CROP PRODUCTION ANALYSIS USING IBM COG NOS DASHBOARD

CONTENTS

1 INTRODUCTION

1.1 OVERVIEW

Project Title - **Crop Production Analysis Using IBM Cog nos Dashboard**

A brief description about our project

- Crop production in india is one of the important sources of the income and india is one of the top countries to produce crops.

- As per our project we will be analyzing some important visualization,creating a dashboard and by going through these we will get most of the insights of crop production in india.

- This project is based on understanding the crop production in india.

- The crop production in India has 2,46,092 data points (rows) and 6 features (columns) describing about each crop production related details.

- The service used IBM Cog nos Analytics.
- In this we will analysis the data visualization charts are:
- >> Seasons with average productions
- >> with years usage of Area and production
- >> Top 10 states with Most Area
- >> State with crop production
- >> State with the crop production along with season (Text Table)

- The final description in crop production analysis using IBM cog nos dashboard is creating the visualizations in a dashboard and export it.

2.2 PURPOSE

The use of this project.what we can achieved using this.

- By crop production analysis using IBM cog nos dashboard we will :

>> know fundamental concepts and can work on IBM Cog nos Analytics.

>> Gain a board understanding of plotting different graphs.

>> Able to create meaningful dashboards.

>> can make any dataset to understand different graphs.

2 LITERATURE SURVEY

2.1 EXISTING PROBLEM

Agriculture is the science,art and practice of cultivating plants and livestock.Agriculture was the key development in the rise of sedentary human civilizations,where by farming of domesticated species created food surpluses the enabled people to live in cities.
The crop production in india is most common important source also it as lots of farming techniques in every state. India as different fields like cotton,rice,fruits,plants,vegetables etc. Estimations of every single fields of every state is difficult to stock survey it.The every dataset columns as nearly 2,00,000 above data points its difficult to identify every single estimations of filed in all purposes of fruits, vegetables, and many crops.

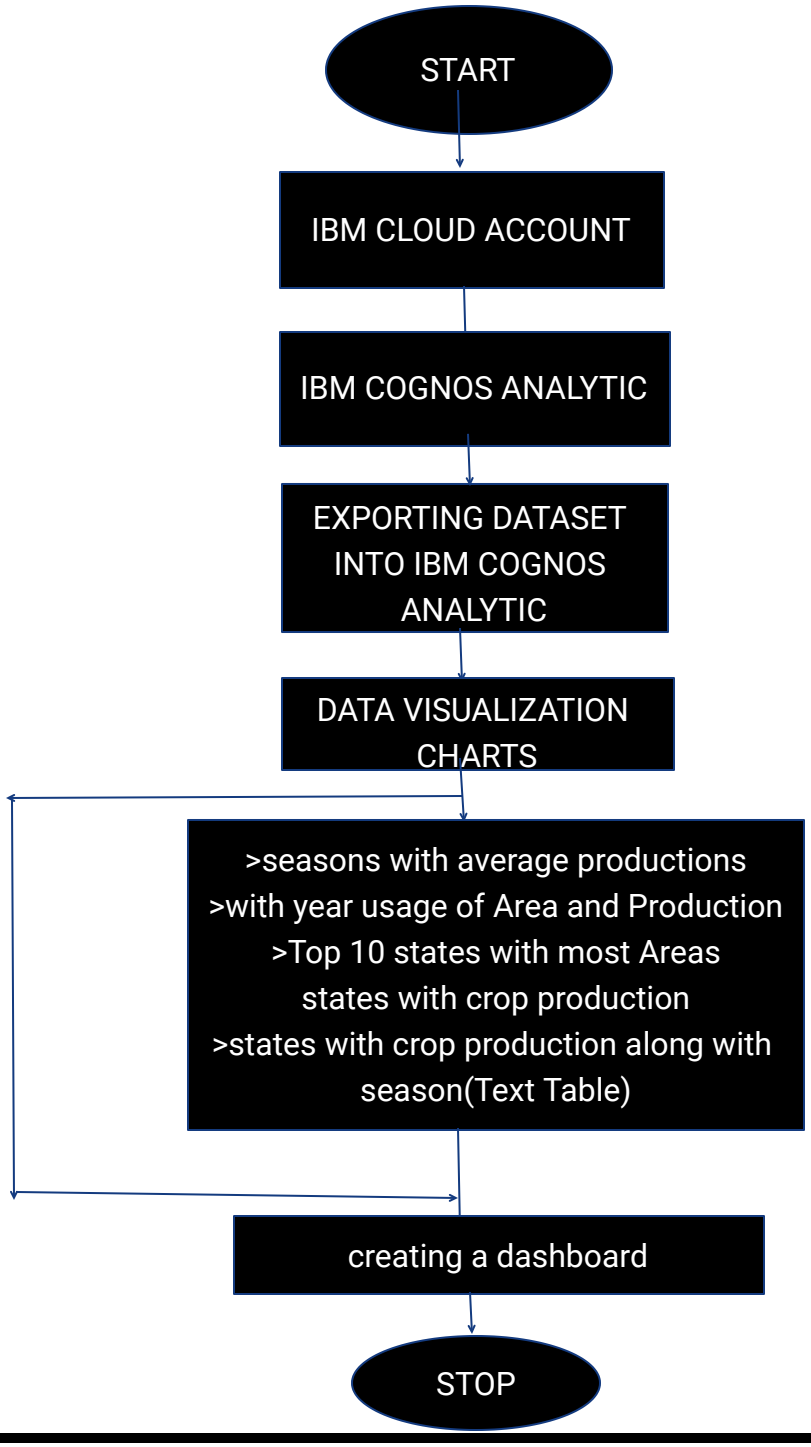
3.2 PROPOSED SLOUTION

Here we are going to detect the dataset format survey in easy format by the service IBM Cog nos Analytic dashboard. Cog nos Analytics integrates reporting,modeling,dashboards,stories and events management so you can we can understand our organization's data, and make effective decisions.By exporting the dataset into IBM Cog nos analytic we can monitor events or activities at a glance by providing key insights and analysis about your data on one or more pages or screens.we can change the visualization type or change the columns that are used in the visualization.we can add widgets such as text,media,web pages,images and shapes.we can sort data in either the x-axis or y-axis,depending on what type of data is in x-axis.we can customize a dashboard,story,or visualization by changing its visual properties also we can adjust the appearance of data in an asset.

3 THEORTICAL ANALYSIS

3.3 BLOCK DIAGRAM

Diagrammatic overview of the project



3.2 HARDWARE/SOFTWARE DESIGNING

Hardware and software requirements of the project

software requirements:-

About this accelerator All customers desire the capability to squeeze the maximum performance out of their IBM Cog nos Analytics investment. Cog nos Analytics is but a part of software and hardware environment. A single bottleneck in either the software or hardware has a ripple effect for the entire system.software product compatibility reports provide up to date information about the supported environments and minimum requirements for the product/data.
Cog nos Analytics on premises 11.1.x
Cog nos Analytics on Premises (11.1.7),(11.1.6),(11.1.5).....

Requirements by type	Requirements by platform	Supplementary information
● Operating Systems	● AIX	● Supported and tested client drivers 11.1.7
● Software(including application servers, data sources, and web browsers)	● Linux ● Mobile OS ● Windows	
● Hardware		● supported and tested client drivers 11.7.0

Hardware requirements:-

The hardware requirements depend on our IBM Cog nos environment.we may require additional resources,such as disk space.
Requirement RAM with recommended: 4GB
Note: Although it is possible to run controller using the minimum specifications,unless there are exceptional circumstances it is best to use at least the recommended specifications.
operating system specification is Microsoft windows 2008 R2 Enterprise Edition, Ram with minimum 8GB, Disk space with minimum 4GB , CPU Cores of 4, Web server is Microsoft Internet Information Services(IIS), Data base for IBM cog nos Business intelligence content store must be one of the following types are:
-- Oracle
-- DB2
-- Microsoft SQL server
-- TCP/IP connectivity to microsoft SQL server

Database for IBM Cognos Controller data must be one of the following types are:
-- DB2
-- Oracle
-- Microsoft SQL Server

Oracle client Database if are using Oracle client as database, the following components are the minimum requirements:
-- Oracle Network Utilities
-- Oracle Database Utilities
-- SQL*Plus
-- Oracle JDBC/OCI Interface
-- Oracle Windowa Interface
Note: we must install both the 32-bit and 64 bit on the server.

Database for financial analytics publisher requires DB2, Oracle,Microsoft SQL Server
Web browser microsoft internet explorer.
Reporting tool for Financial Analytics is IBM cog nos TM1,other TM1 supported viewers.

others are Microsoft Excel is required to be installed on IBM Cog nos controller computers.
Microsoft Excel is required only to use the IBM Cog nos Controller Link for Microsoft excel.

4 EXPERIMENTAL INVESTIGATIONS

Analysis or the investigation made while working on the solution.

while working on the solution we investigated on the what is crop production, IBM cloud, IBM cog nos analytics and how to build different visualizations and creating a dashboard and finally exporting it. The key role on investigation is collection of dataset with its all data points of every state because our solution mainly need this so we worked on these aspects.

Crop production:crop production is a common agricultural practice followed by worldwide farmers to grow and produce crops to use as food and fiber. This practice includes all the feed sources that are required to maintain and produce crops.listed below are few practices used during crop production.

- preparation of soil,
- sowing of seeds,
- irrigation,
- Application of manure, pesticides, and fertilizers to the crops.
- protecting and harvesting crops.
- storage and preserving the produced crops.

The factors effecting crop production are:

- soil fertility
- Availability of water
- diseases
- pests
- climate

The major food crops are potato,rice,sorghum,soybeans,maize and wheat are some of the important food crops.

In modern times,marketing, processing, distribution and after-sales service are also accepted as a part of crop production. Agriculture plays a crucial role in India economy. Agriculture mot only provides food and raw material, but also provides employment to huge section of the population.In india crops grown are mainly classified as Sharif and rabies.

IBM Cloud Account:IBM Acquired soft layer, a public cloud platform, to serve as the foundation for its IaaS offering.In October 2016, IBM rolled the soft layer brand under its Blue mix brand of Pa as offerings, giving users access to both IaaS and PaaS resources from a single console. IBM cloud provides a full-stack, public cloud platform with various products in the catalog, including options for compute,storage,networking, end to end developer solutions for app development, testing and deployment,security databases, and cloud native services.

creating the IBM cloud account by going to the IBM cloud login page,and click create on IBM cloud account. Enter our IBMid,and an ID is created based on the email that we enter.Completing the remaining fields with our information,and click create account by this the account is created.

Dataset collection: The data collection on crop production by:

- Articulate the problem early.
- Establish data collection.
- check our data quickly.
- Format data to make it consistent.
- Reduce data.
- Complete data cleaning.
- Decompose data.
- Join transactional and attribute data.

IBM Cog nos Analytics: IBM cog nos analytic is a web-based integrated business intelligence suite by IBM. It provides a tool set for reporting,analytics,score carding,and monitoring of events and metrics. creating amazing meaning full dashboards using cog nos analytics.

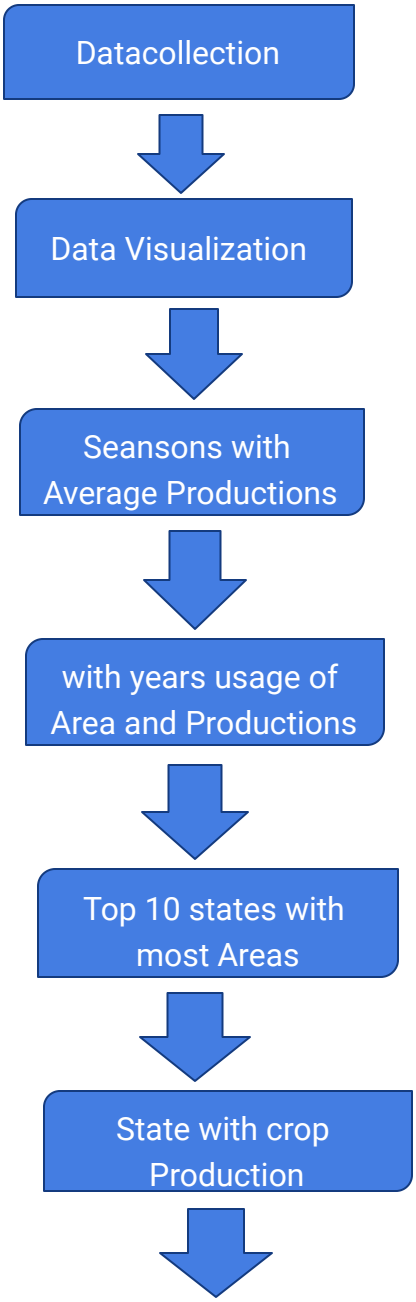
Creating a Dashboard: Dashboard track KPIs,metrics,and other data points in one visual,central place. They give a high level view of work,helping to make quick decisions and keeping everyone up to date.
storing the dataset into the dashboard we need to import the data into it.
set up our excel dashboard file
create a table with the raw data
Analyze the data
build the dashboard
customize with Macros,color,and More..

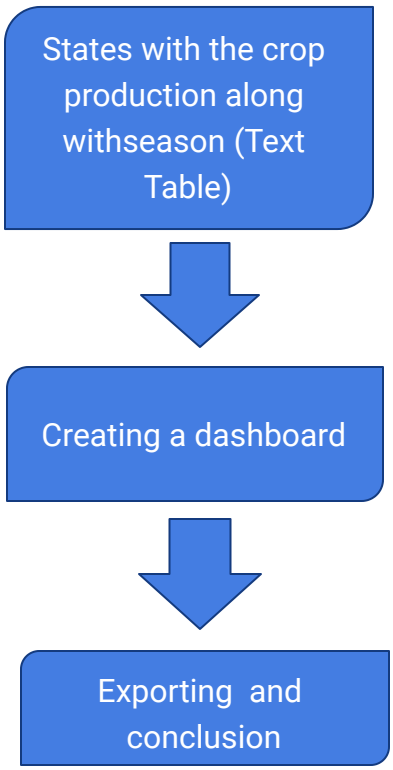
To export the Dashboard: To save the dashboard as image , select image. The select location for download dialog box opens..

To save the dashboard as a Flash file, select MHT, then do one of the following.
To save the dashboard as a PDF file, select PDF dashboard is exported and displayed in a browser window.

5 FLOW CHART

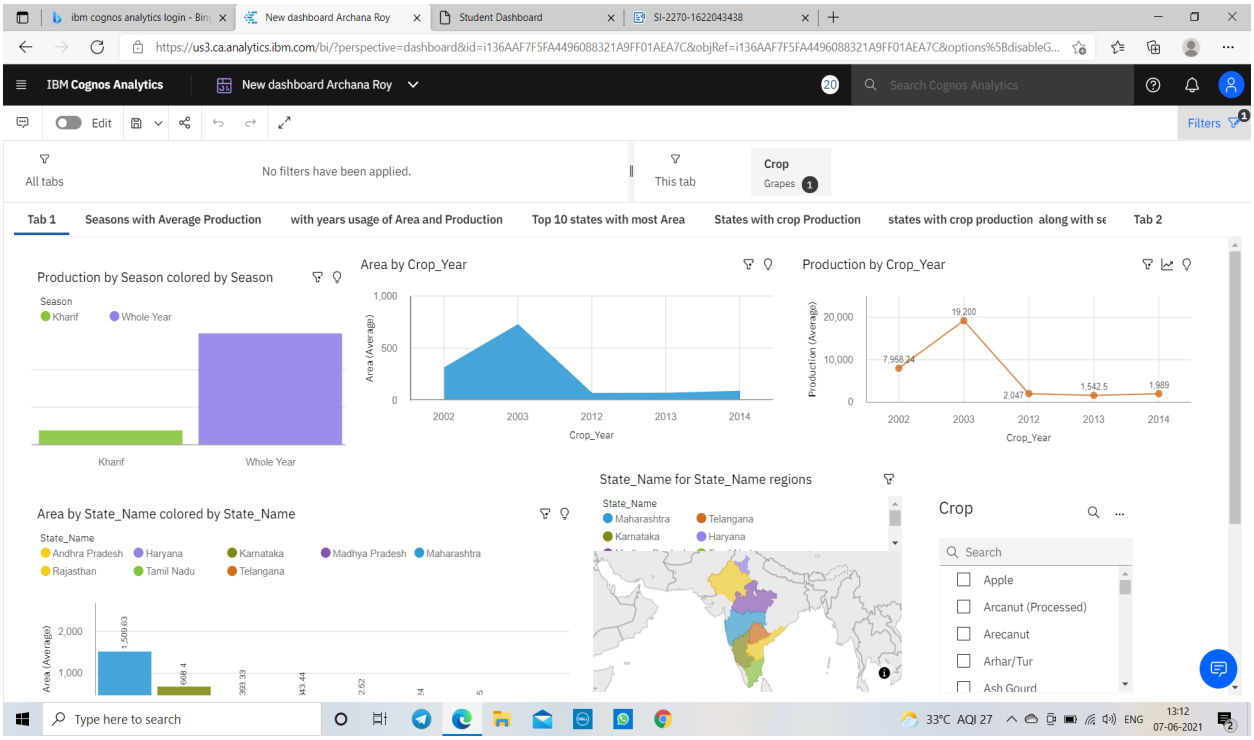
Diagram showing the control flow of the solution

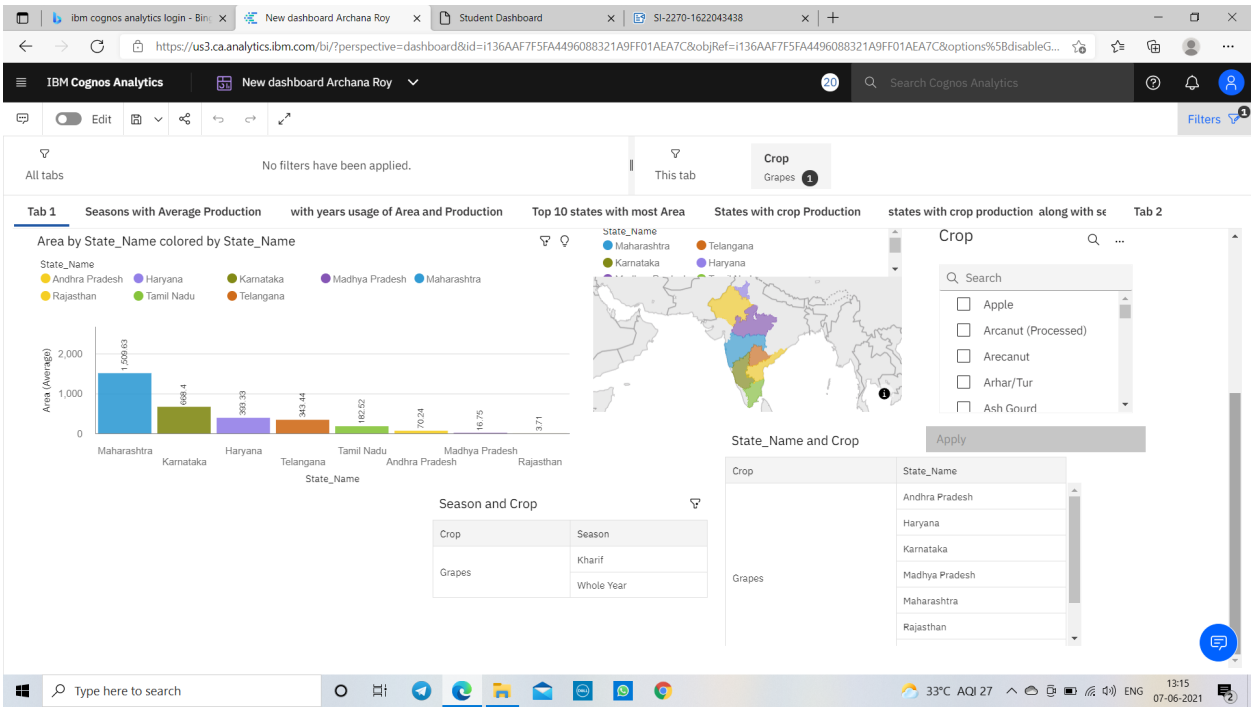



States with the crop production along withseason (Text Table)
Creating a dashboard
Exporting and conclusion

6 RESULT

Final findings (output) of the project along with Screenshots.





7 ADVANTAGES AND DISADVANTAGES

List of advantages and disadvantages of the proposed solution.

Advantages:

-- Lower costs--reduces maintenance due to complete report coverage and zero-footprint environment.

-- Faster results--shortens reporting time due to seamless integration and adaptive authoring.

-- Improved decision making--reports and dashboards present data in easily-understood formats.

--Adaptive authoring automatically adjusts report layout when objects are added,moved,or removed.

-- Ability to work with data using familiar business terms.

-- Ability to use a variety of charts--cross tabs,bar or 3D bar,pie or doughnut,line,gauge,funnel,scatter,dot density,waterfall,and so forth.

-- Ability to create complex, multi-page layouts using different data sources.

-- High performance data access across all sources.

-- Complete connectivity regardless of environment.

-- open architecture that leverages XML,SOAP,and WSDL.

-- Ability to integrate seamlessly with the selling and Fulfillment Foundation, without the user

having to log in to the application again.

Disadvantages:
Along with benefits of IBM Cog nos analytics mentioned above, there are a few drawbacks to know about, as well.
some of the disadvantages are:

- Total cost of ownership(TCO) is more significant than other tools.
- Minimal forecast capabilities.
- Investment in cog nos R and D by IBM is declining.
- wont work smoothly with large data sets having many parameters.
- cross-browser compatibility is often problematic.

8 APPLICATIONS

The areas where this solution can be applied.

- Query performance
- General production system performance
- Aggregate view of data vs transactional view
- Complex SQL
- Normalized databases are typically tuned for simple queries

9 CONCLUSION

Conclusion summarizing the entire work and findings.

>>From this entire findings we know fundamental concepts and can work on IBM Cog nos Analytics
>>Gain a board understanding of plotting different graphs.
>>Able to create meaningful dashboards
>>Learn to build stunning dashboards with cog nos analytics
>>create tabbed dashboards and stories using the new dashboard tool of cog nos v11
>>Master the full-fledged Report Authoring tool
>>We will understand how a dashboard is different from a report,when to use both
>>we will understand the reporting interface
>>Implementing cross tabs and SQL queries
From the crop production we entries the value of commitment, stay grounded and humble to our nature, gratitude goes a long way, great things take time,working hard and having fun can happen at the same time,pay it forward with generosity

10 FUTURE SCOPE

Enhancements that can be made in the future.

Cog nos is the one of the leading BI suites in the market for meta data modelling and reporting so learning this will be definitely helpful in our career growth in BI domain. IBM cog nos TM1 form 10 has been around for decent time and has officially experienced a few minor and real updates.
IBM cog nos analytics leads to better decisions and improves company performance and profitability.
we can scope the better job in future with easy experience.
Total 709 companies are most often in computer software industry.
Rightly so, a good majority of them focus on the strategic aspects of dashboard creation such as understanding our audience and purpose first, and choosing the best charts to display our data visually for maximum readability and insights.

The training industry quarterly further narrow scope for specific industries,audiences,or purposes, providing tips on the tailor dashboards for learning& development.

11 BIBILOGRAPHY

References of previous works or websites visited/books referred for analysis about the project, solution previous findings etc.

https://knoema.com/insights?tag=Crop%20dashboard

https://agrionline.nic.in/dash/dash.hmtl