Symbiosis Skills and Professional University

Kiwale, Pune

PROJECT REPORT

On

"Analysis and visualization RBI data set"

Submitted by

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(Registration Number)

DA-Batch-IX

Under The Guidance of

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STUDENT DECLARATION AND ATTESTATION BY TRAINER

This is to declare that this report has been written by me. No part of the report is plagiarized from other sources. All information included from other sources have been duly acknowledged. I aver that if any part of the report is found to be plagiarized, I shall take full responsibility for it.

Signature of student

Kharat Amol

Registration Number:

Signature of trainer

Ritviz Singh

CERTIFICATE

This is to certify that the report entitled, "**Analysis and visualization on RBI data set**" submitted by **"Kharat Amol Laxman**" to Symbiosis Skills and Professional University, Pune, Maharashtra, India, is a record of bonafide Project work carried out by him under my supervision and guidance and is worthy of consideration for the completion of certificate course in 'Data Associate".

Signature of Trainer

Ritviz Sing

Date: 27/ 07 / 2021

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Supervisor Supervisor

Date:

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I am grateful to The Symbiosis Skills and Professional University, as well as the Future Ready Skills Training Program, for allowing us to complete this project, which is an important aspect of the Data Science Program. I'd like to offer my heartfelt gratitude and best wishes to Ritviz Sir, my project guide, for being the foundation of my project. Throughout the era of doubts and uncertainty, it was his constant motivation and direction that enabled me to continue with this endeavour. I'd also like to express my gratitude to the entire faculty of Symbiosis Skills and Professional University for their unwavering support, which we greatly appreciate

I'd want to express my heartfelt gratitude to Ritviz Sir, who provided me withthe excellent opportunity to work on this wonderful project on this issue, as well as assisting me in conducting extensive research and learning about many new things.

2. Plan of Project

2.1 Purpose of Project -

The goal of this project is to use EDA tools, big data tools and visualization to help to understand historical RBI data set.

The banking system are providing services to people. There are lots of banks in our India. All banks record are present in our dataset.Our goal was very simple take data set and perform analysis, visualization on that data set.

2.2 Problem Statement –

Banking system is the main part of the Indian economy, contributing to the country's overall economic growth and facilities. It also determines the living standards of more than half of India's people. All systems are depend on Banking system.

Every person's life is depend on Banking system. Meanse in daily life Bank help us. because without money we can't live our life. Money is most important thing in our life.

We can't buy any thing without money. We can't go anywhere without money. That means its very important thing for all of us. We can't take lot of money with us so banks provide there facility to us. And this facility is ATM .

Our goal is to analysis using the how many ATM's provided by Banks.

3. Objective of the Project

To find the releted and real data

--- Data is important for us and data should be real informative and correct.

We know the value of data.Our first objective is to get real the data

- **To clean and Filled the in place null values**

--- Check the values are filled or not in the data set.If there null value put the value

On the basis right data.

- **To perform analysis using various tools.**

--- Our next objective is to perform analysis using various tools.

In this process our most important object was to find important thing in our data set.

And We have gain important information in this process.

Objectives:

Following objectives are designed after going through wide review of literature on cashless economy

. 1. To identify the total quanta of outstanding credit cards of the public sector banks during pre demonetization in India.

2. To examine the total number of credit cards distributed by the private banks at the juncture of pre demonetization in India.

3. To illuminate the total number of credit card transactions carried out through ATM during period study.

4. To examine the usage of credit cards usage at the point of sales terminals for payments during the phase of pre demonetization in India.

4. Literature Survey

Jonathan Zinman(2004) Why Use Debit Instead of Credit? Consumer Choice in a Trillion-Dollar Market. Credit cards transactions payments at the point of sales are lagging behind the debit cards, a number of stylized data imply that debit card makes use of is motivated by behavioral factors. The accepted outlook is that debit-card draw on a puzzle for canonical economic models. However, creditcard balances would pay interest to charge purchases on the limit and hence might realistically wish to use debit to a certain extent than credit to curtail operation costs. Debit-card makes use of might also be coherent for consumers do not have access to a credit card or opposite an enforced credit limit. In this study it implies possessions of these types of credit-card exercise on the debit use and be evidence for those things are dependable with a canonical replica of consumer choice.The outcomes encompass at least two inferences for the progression of the retail payments industry and associated policy issues. First, they suggest that debit and credit are fractional proxies. Of wide- March - April 2020 ISSN: 0193-4120 Page No. 4886 - 4897 4888 Published by: The Mattingley Publishing Co., Inc. ranging intention stored-value cards will possibly depend on not solitary on group effects. Santiago Carbó-Valverde the Economics of Credit Cards, Debit Cards and ATMs The authors argue that since there are Still a lot of exceptional concerns and difficulties about the pricing, use, and substitutability of these payment systems, In this survey, authors were focused on several issues with the pricing of credit cards, the impact of networks on the provision and pricing of ATMs, as well as the tradeoffs that consumers build between different types of payment means, including debit cards, credit cards, and ATMs. Prominently, authors wrap up that point of sale (debit card) and ATM transactions are replacements, and that ATM surcharges collision point of sale magnitude extensively. The main conclusion of this survey is that research in the area of credit cards, debit cards and ATMs is still inconclusive and unsettled and that additional research remains to be conducted. The topic of credit card pricing provides one example of the unsettled nature of this research. At the instant, the foremost limitations for supplementary research progress in the payment method area are in the accessibility of

constructive data. It seems evident Those researchers who have access to detailed data can make significant Progress in the further understanding of credit cards, debit cards, and ATMs

With complex plans throughout the world, Information and Communication Technology (ICT) phenomenon enables distant people to dynamically interact and empowers them to follow mutual objectives (FAQIH; JARADA, 2015).

These financial electronic technologies are in different development phases. For instance, it is almost 30 years since ATM are installed and used for the first time and accepted by customers in a widespread way. On the other hand, phone banking, electronic bill payment and online banking are among those activities recently added to bank services which requires computer and internet and is not as widespread as ATM among customers (KNIGHT; PEARSON, 2005).

From the customers' viewpoint, electronic banking provides numerous benefits for people like quick access to the account and cash, ability to have distant access to bank transfers and investments and performing electronic applications. With electronic banking there will be no concepts like time and place and these services are available to people regardless of time and place they are in.

5. Introduction

5.1 Introduction -

As per the Reserve Bank of India (RBI), India's banking sector is sufficiently capitalised and well-regulated. The financial and economic conditions in the country are far superior to any other country in the world. Credit, market and liquidity risk studies suggest that Indian banks are generally resilient and have withstood the global downturn well.

Indian banking industry has recently witnessed the roll out of innovative banking models like payments and small finance banks. RBI's new measures may go a long way in helping the restructuring of the domestic banking industry.

The digital payments system in India has evolved the most among 25 countries with India's Immediate Payment Service (IMPS) being the only system at level five in the Faster Payments Innovation Index (FPII).

The Indian banking system consists of 12 public sector banks, 22 private sector banks, 46 foreign banks, 56 regional rural banks, 1485 urban cooperative banks and 96,000 rural cooperative banks in addition to cooperative credit institutions As of November 2020, the total number of ATMs in India increased to 209,282

5.2 Predictive Analytics in Banking System:-

Myriad challenges beset banking sector today – heavy regulations, evolving customer needs, increasing transaction volumes, increased high-tech financial crimes and rapid technological changes to name a few. Managing these challenges requires timely and deeper insights on risk, customer relationships, costs, revenues, and other key parameters. How do the banks get access to such insights? The answer is- using Predictive Analytics.

Predictive Analytics:is a stream of advanced analytics which uses new as well as historical data to forecast activity, behavior, and trends to predict the future. This involves data mining, modeling, employing statistical analysis techniques, and automated machine learning algorithms to make the predictions. It helps organizations discover business

issues in real time and address them at the right time to get the best outcomes.

Application of Predictive Analytics solutions in the banking industry include the following:

Credit Scoring: Advances in technology have enabled financial lenders to reduce lending risk by making use of a variety of data about customers. Employing statistical and machine learning techniques, available data is analyzed and boiled down to a single value known as a **credit score** representing the lending risk. The higher the credit score, the more certain a lender can be of the customer's creditworthiness. Credit scoring is a form of artificial intelligence based on predictive modeling that determines the likelihood of a customer defaulting on a credit obligation, becoming delinquent or insolvent. The greatest benefit of credit scoring is the capability to help make decisions in a fast and efficient way, such as to accept or reject a customer or increase or decrease loan value, interest rate, or term.

Collections: Every bank has a set of customers who pay behind time, and as such, collections become an integral activity. What needs though, is channelizing of energies in the right direction. Predictive analytics helps banks distinguish between the various portfolio risks effectively, by optimizing the collections process. It helps banks segregate risky customers from the risk-free ones. This can help banks devise actions and strategies to achieve positive results.

Cross-selling: Efficient cross-selling of products can happen by analyzing the existing customer behavior patterns at places where multiple products are offered. This analysis can help identify which specific products are to be sold to whom and help banks in channelizing their sales and marketing efforts. And all of this results in more effective cross-selling thus increasing profitability and strengthening the customer relationship. Today, retaining one profitable customer is a big task for banks, hence cross-selling another product to an existing customer helps a lot.

The above benefits are just a fraction of what banks can achieve using Predictive Analytics. To gain competitive advantage, banks should recognize the importance of data science, incorporate it in their decision-making process, and develop strategies based on the actionable insights from their customers' data

5.3 Tools We have used

5.3.1 Python:

Python is the general purpos programming lamguage provides lots of libraries and feature to programmer. We have used python libraries like matplotlib, pandas, numpy.

5.3.2 Hadoop:

Apache Hadoop is a collection of open-source software utilities that facilitates using a network of many computers to solve problems involving massive amounts of data and computation. It provides a software framework for distributed storage and processing of big data using the MapReduce programming model

5.3.3 MY-sql:

MySQL is an open-source relational database management system. Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language.

6.3 Methodology.

The steps in the intended methodology are as follows:
1.Find the correct dataset
2.Check valid Data
3.Perform analysis using tools.
4.Show end result.

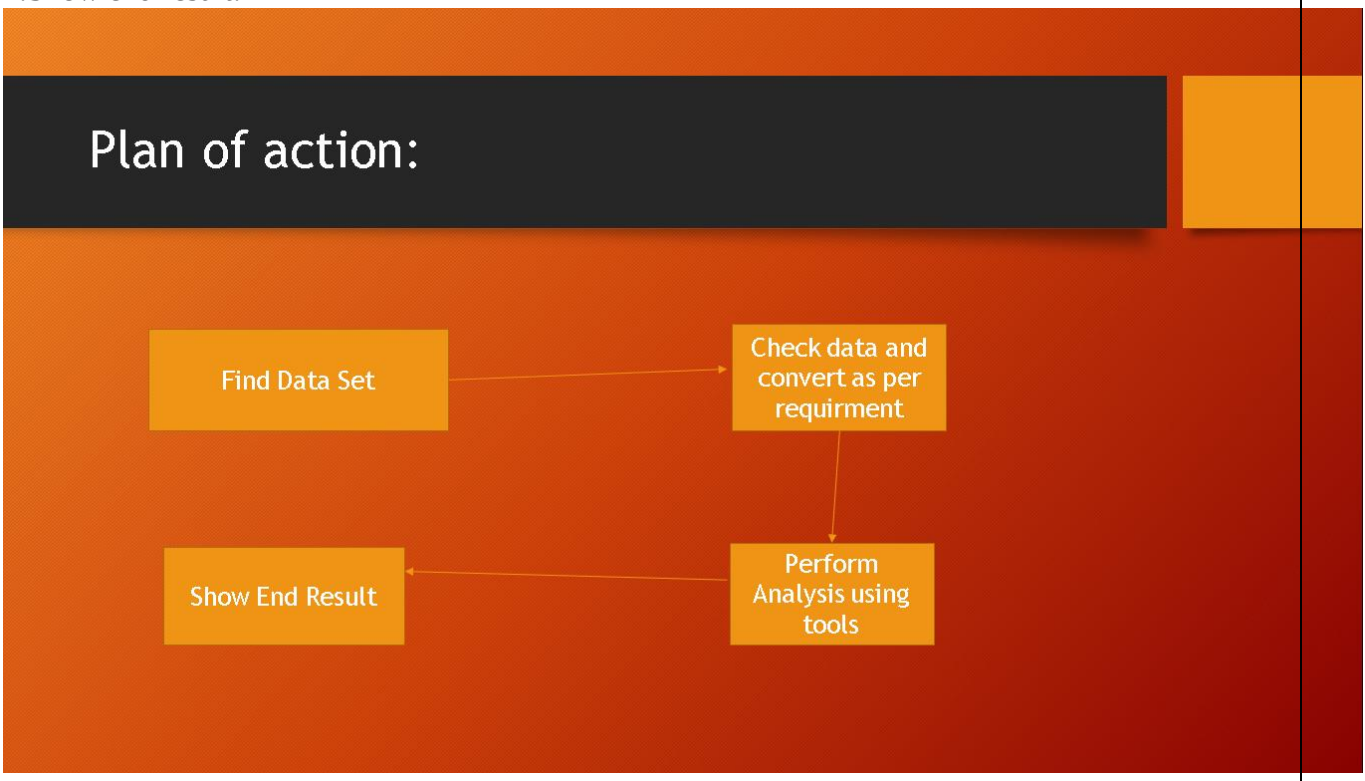


Fig:Action Plan

6. Results

6.1 Result of EDA Analysis:

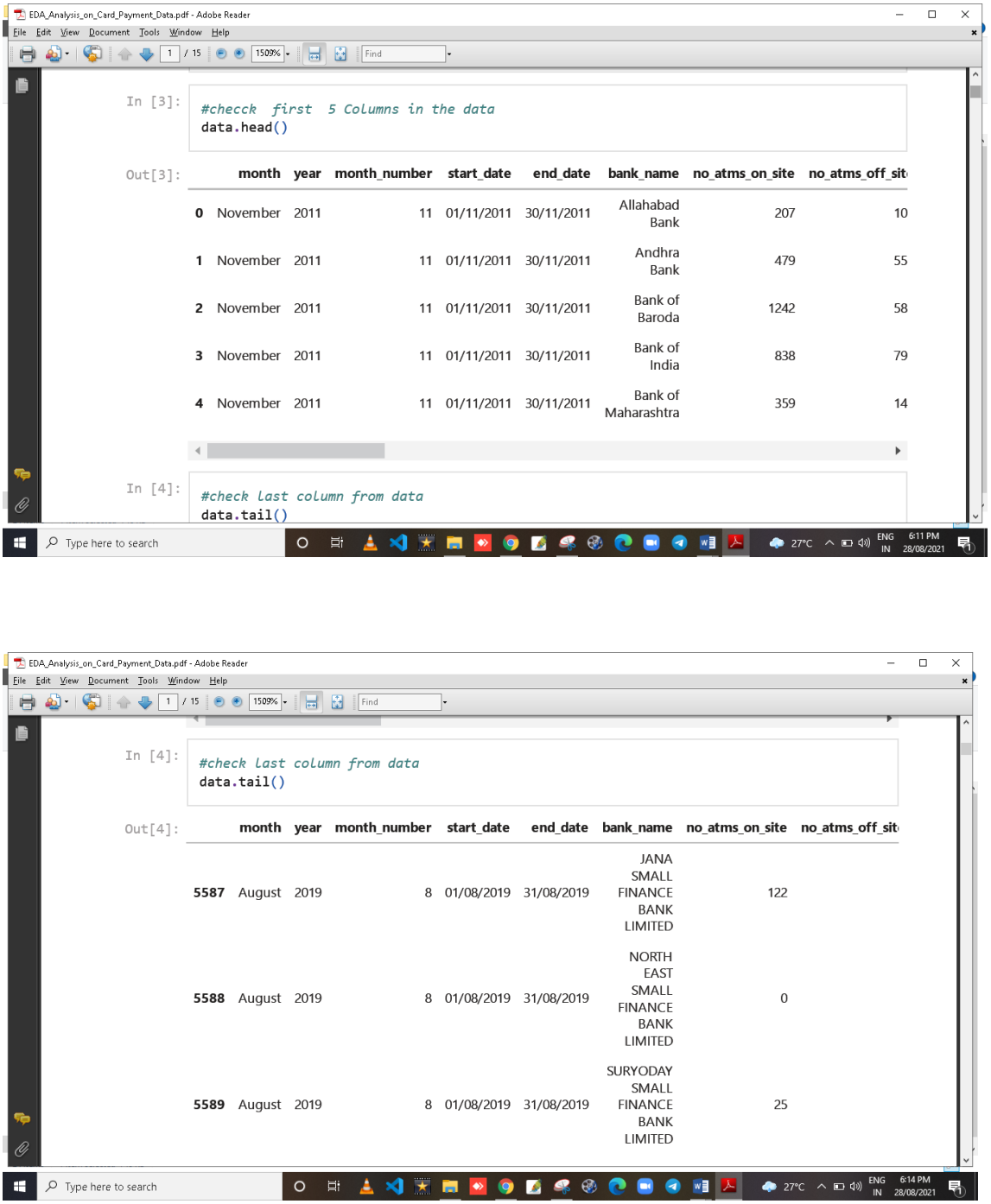
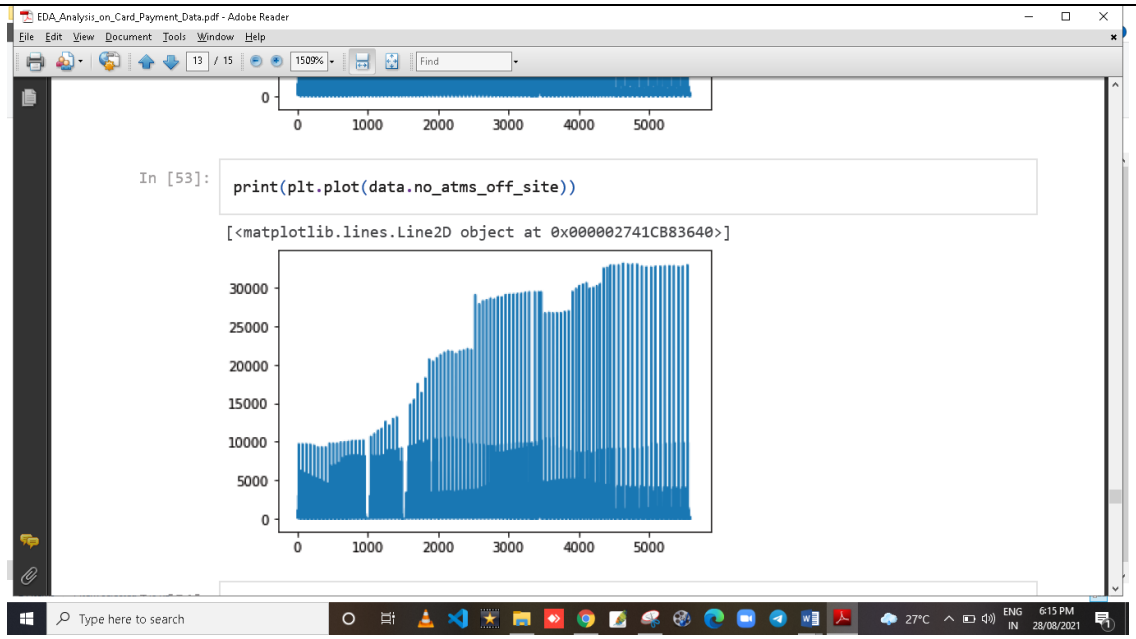
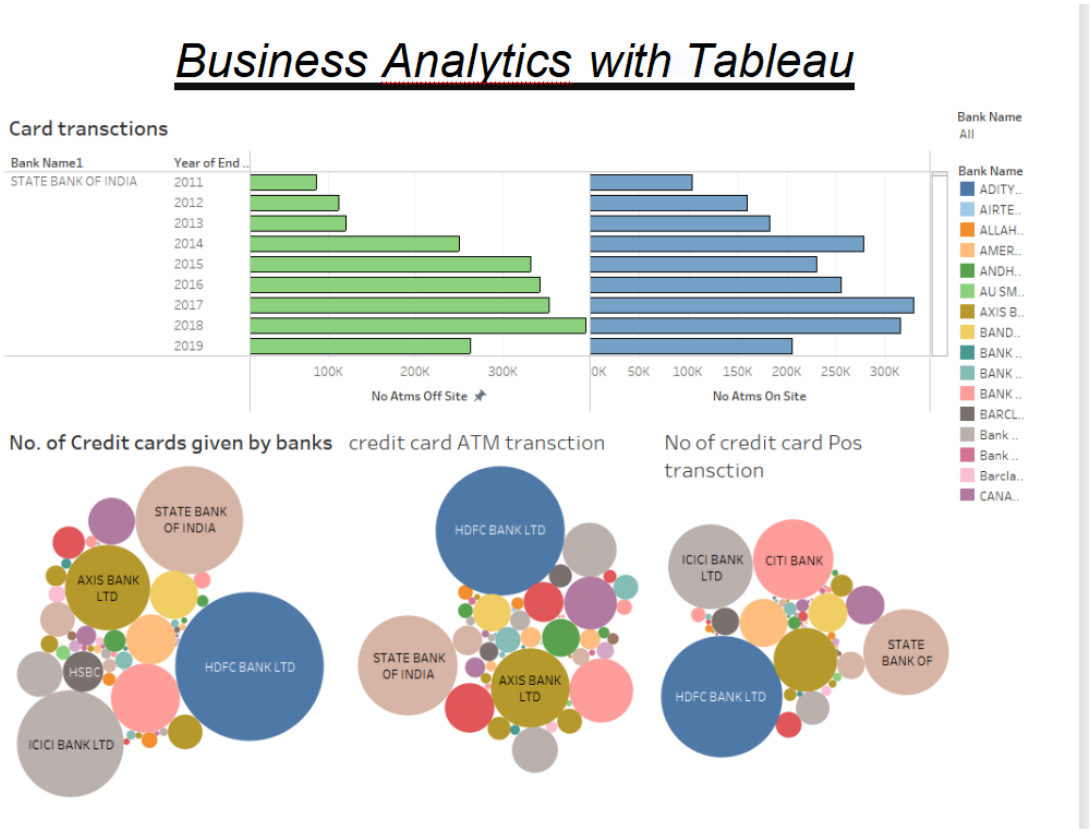


Fig EDA Analysis



EDA Matplotlib result.



Img: Visualization using tableau

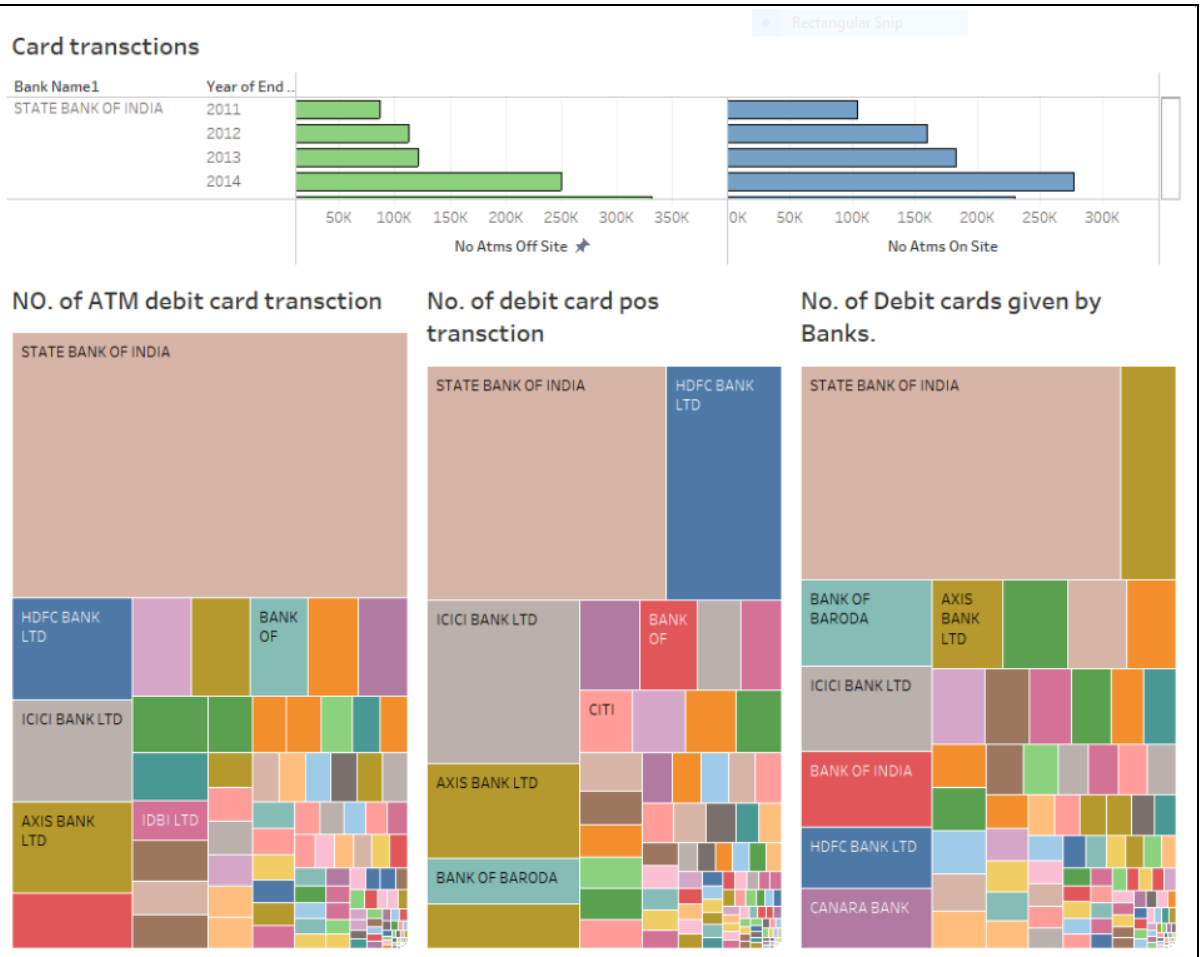


Fig:Visualozation using tableau

8. Findings

Credit cards.

1>when looking at the dashboard we get to know that HDFC is leading in credit cards, looking more in detail we got to know that SBI is covering that gap in fast pace which means in coming years SBI & HDFC will be competing each other in the credit card section.

Debit cards.

2>clearly in this section we can find that SBI is leading the debit card section, SBI is leading in all 2 platforms like on atm and as well as in pos machine but when u observe the pos transaction visualization u can find that HDFC is in 2 position and looking at the yearly growth we can say that it will compete SBI in pos transactions in future

9. Conclusion

To summarize, Analytics provides banks with more marketing muscle. Functional areas like Risk, Compliance, Fraud, NPA monitoring, and Calculating Value at Risk can benefit greatly from Analytics to ensure optimal performance, and in order to take crucial decisions where timing is very important. It will not be an exaggeration to say that the day-to-day functionalities in a banking environment will be severely limited and handicapped if analytic tools were not made available to them. The use of Analytics can help banks differentiate themselves and remain competitive in the future

We have done our project successfully

Future Work

The key areas where data analytics is applied are customer-centricity, cost containment, combating the cyber threat, global terror, and compliance and risk management. These are the areas where most of the new roles will emerge.

Data Availability

We got our data from below site.This side also provide large data set.

https://www.kaggle.com/karvalo/indian-card-payment-data-set

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