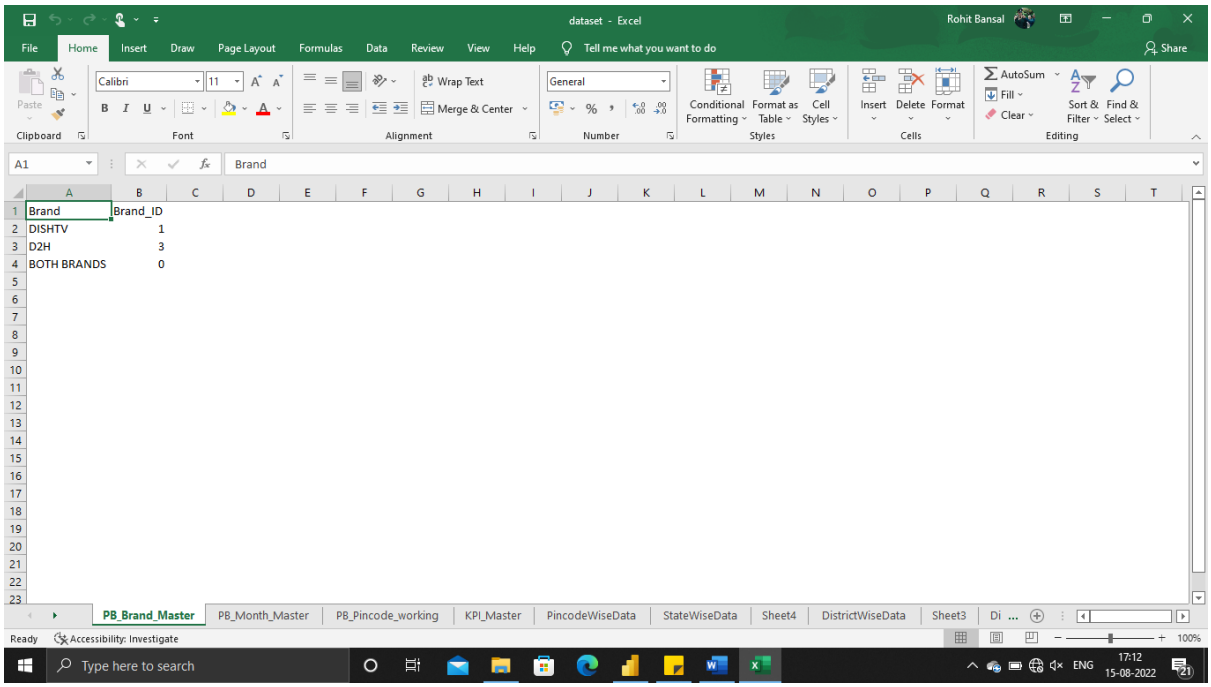
- This research can be used to understand and analyse the trends users follow and to visualize at what time of the year does users tend to upgrade their packages and use VAS.
- This research also helps analyst map out the area wise data on which part of the country uses more VAS and by what ratio and/or percentage.
- A quantitative analysis can be done to make strategies to increase VAS sales.

## LIMITATIONS OF THE STUDY

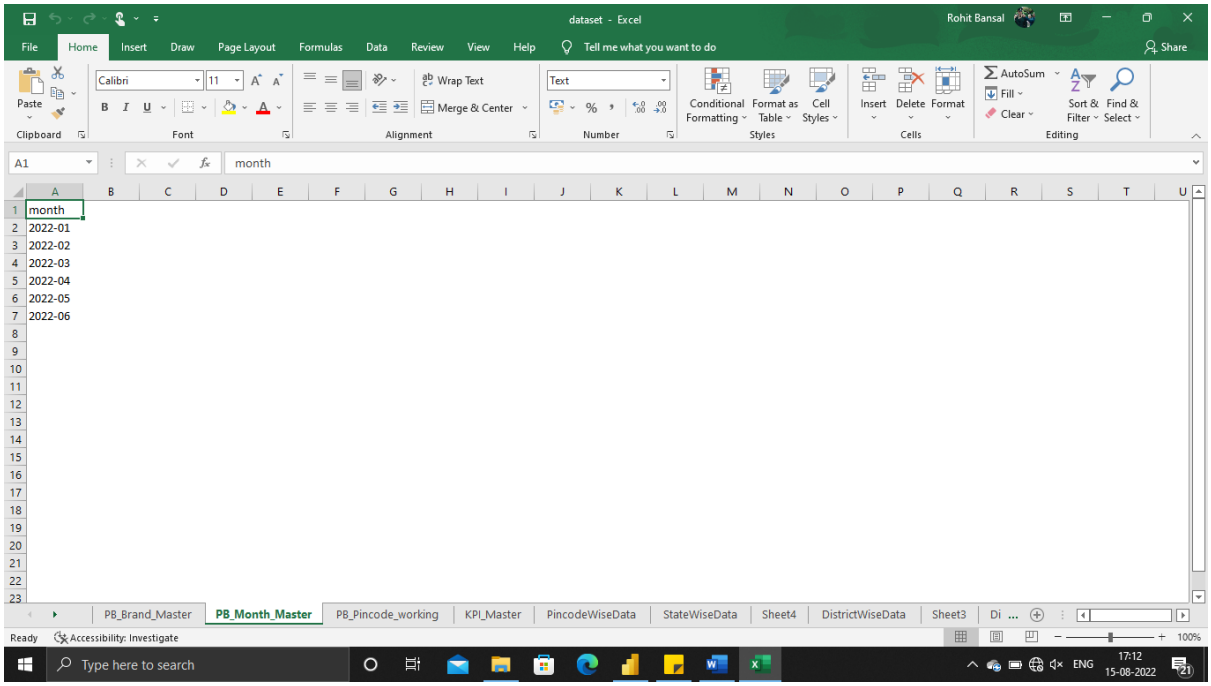
- The server was confidential so limited KPIs were permitted to be analysed.
- As it was live generated data, data was available for January to June was available. Data for winter was not available (the data was confidential so past data was kept hidden from interns).
- Being an intern student, I was restricted to the time boundary to learn and explore the software.

# DATA ANALYSIS AND DISCUSSION

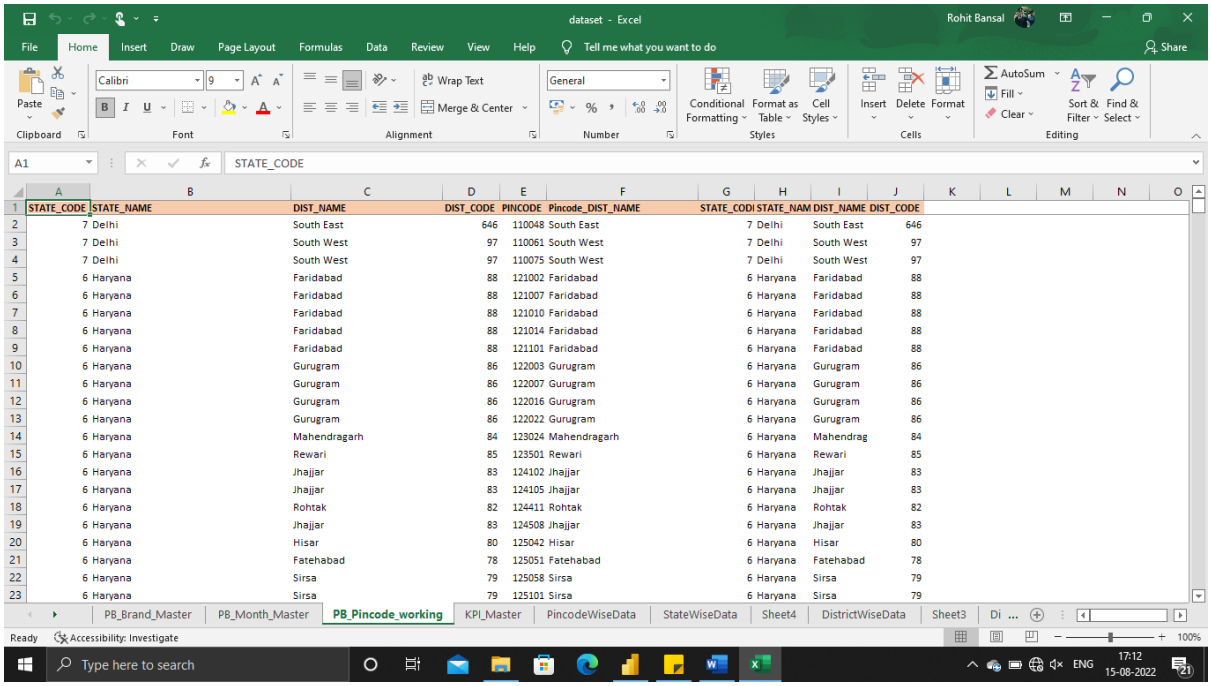
***I was restricted to publish the original data issued by the company so the data shown below in the research project is manipulated/not original.***



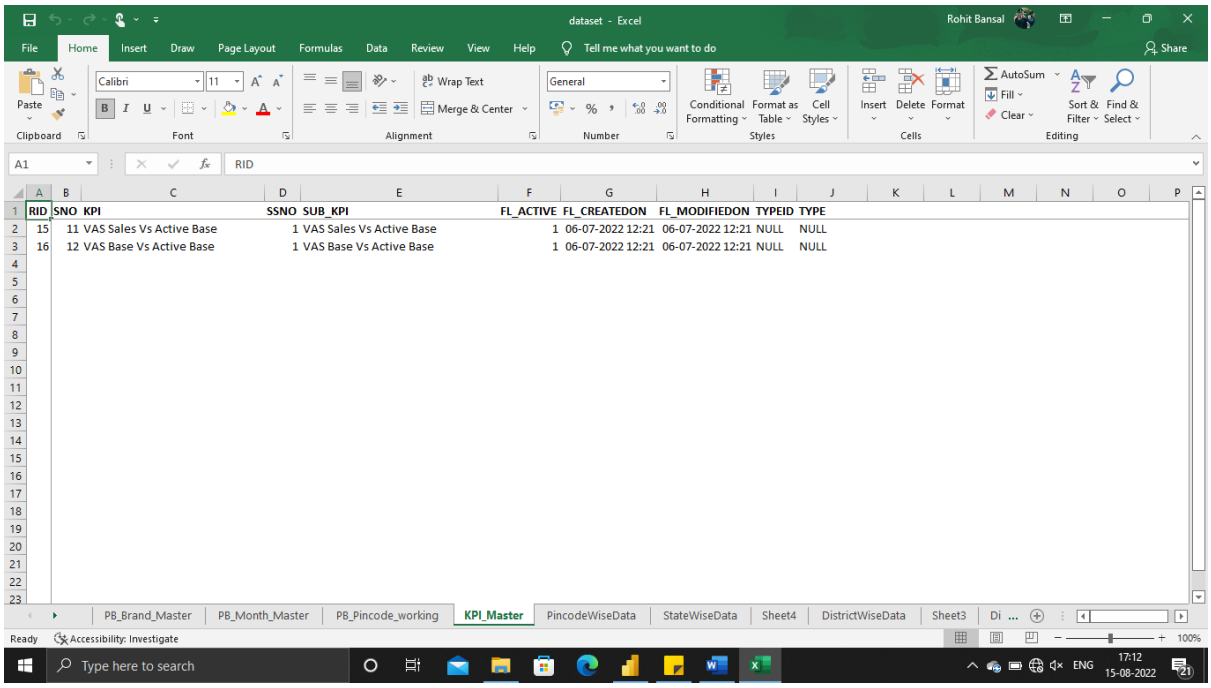
| Brand | Brand_ID |
|---|---|
| DISHTV | 1 |
| D2H | 3 |
| BOTH BRANDS | 0 |



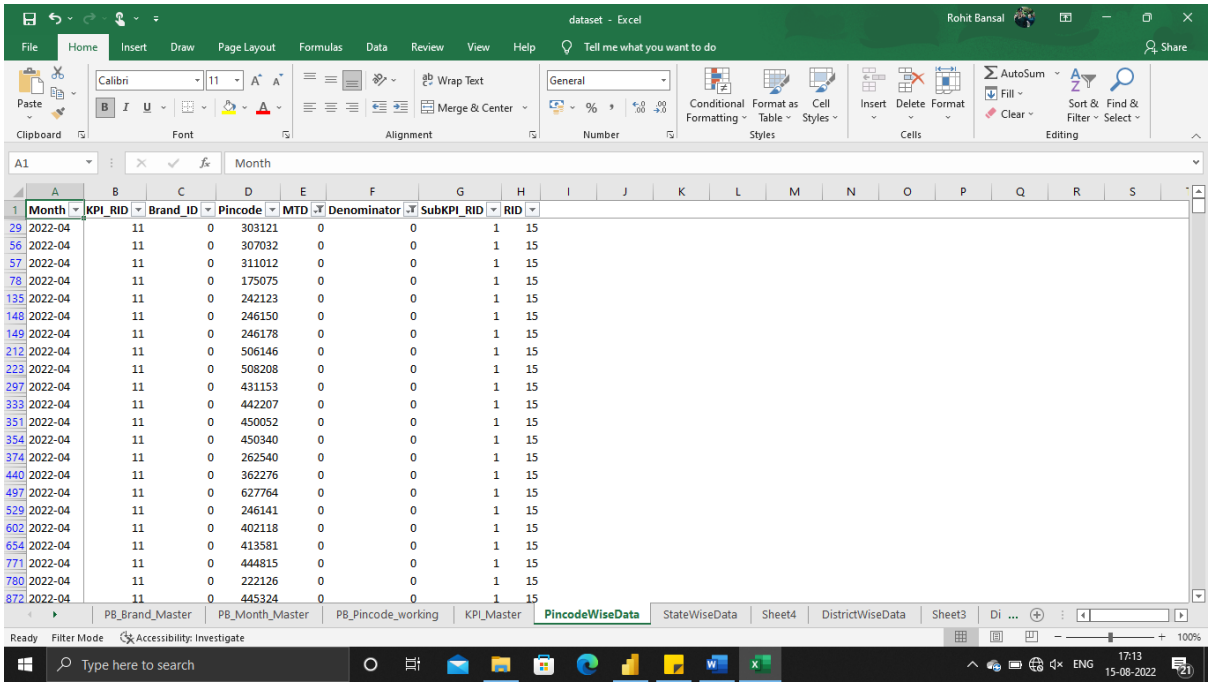
| month |
|---|
| 2022-01 |
| 2022-02 |
| 2022-03 |
| 2022-04 |
| 2022-05 |
| 2022-06 |



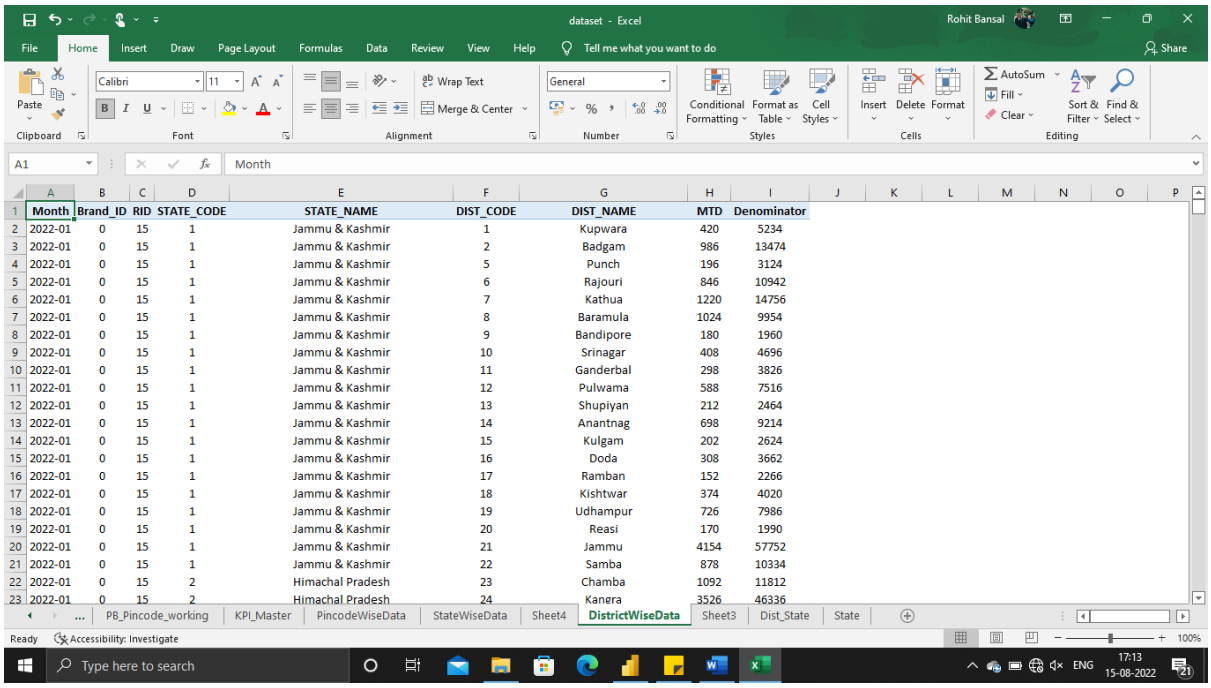
| STATE_CODE | STATE_NAME | DIST_NAME | DIST_CODE | PINCODE | Pincode_DIST_NAME | STATE_CODI | STATE_NAM | DIST_NAME | DIST_CODE |
|---|---|---|---|---|---|---|---|---|---|
| 7 | Delhi | South East | 646 | 110048 | South East | 7 | Delhi | South East | 646 |
| 7 | Delhi | South West | 97 | 110061 | South West | 7 | Delhi | South West | 97 |
| 7 | Delhi | South West | 97 | 110075 | South West | 7 | Delhi | South West | 97 |
| 6 | Haryana | Faridabad | 88 | 121002 | Faridabad | 6 | Haryana | Faridabad | 88 |
| 6 | Haryana | Faridabad | 88 | 121007 | Faridabad | 6 | Haryana | Faridabad | 88 |
| 6 | Haryana | Faridabad | 88 | 121010 | Faridabad | 6 | Haryana | Faridabad | 88 |
| 6 | Haryana | Faridabad | 88 | 121014 | Faridabad | 6 | Haryana | Faridabad | 88 |
| 6 | Haryana | Faridabad | 88 | 121101 | Faridabad | 6 | Haryana | Faridabad | 88 |
| 6 | Haryana | Gurugram | 86 | 122003 | Gurugram | 6 | Haryana | Gurugram | 86 |
| 6 | Haryana | Gurugram | 86 | 122007 | Gurugram | 6 | Haryana | Gurugram | 86 |
| 6 | Haryana | Gurugram | 86 | 122016 | Gurugram | 6 | Haryana | Gurugram | 86 |
| 6 | Haryana | Gurugram | 86 | 122022 | Gurugram | 6 | Haryana | Gurugram | 86 |
| 6 | Haryana | Mahendragarh | 84 | 123024 | Mahendragarh | 6 | Haryana | Mahendrag | 84 |
| 6 | Haryana | Rewari | 85 | 123501 | Rewari | 6 | Haryana | Rewari | 85 |
| 6 | Haryana | Jhajjar | 83 | 124102 | Jhajjar | 6 | Haryana | Jhajjar | 83 |
| 6 | Haryana | Jhajjar | 83 | 124105 | Jhajjar | 6 | Haryana | Jhajjar | 83 |
| 6 | Haryana | Rohtak | 82 | 124411 | Rohtak | 6 | Haryana | Rohtak | 82 |
| 6 | Haryana | Jhajjar | 83 | 124508 | Jhajjar | 6 | Haryana | Jhajjar | 83 |
| 6 | Haryana | Hisar | 80 | 125042 | Hisar | 6 | Haryana | Hisar | 80 |
| 6 | Haryana | Fatehabad | 78 | 125051 | Fatehabad | 6 | Haryana | Fatehabad | 78 |
| 6 | Haryana | Sirsa | 79 | 125058 | Sirsa | 6 | Haryana | Sirsa | 79 |
| 6 | Haryana | Sirsa | 79 | 125101 | Sirsa | 6 | Haryana | Sirsa | 79 |



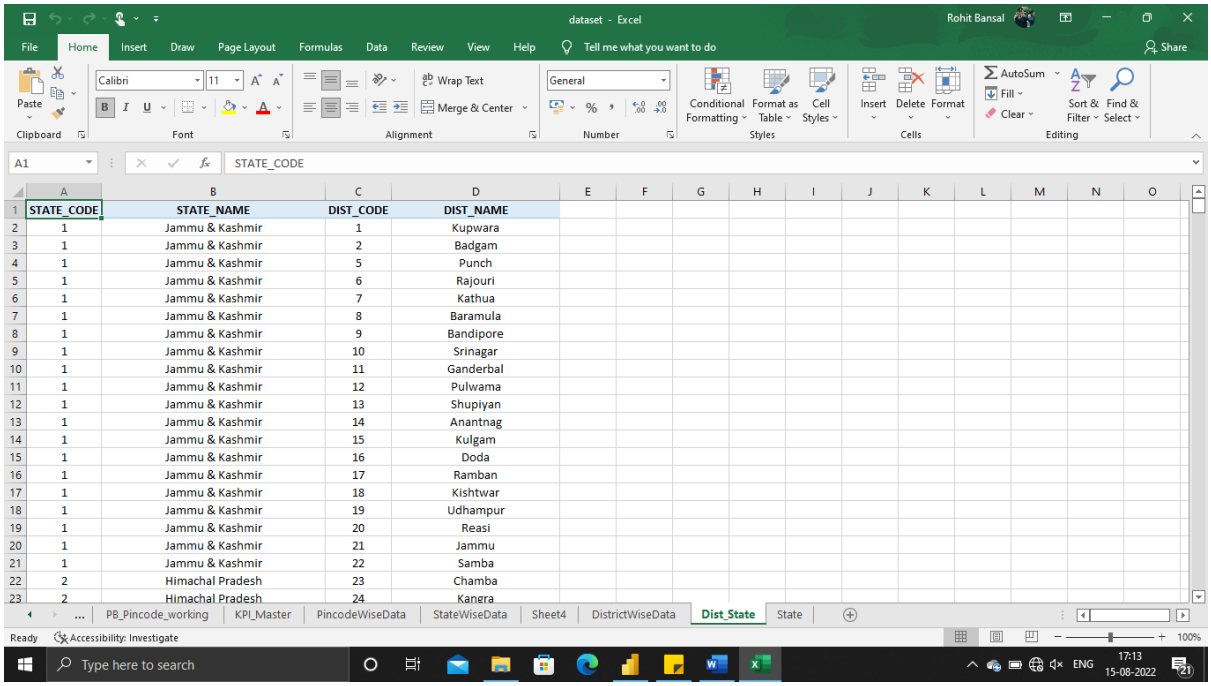
| RID | SNO | KPI | SSNO | SUB_KPI | FL_ACTIVE | FL_CREATEDON | FL_MODIFIEDON | TYPEID | TYPE |
|---|---|---|---|---|---|---|---|---|---|
| 15 | 11 | VAS Sales Vs Active Base | 1 | VAS Sales Vs Active Base | 1 | 06-07-2022 12:21 | 06-07-2022 12:21 | NULL | NULL |
| 16 | 12 | VAS Base Vs Active Base | 1 | VAS Base Vs Active Base | 1 | 06-07-2022 12:21 | 06-07-2022 12:21 | NULL | NULL |



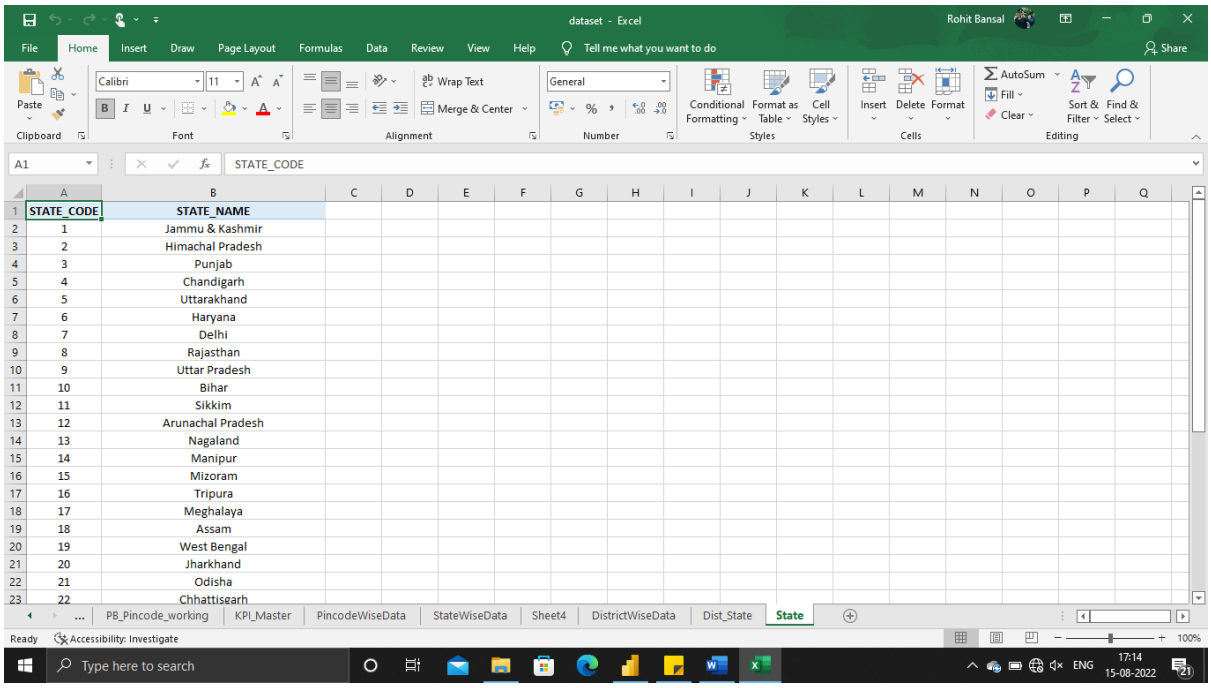
| | Month | KPI_RID | Brand_ID | Pincode | MTD | Denominator | SubKPI_RID | RID |
|---|---|---|---|---|---|---|---|---|
| 29 | 2022-04 | 11 | 0 | 303121 | 0 | 0 | 1 | 15 |
| 56 | 2022-04 | 11 | 0 | 307032 | 0 | 0 | 1 | 15 |
| 57 | 2022-04 | 11 | 0 | 311012 | 0 | 0 | 1 | 15 |
| 78 | 2022-04 | 11 | 0 | 175075 | 0 | 0 | 1 | 15 |
| 135 | 2022-04 | 11 | 0 | 242123 | 0 | 0 | 1 | 15 |
| 148 | 2022-04 | 11 | 0 | 246150 | 0 | 0 | 1 | 15 |
| 149 | 2022-04 | 11 | 0 | 246178 | 0 | 0 | 1 | 15 |
| 212 | 2022-04 | 11 | 0 | 506146 | 0 | 0 | 1 | 15 |
| 223 | 2022-04 | 11 | 0 | 508208 | 0 | 0 | 1 | 15 |
| 297 | 2022-04 | 11 | 0 | 431153 | 0 | 0 | 1 | 15 |
| 333 | 2022-04 | 11 | 0 | 442207 | 0 | 0 | 1 | 15 |
| 351 | 2022-04 | 11 | 0 | 450052 | 0 | 0 | 1 | 15 |
| 354 | 2022-04 | 11 | 0 | 450340 | 0 | 0 | 1 | 15 |
| 374 | 2022-04 | 11 | 0 | 262540 | 0 | 0 | 1 | 15 |
| 440 | 2022-04 | 11 | 0 | 362276 | 0 | 0 | 1 | 15 |
| 497 | 2022-04 | 11 | 0 | 627764 | 0 | 0 | 1 | 15 |
| 529 | 2022-04 | 11 | 0 | 246141 | 0 | 0 | 1 | 15 |
| 602 | 2022-04 | 11 | 0 | 402118 | 0 | 0 | 1 | 15 |
| 654 | 2022-04 | 11 | 0 | 413581 | 0 | 0 | 1 | 15 |
| 771 | 2022-04 | 11 | 0 | 444815 | 0 | 0 | 1 | 15 |
| 780 | 2022-04 | 11 | 0 | 222126 | 0 | 0 | 1 | 15 |
| 872 | 2022-04 | 11 | 0 | 445324 | 0 | 0 | 1 | 15 |



| | Month | Brand_ID | RID | STATE_CODE | STATE_NAME | DIST_CODE | DIST_NAME | MTD | Denominator |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 1 | Kupwara | 420 | 5234 |
| 3 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 2 | Badgam | 986 | 13474 |
| 4 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 5 | Punch | 196 | 3124 |
| 5 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 6 | Rajouri | 846 | 10942 |
| 6 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 7 | Kathua | 1220 | 14756 |
| 7 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 8 | Baramula | 1024 | 9954 |
| 8 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 9 | Bandipore | 180 | 1960 |
| 9 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 10 | Srinagar | 408 | 4696 |
| 10 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 11 | Ganderbal | 298 | 3826 |
| 11 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 12 | Pulwama | 588 | 7516 |
| 12 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 13 | Shupiyan | 212 | 2464 |
| 13 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 14 | Anantnag | 698 | 9214 |
| 14 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 15 | Kulgam | 202 | 2624 |
| 15 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 16 | Doda | 308 | 3662 |
| 16 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 17 | Ramban | 152 | 2266 |
| 17 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 18 | Kishtwar | 374 | 4020 |
| 18 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 19 | Udhampur | 726 | 7986 |
| 19 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 20 | Reasi | 170 | 1990 |
| 20 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 21 | Jammu | 4154 | 57752 |
| 21 | 2022-01 | 0 | 15 | 1 | Jammu & Kashmir | 22 | Samba | 878 | 10334 |
| 22 | 2022-01 | 0 | 15 | 2 | Himachal Pradesh | 23 | Chamba | 1092 | 11812 |
| 23 | 2022-01 | 0 | 15 | 2 | Himachal Pradesh | 24 | Kangra | 3526 | 46336 |



| STATE_CODE | STATE_NAME | DIST_CODE | DIST_NAME |
|---|---|---|---|
| 1 | Jammu & Kashmir | 1 | Kupwara |
| 1 | Jammu & Kashmir | 2 | Badgam |
| 1 | Jammu & Kashmir | 5 | Punch |
| 1 | Jammu & Kashmir | 6 | Rajouri |
| 1 | Jammu & Kashmir | 7 | Kathua |
| 1 | Jammu & Kashmir | 8 | Baramula |
| 1 | Jammu & Kashmir | 9 | Bandipore |
| 1 | Jammu & Kashmir | 10 | Srinagar |
| 1 | Jammu & Kashmir | 11 | Ganderbal |
| 1 | Jammu & Kashmir | 12 | Pulwama |
| 1 | Jammu & Kashmir | 13 | Shupiyan |
| 1 | Jammu & Kashmir | 14 | Anantnag |
| 1 | Jammu & Kashmir | 15 | Kulgam |
| 1 | Jammu & Kashmir | 16 | Doda |
| 1 | Jammu & Kashmir | 17 | Ramban |
| 1 | Jammu & Kashmir | 18 | Kishtwar |
| 1 | Jammu & Kashmir | 19 | Udhampur |
| 1 | Jammu & Kashmir | 20 | Reasi |
| 1 | Jammu & Kashmir | 21 | Jammu |
| 1 | Jammu & Kashmir | 22 | Samba |
| 2 | Himachal Pradesh | 23 | Chamba |
| 2 | Himachal Pradesh | 24 | Kangra |



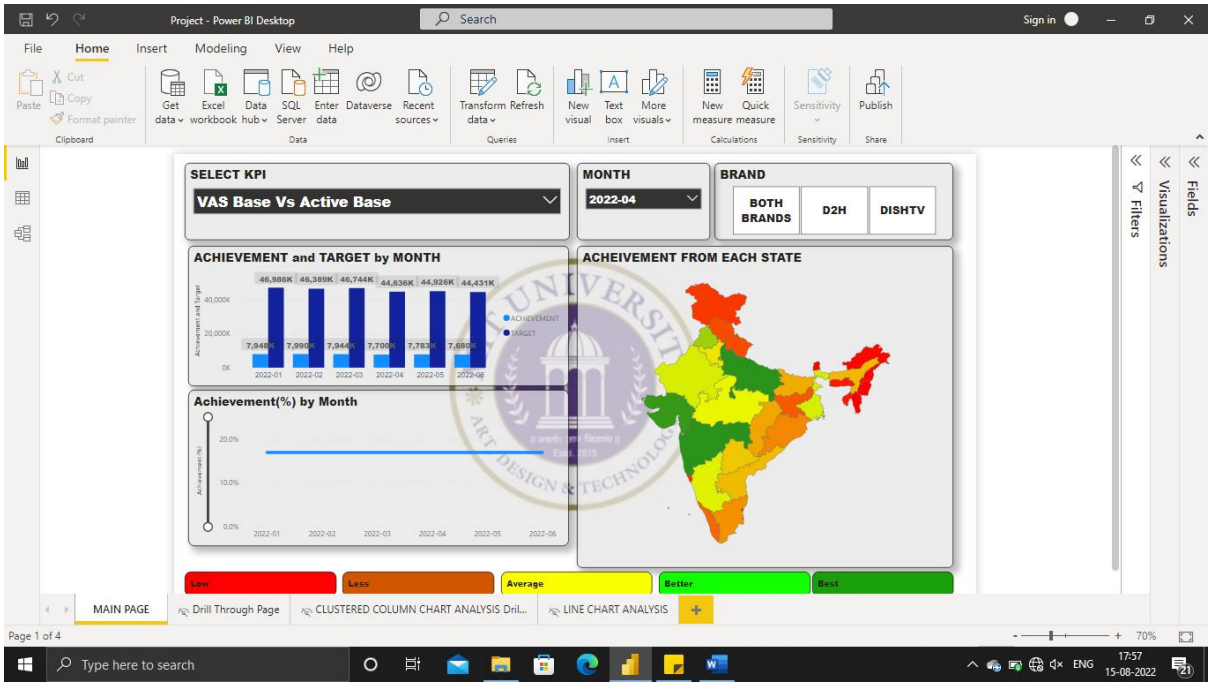
| STATE_CODE | STATE_NAME |
|---|---|
| 1 | Jammu & Kashmir |
| 2 | Himachal Pradesh |
| 3 | Punjab |
| 4 | Chandigarh |
| 5 | Uttarakhand |
| 6 | Haryana |
| 7 | Delhi |
| 8 | Rajasthan |
| 9 | Uttar Pradesh |
| 10 | Bihar |
| 11 | Sikkim |
| 12 | Arunachal Pradesh |
| 13 | Nagaland |
| 14 | Manipur |
| 15 | Mizoram |
| 16 | Tripura |
| 17 | Meghalaya |
| 18 | Assam |
| 19 | West Bengal |
| 20 | Jharkhand |
| 21 | Odisha |
| 22 | Chhattisgarh |

Above is the data set for VAS users of Dish TV provided by the data collection team. Data was arranged using excel. SQL was used to collect data from the server.

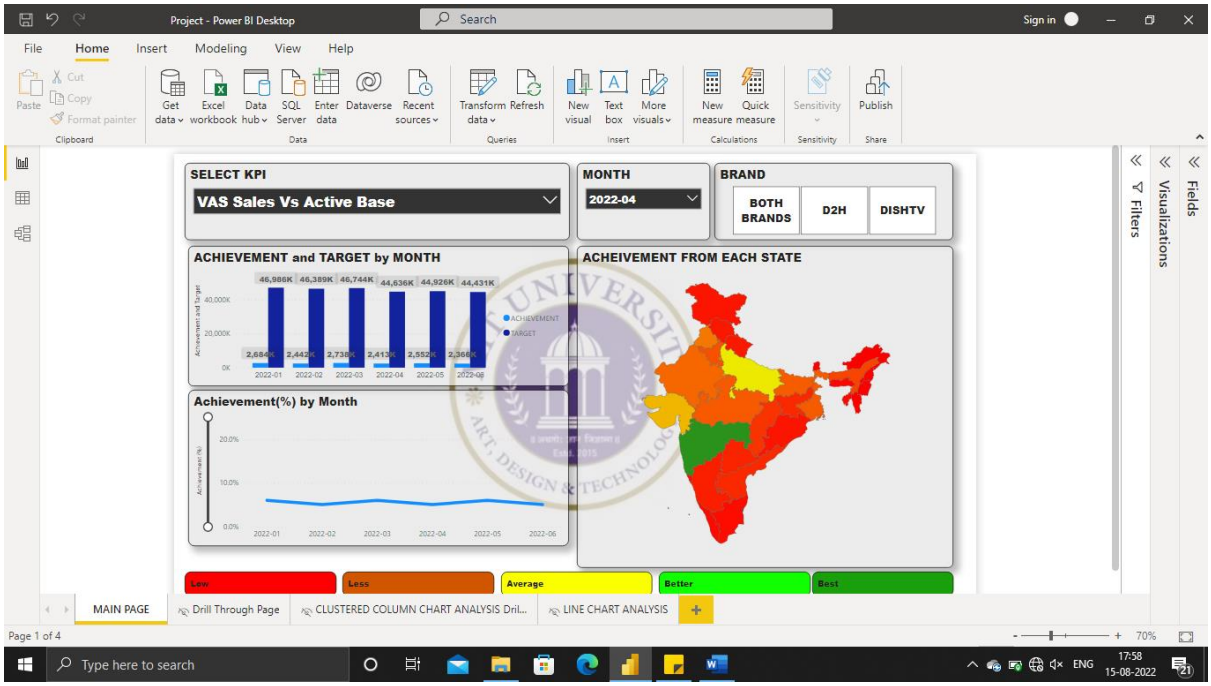
Our team was asked to make dashboards using power BI to represent the state and district wise subscribers of VAS users.

Power BI dashboards allows analyst to prepare a templet which connects visualization tools with one and another and changes the output according to the data selected. In our project we were provided with only 2 KPIs.

- VAS Base VS Active Base.



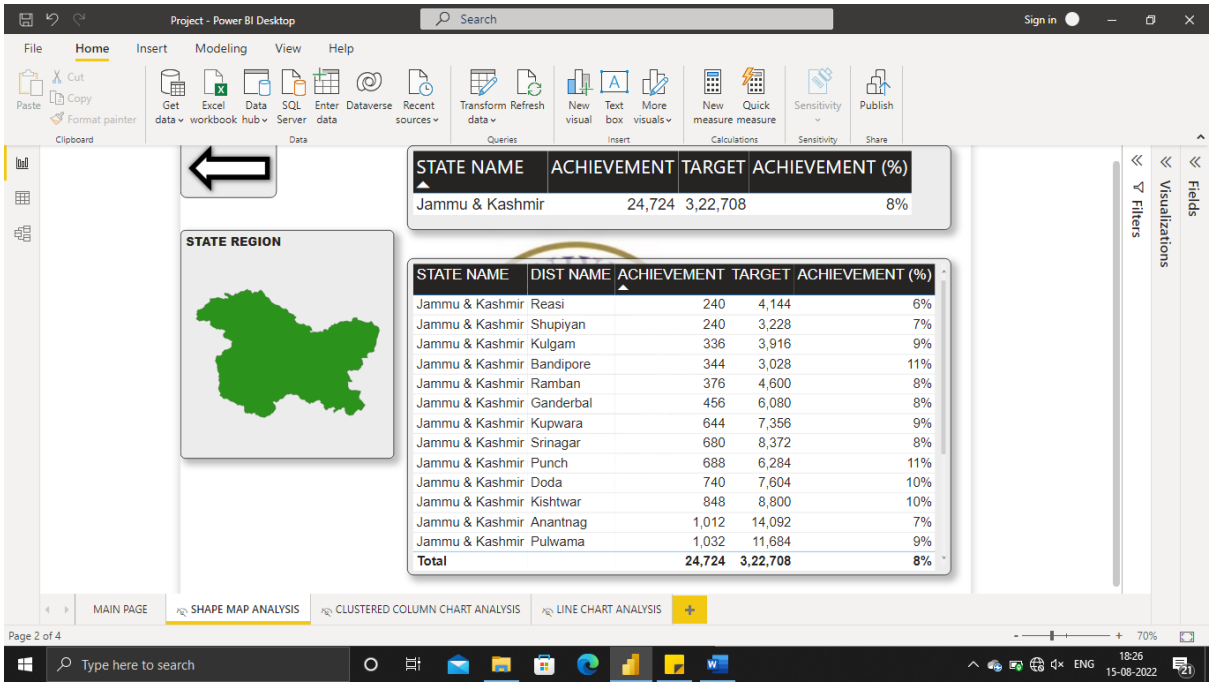
- VAS Sales VS Active Base.




Visualization tools used: -

1. Main Page.
   i. KPI (Slicer).
   ii. MONTH (Slicer).
   iii. Brands (Slicer).
   iv. Achievement and Target by Month (Clustered Column Chart).
   v. Achievement (%) by Month (Line Chart).
   vi. Achievement from each state (Shape maps).

## 2. Shape Map Analysis




| STATE NAME | ACHIEVEMENT | TARGET | ACHIEVEMENT (%) |
|---|---|---|---|
| Jammu & Kashmir | 24,724 | 3,22,708 | 8% |

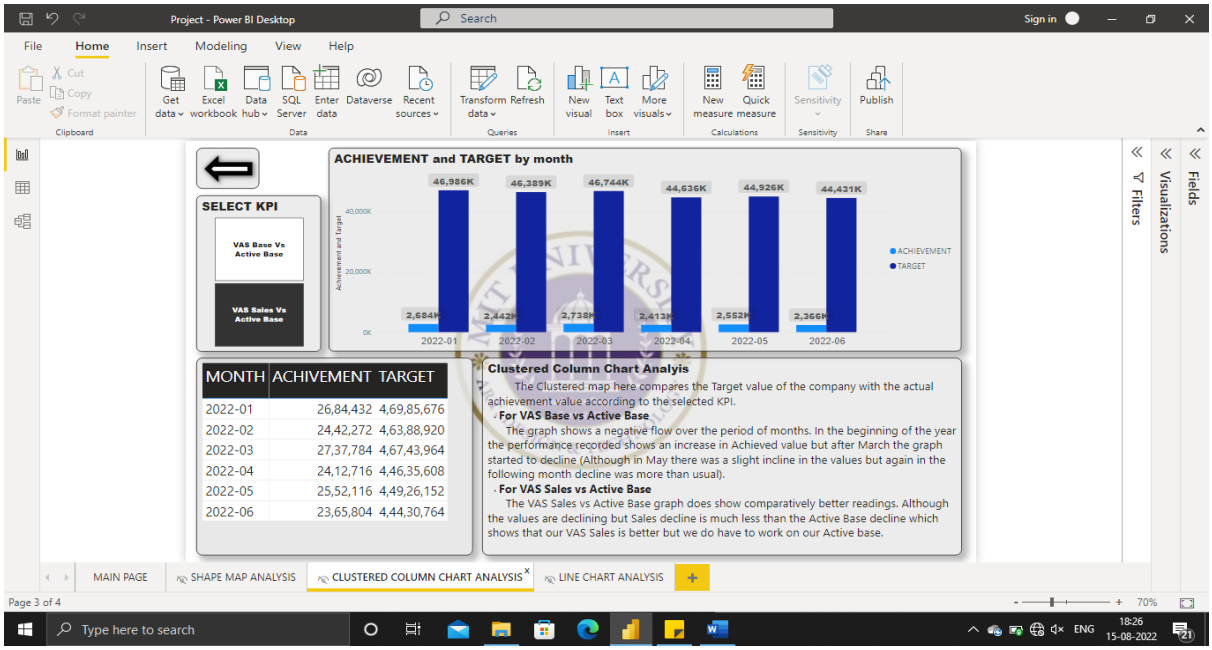
| STATE NAME | DIST NAME | ACHIEVEMENT | TARGET | ACHIEVEMENT (%) |
|---|---|---|---|---|
| Jammu & Kashmir | Reasi | 240 | 4,144 | 6% |
| Jammu & Kashmir | Shupiyan | 240 | 3,228 | 7% |
| Jammu & Kashmir | Kulgam | 336 | 3,916 | 9% |
| Jammu & Kashmir | Bandipore | 344 | 3,028 | 11% |
| Jammu & Kashmir | Ramban | 376 | 4,600 | 8% |
| Jammu & Kashmir | Ganderbal | 456 | 6,080 | 8% |
| Jammu & Kashmir | Kupwara | 644 | 7,356 | 9% |
| Jammu & Kashmir | Srinagar | 680 | 8,372 | 8% |
| Jammu & Kashmir | Punch | 688 | 6,284 | 11% |
| Jammu & Kashmir | Doda | 740 | 7,604 | 10% |
| Jammu & Kashmir | Kishtwar | 848 | 8,800 | 10% |
| Jammu & Kashmir | Anantnag | 1,012 | 14,092 | 7% |
| Jammu & Kashmir | Pulwama | 1,032 | 11,684 | 9% |
| **Total** | | **24,724** | **3,22,708** | **8%** |

i. State Region (Shape Maps).

ii. Comparison of state achievement with target and achievement % (Table).

iii. Comparison of state and district achievement with target and achievement % (Table).

# 3. Clustered Column Chart Analysis



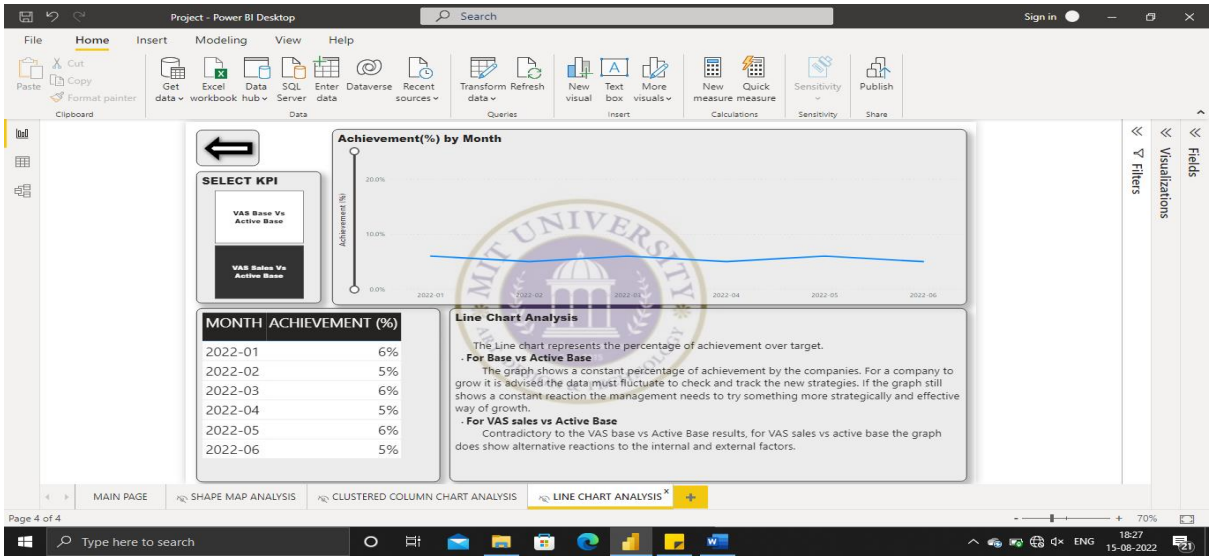

i. Select KPI (Slicer).

ii. Achievement and target by month (Clustered Column Chart).

iii. Achievement and target data by month (Table).

iv. Analysis (Text Box).

# 4. Line Chart Analysis




i. Select KPI (Slicer).

ii. Achievement % by month (Line Chart).

iii. Achievement % by month (Table).

iv. Analysis (Text box).

Page 1 is named MAIN PAGE as it works as the index of the dashboard. Main Page contains all the visualization tools used to analyze and describe the comparative and analytical perspective of the data.

1. **Select KPI: -** Contains both the KPIs (Key Performance Index). The analyst/user can select one at a time to compare the data as per the KPI he/she wishes to study. KPIs are: -

   - VAS Base VS Active Base.
   - VAS Sales VS Active Base.

2. **Month: -** Data provided was from 2022-01 to 2022-06. User can select any one at a time to study the performance.

3. **Brand: -** As Dish TV now has d2H merged into it the data generated the user needs to study comparative analysis of brands separated and both brands together also. Brand (slicer) gives the user access to select any one of the three available options: -

    - Both Brands
    - D2H
    - Dish TV

4. **Achievement and Target by Month: -** The bar graph shows the comparison between achievement and target by company(s). Both the colours represent different type of data.

5. **Achievement % by Month: -** To study the achievement percentage user of the dashboard can study the line graph Achievement % by month (line graph). Following formula was used to calculate the percentage of Achievement over Target.

```
Ach_Perc = ROUND(DIVIDE(SUM(DistrictWiseData[ACHIVEMENT]),SUM(DistrictWiseData[TARGET]),
BLANK()),2)
```

6. **Achievement from each State: -** The map visualization here represents the state wise data generated by customers. The colour saturation in the graph has different meaning according to the colour show in the output.

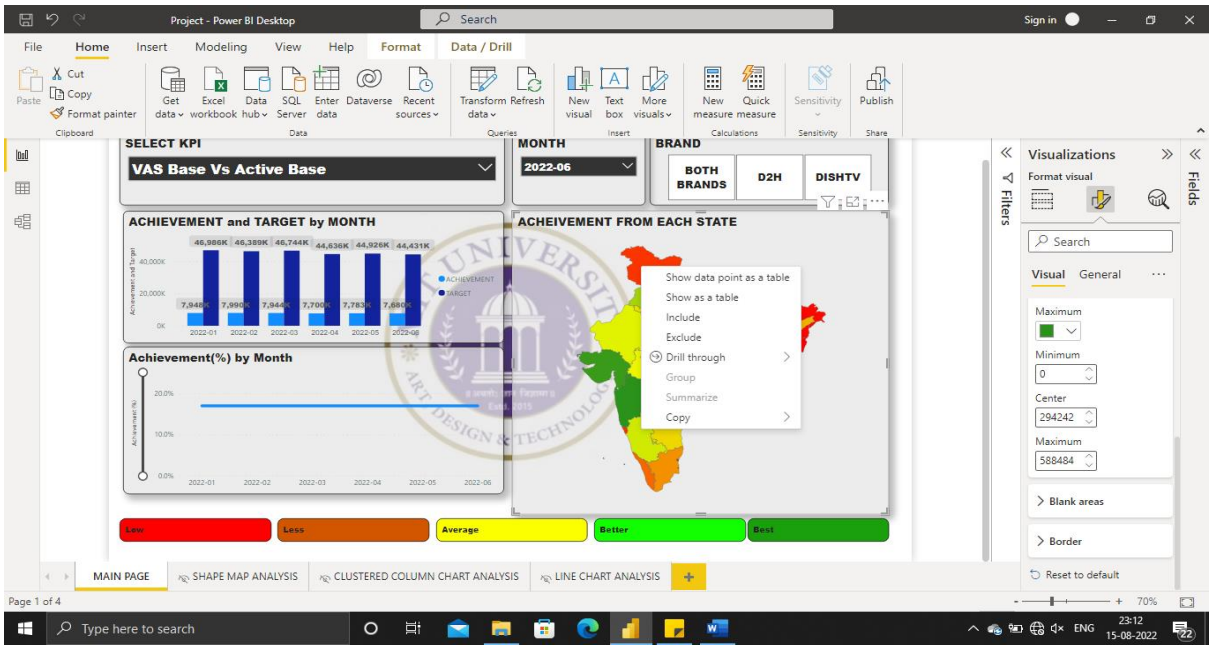
    - Red: - Low performance.
    - Orange: - Less performance.
    - Yellow: - Average performance.
    - Light green: - Better performance.
    - Green: - Best performance.

Minimum value is set to be 0 and maximum value is 5,88,484. Calculating from the maximum and minimum values the centre value is 2,94,242.

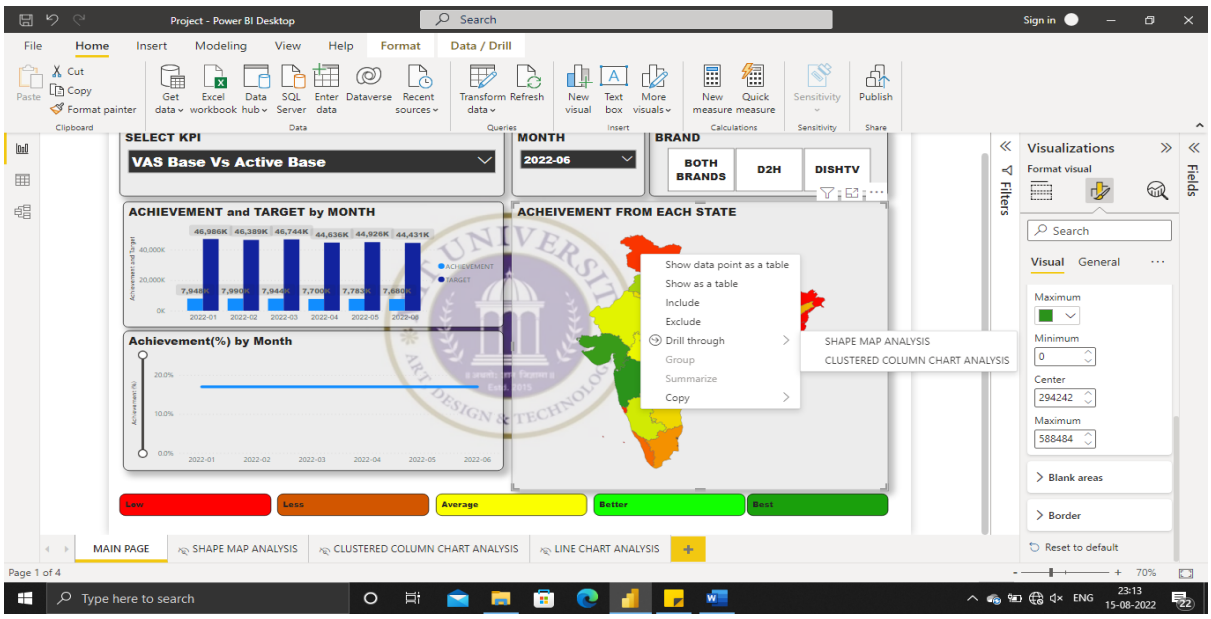
***Month (slicer) does not interact with achievement and target by month graph and achievement % by month graph as both the graphs have month on their x-axis.***

The depth analysis is shown in remaining pages with text analysis. Power BI provides the option of ***"drill through"*** which enables the user to study the specific part of the data. User can follow the following steps to access the drill through page.

Step 1. Right click on the part you wish to study.

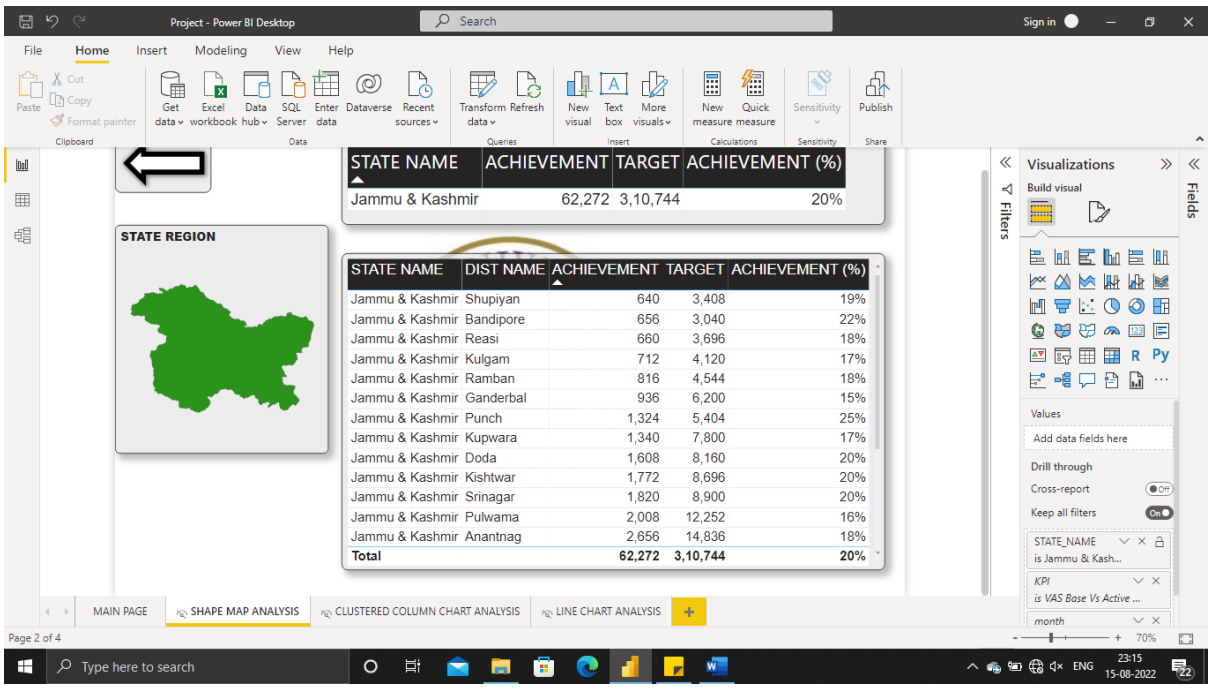



Step 2. Select Drill though.



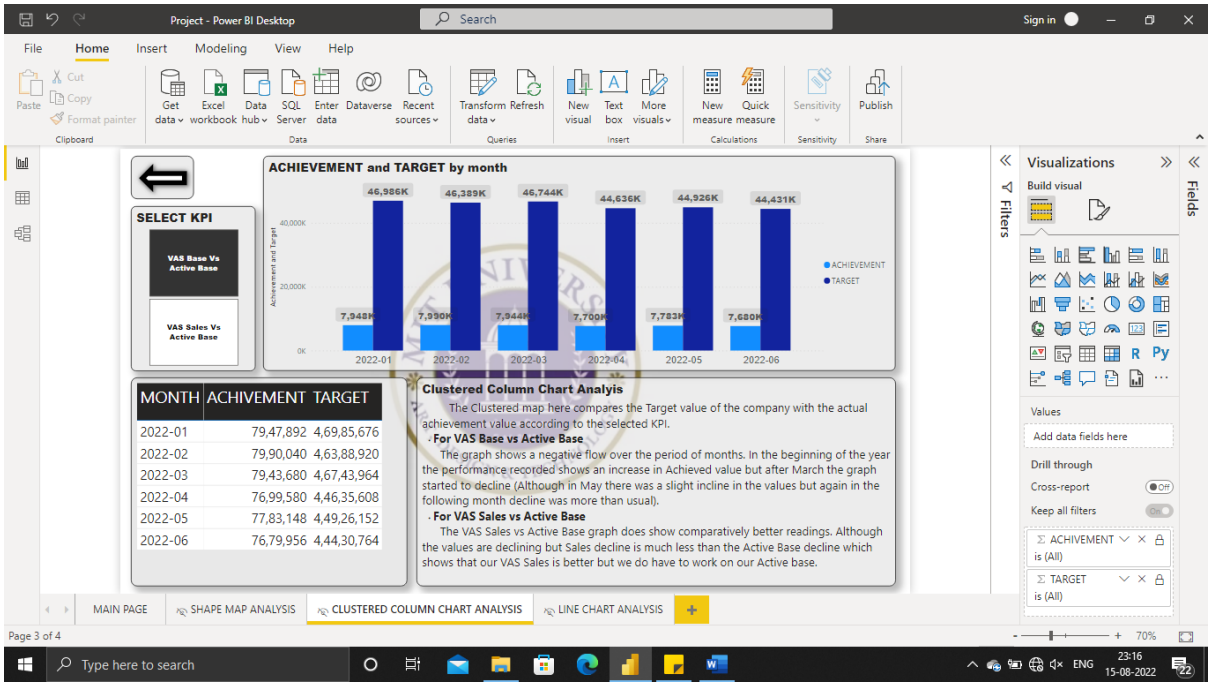
Step 3. Select the page you wish to study on.

The resulting page will display the study of the selected part of data.



# CHAPTER 4

# CONCLUSION AND RECOMMENDATIONS



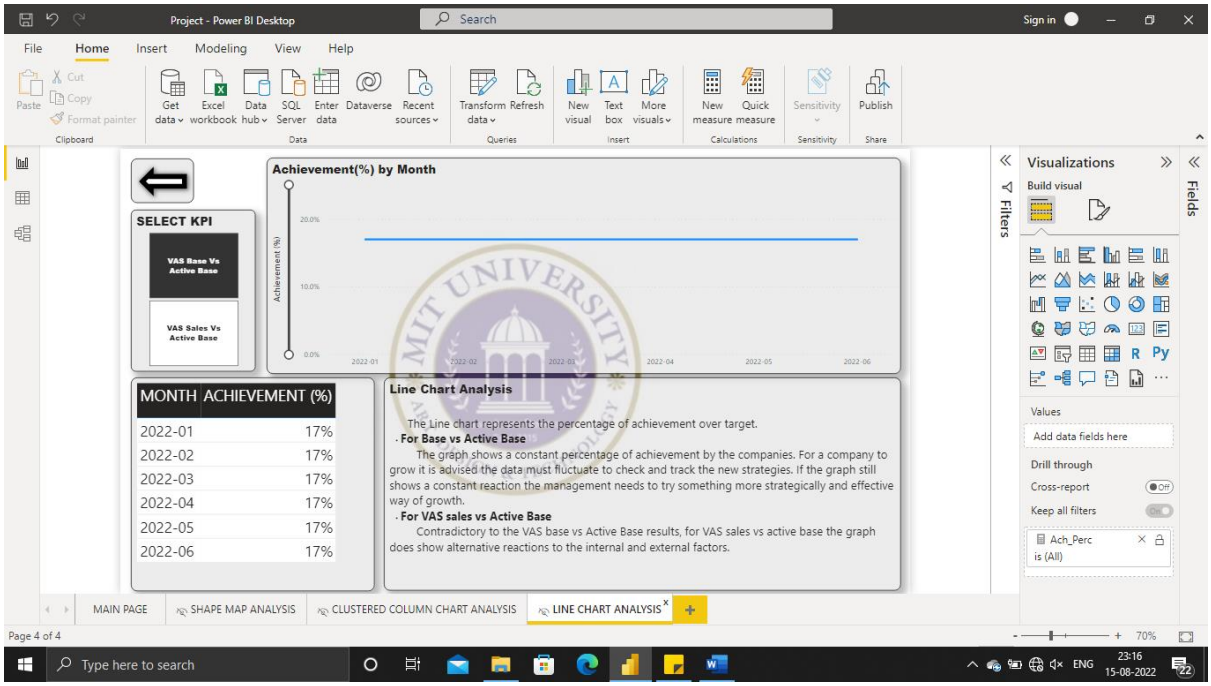

The Clustered map here compares the Target value of the company with the actual achievement value according to the selected KPI.

- **For VAS Base vs Active Base**

The graph shows a negative flow over the period of months. In the beginning of the year the performance recorded shows an increase in Achieved value but after March the graph started to decline (Although in May there was a slight incline in the values but again in the following month decline was more than usual).

- **For VAS Sales vs Active Base**

The VAS Sales vs Active Base graph does show comparatively better readings. Although the values are declining but Sales decline is much less than the Active Base decline which shows that our VAS Sales is better but we do have to work on our Active base.




The Line chart represents the percentage of achievement over target.

- **For Base vs Active Base**

The graph shows a constant percentage of achievement by the companies. For a company to grow it is advised the data must fluctuate to check and track the new strategies. If the graph still shows a constant reaction the management needs to try something more strategically and effective way of growth.

- **For VAS sales vs Active Base**

Contradictory to the VAS base vs Active Base results, for VAS sales vs active base the graph does show alternative reactions to the internal and external factors.

# CHAPTER 5

# MAJOR LEARNINGS

## Prior Knowledge: -

- My MBA 1st year covered the basic theoretical knowledge required for data analytics and report making which worked as the base for my internship.
- Basic statistical tools taught to us during our academic sessions were helpful for data reporting and understanding.

## Skills gained during the internship

- Data collection: - To begin the analysis for the report we were provided the access inside company's server. I used SQL to collect data for the analysis and report.
- Data manipulation: - Manipulation of data means to rectify the errors during the data collection process. It also impacts the NULL data or responses which are not useful or acceptable for the analysis. Major editing as done using SQL but EXCEL and Power BI also are helpful to edit data with their own respective benefits and ways.
- Data Visualization: - While working for the company I used **"Power BI"** as the visualization tool. I gained the structural knowledge about how Power BI can help visualize data in a creative, attractive and analytical manner.
- Data Analysis: - During the internship the professional team highlighted the importance and true definition of Logical data tools and analysis. The data visualized must have logical and insightful results.
- Team work: - With the team of 7 (including me) our team had the responsibility to create insightful dashboards using Power BI. As the software is relatively newly introduced in the organization, we as a team browse for creative and insightful ways to represent data and submit the final document.

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