ARIYALUR ENGINEERING COLLEGE

AProjectReporton

GLOBALSALESDATAANALYTICS

Submittedinpartialfulfillmentfortheawardofthedegreeof

BACHELOROFENGINEERING

in

ELECTRONICSANDCOMMUNICATIONENGINEERING

Under the Guidance

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PROFESSIONALREADINESSFORINNOVATION,EMPLOYABILITYANDENTERPRENURSHIP

DEPARTMENTOFELECTRONICSANDCOMMUNICATIONENGNEERING
ARIYALIRENGNEERINGCOLLEGE

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CHAPTER 1

INTRODUCTION

1.1 ProjectOverview:

Global sales data analytics refers to the technology and processes used togathersalesdataandgaugesalesperformance.Salesleadersusethesemetricstoset goals, improve internal processes, and forecast future sales and revenue moreaccurately.Insales,manytasksarenowmanagedthroughcentralizedcloudsoftware ,includingCRMs,emailmarketingplatformsandintegrationtools,making sales data readily available. Many global, industry-leading brands are nowusing their sales data in ingenious ways to make better business decisions, but anycompany can take advantage of insights and reporting tools to achieve data-drivensalessuccess.

1.2 Purpose:

Sales analytics enables your agents to spot key trends, dive deep, predictoutcomes, and increase productivity. Accurate analysis also gives your team theability to tailor their efforts and prioritize high-value prospects. Plus, it may evenhelp spotlight new opportunities for your business to pursue. Sales analytics allowsyou to better gauge team performance and uncover areas for improvement, too.Understandingthosestrengthsandweaknessesleadstobettertraining,moreattainabl egoals,andacohesiveteam.

CHAPTER 2

LITERATURESURVEY

2.1 Existingproblem:

Emphasize the value of risk management and analysis to all aspects of theorganization to get past this challenge. Once other members of the team understandthebenefits,theyaremorelikelytocooperate.Implementingchangecanbediff icult but using a centralized data analysis system allows risk managers to easilycommunicateresultsandeffectivelyachievebuy-infrommultiplestakeholders.

S.No.	Author	Year	Title	Algorithmused	Disadvantages
1	Kiran Singh,Rakhi Wajgi,	2022	Data Analysis andVisualizationof SalesData	Visualization Toolkits,Vis ualizationTe chniques,Vis ualizationMe thods,Visuali zation Tools	The pixel-orientedvisualizationtechnique s failto help us in understanding thedistribution of data in a multidimensionalcollocation.
2	Aamod Khatiwada, Pradeep Kadariya, Sandip Agrahari, Ricardo, RabinDhakal	2019	Big Data AnalyticsandDeep LearningBasedSen timentAnalysisSys temfor Sales Prediction	Data Pre processing and TrainingusingDee pLearning(RNN, LSTM), datascrapping,dat a filtration andanalysis,	Therewereproblemsintheanalys isofpositiveandnegativecomme ntsofnon-Englishlanguageandthosewiths pecialcharacters.
3	WenhuiShan	2020	Research on Refined Sales Management,Data Analysis and Forecastingunder BigData	Regression equation model, E views 3.0 software	Wecanknowthatthestandard erroroftheregressionmodelis slightly larger than the Bootstrap model in the applicationprocess.

4	Manpreet Singh,BhawickGhutla, ReubenLilo Jnr,Aesaan FS Mohammed, MahmoodA Rashid	2017	Walmart's Sales DataAnalysis	Map Reduce algorithm,Streaming algorithm, DataVisualizationAlgorithms	Retailersneedtoplanandevaluateaccordingtothemarketdrivingfactorswhicharenotlimitedtounemploymentrate,fuelprices
5	Muhammad Shahbaz, Changyuan Gao,Lili Zhai, Fakhar Shahzad, AdeelLuqman, RimshaZahid	2022	Impactofbigdataanalyticsonsalesperformance in pharmaceuticalorganizations	Datafusionanddata integration, Data mining,Decision Treealgorithmstatistics.	Resultsofthisresearchmightchange in a cross- culturalcontext
6	Mateusz Baska, Helena Dudycz, Maciej Pondel	2020	Potential of BigDataformarketing	Advanced data analysis,marketing,systematicreview,bigdataanalytics.	This may breach privacy of thecustomers as their informationsuchaspurchases,onlinetransactions,subscriptionsarevisibletotheirparentcompanies.Thecompaniesmayexchangetheseusefulcustomerdatabasesfor their mutualbenefits.
7	Imran BashirDar, Muhammad BashirKhan, AbdulZahid Khan, BahaudinG. Mujtaba	2021	A qualitative analysisofthemarketing analyticsliterature	PreferredReporting Itemsfor Systematic Reviews andMeta-Analysis(PRISMA), backward and forwardsearch	Thesearchmetricsandselection process of the qualitypapersbetweentheperiods2000and2020havelimitations as the canvas is notso wide to cater for the conceptofmarketinganalyticsissuesand challenges from inceptiontoconception, as in the case ofmeta-analysis.

2.2 References:

1. KiranSingh,RakhiWajgion“DataAnalysisandVisualizationofSalesData”in2022on2016WorldConferenceonFuturisticTrendsinResearchandInnovationforSocialWelfare(WCFTR’16).
2. Aamod Khatiwada, Pradeep Kadariya, Sandip Agrahari, Ricardo,Rabin Dhakalon "Big Data Analytics and Deep Learning Based Sentiment Analysis SystemforSalesPrediction”in2019on2019IEEEPuneSectionInternationalConference (PuneCon) MIT World Peace University, Pune, India. Dec 18-20,2019.
3. Wenhui Shan on “Research on Refined Sales Management, Data Analysis andForecasting under Big Data” in 2020 on 2nd International Conference onMachine Learning,BigData andBusinessIntelligence (MLBDBI).
4. Manpreet Singh, Bhawick Ghutla, Reuben Lilo Jnr, Aesaan F SMohammed,MahmoodARashidon“Walmart'sSalesDataAnalysis”in2017on 4th Asia-Pacific World Congress on Computer Science and Engineering(APWConCSE).
5. MuhammadShahbaz,ChangyuanGao,LiliZhai,FakharShahzad,AdeelLuqman, Rimsha Zahid on “Impact of big data analytics on sales performanceinpharmaceuticalorganizations”in2022on PLOS ONE.
6. Mateusz Baska,Helena Dudycz, MaciejPondel on “Potential of Big Data formarketing” in 2020 on Journal of Economics and Management ; Vol. 35 (1) ;ISSN1732-1948.
7. Imran Bashir Dar, Muhammad Bashir Khan, Abdul Zahid Khan, Bahaudin G,Mujtaba on “A qualitative analysis of the marketing analytics literature” in2021onJournalofMarketingAnalytics(2021)9:242–261.

2.3 ProblemStatementDefinition

ProblemStatement:

Thisresearchisaimedat designing and implementing of sales analysissystem. It is set of alleviating the problems the company encountered during salescomputation in the past. It describes and explain the computerization of sales andhowtocalculateduecashsoldbythecashierandsalesperson.Theprojectgives a detailed way of calculating the entire sales record including their budgeting,

salesrecord, transaction, stock at hand etc. and how the result is stored in the database ofthe company as well as the system required for the computerization and tabulationof different financial areas of the company. This project is also of great advantagesbecauseithelpstoanalysissalesrecordandcalculation,dailysalesofthecompany,this is done to reduce insecurity of the company fund and sales record, because itis,manuallydone,therecordmaybeincorrect.

- E- commerce company(user) needs to classify and analyze data and marketstatistics,sothattheygettoknowthepreferencesofcustomersandimprove theirmarketingstrategiesaccordingly.
- E-commerce company(user) must make sure the quality of products sold intheirsiteisgood,sothatcustomersfindtheirstoretobemorereliable.
- E-commercecompany(user)needsawaytounderstandtheshiftinpreferences of customers and the current trend, so that they can satisfy thecustomers.
- E-commercecompany(user)mustfindagooddeliverycompany,toprovidesmooth deliveryprocesstocustomers.
- E- commerce company(user) must understand how much of goods theymuststockup,sothattheproductstheyinvestindoesn'tgetwasted
- E- commerce company(user) must gather reviews from their customers, sothat they are able to understand what they did was right and what wentwrong.
- E- commerce company(user) must make its customers aware of the offersandfacilitiesprovided,sothatitcangainattentionofmanycuE-commerce company(user) must work on improving its popularity.

CHAPTER 3

IDEATION&PROPOSEDSOLUTION

3.1 EmpathyMapCanvas

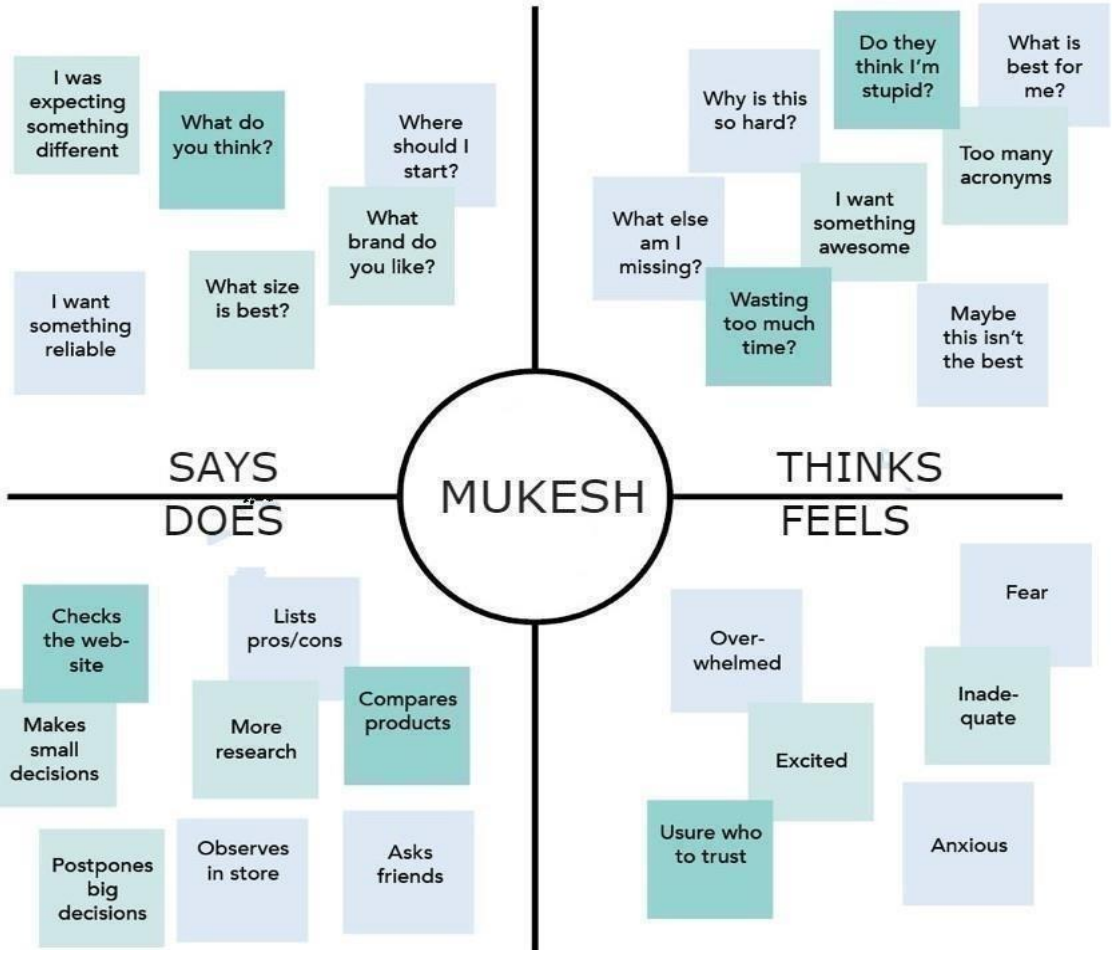


Figure:3.1-Empathymapcanvas

The empathy map is a collaborative tool that teams can use to gain a deeperinsightintotheircustomers.Muchlikeauserpersona,anempathymapcanrepresent a group of users, such as a customer segment. The empathy map wasoriginallycreatedbyDaveGrayandhasgainedmuchpopularitywithintheagilecomm unity.

3.2Ideation&Brainstorming:

Step1:TeamGathering,CollaborationandSelectttheProblemStatement.

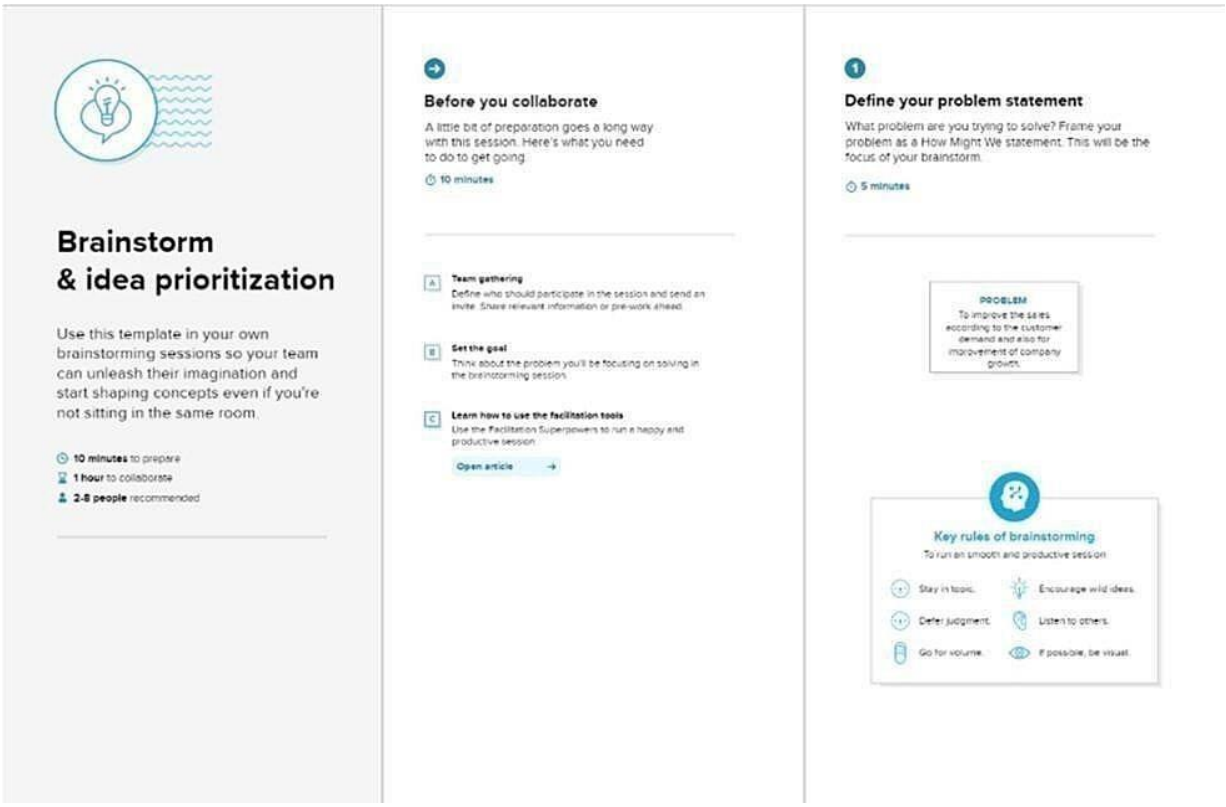


Figure:3.2-TeamGathering,CollaborationandSelectttheProblemStatement

The above image represents the existing problems that a team must solve.The team must understand the problem statement to find a solution. This makes asuccessfulproject.

Step2:Brainstorm.

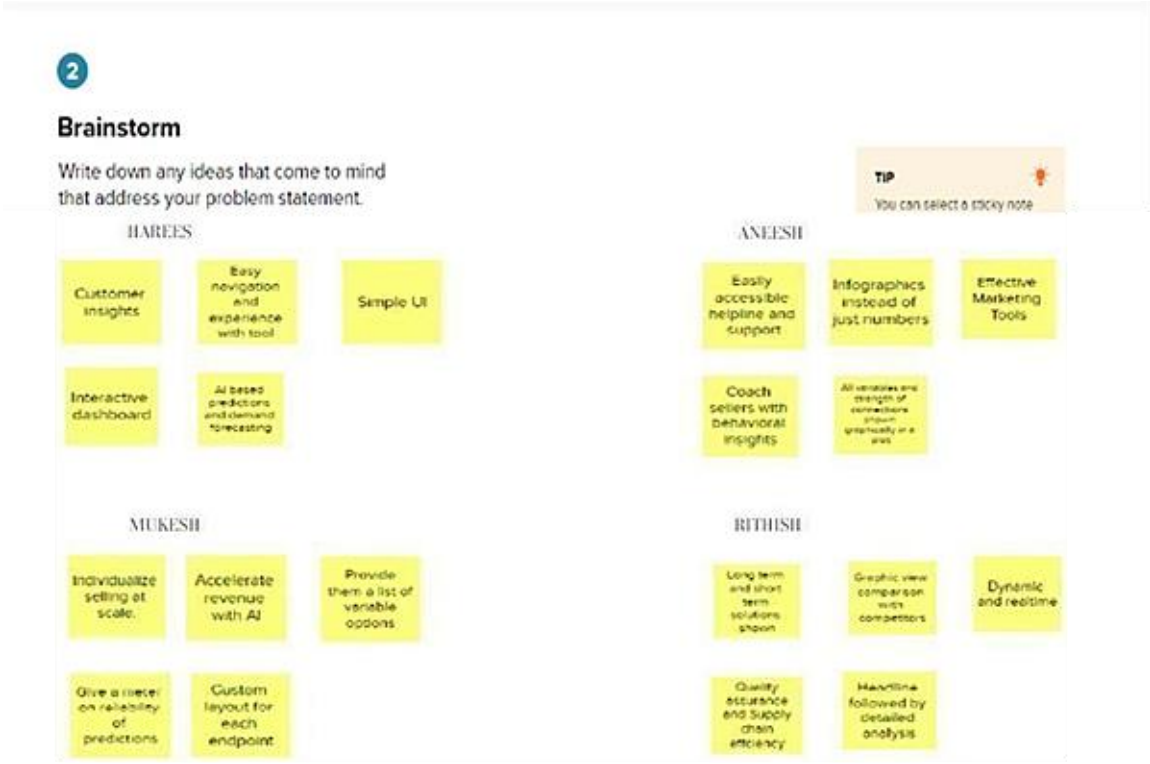


Figure:3.3-Brainstorm

Brainstormingisagroupproblem-solvingmethodthatinvolvesthespontaneous contribution of creative ideas and solutions. This technique requiresintensive,freewheelingdiscussioninwhicheverymemberofthegroupisencoura ged to think aloud and suggest as many ideas as possible based on theirdiverseknowledge.

Step3:IdealistingandGrouping.

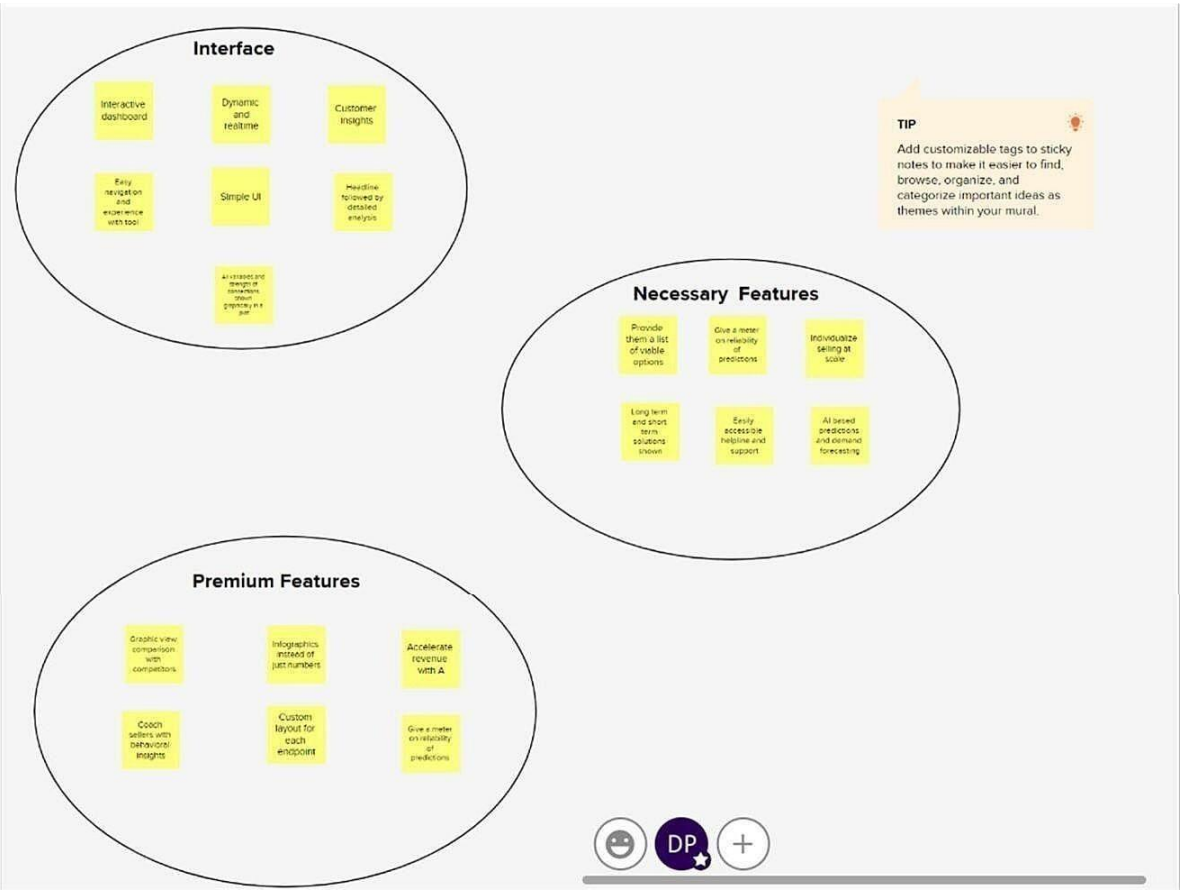


Figure:3.4-IdealistingandGrouping

In Idea Listing technique students are asked to produce the idea in shorttimeandputitonthepapertokeeptheirideaandthenrelateitwiththetopic.Thistechniqueismoreeffectiveandsuitabletosolvetheproblem and canimprovestudentswriting,attention,abilityandmotivationinwritingprocess.

Step4:IdeaPrioritization.

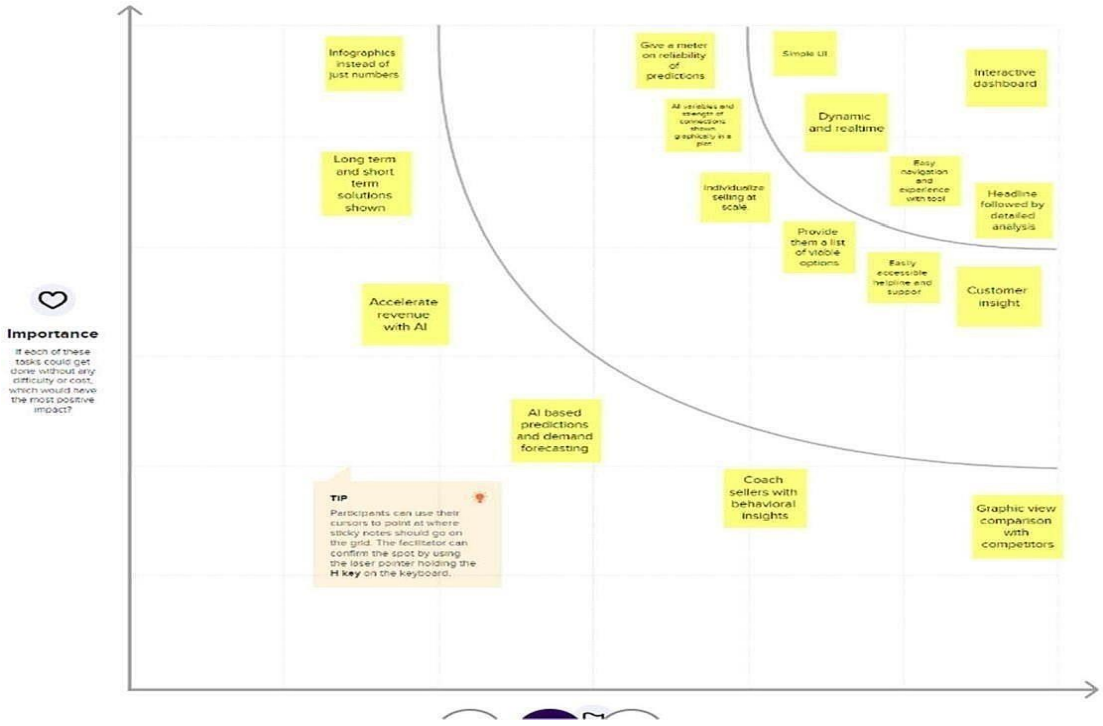


Figure:3.5-IdeaPrioritization

The best idea is selected in “Idea prioritization”. Many ideas are selected andevaluated to find the best possible idea. Then the project is built based on thechosenidea.Theseideasarechosenwiththehelpofbrainstormingandidealisting.

3.2ProposedSolution

S.No.	Parameter	Description
1.	ProblemStatement (Problem to besolved)	➢ DecisionmakersofE-commercecompanies(User)needawaytocomprehendrawdata,analyzeandmakemoreinformedbusinessdecisions. ➢ E- commerce companies (User) need a way tounderstand the shift in preferences of customersandthecurrenttrend,sothattheycansatisfythe customers.
2.	Idea/Solution description	➢ Apowerfulandeasy-to-usesalesanalyticstoolthat automates and visualizes sales trends tooptimizebusinessoutcomes.
3.	Novelty/Uniqueness	➢ InteractiveDashboardandsimpleUIDy ➢ namicandreal ➢ timeanalyticsAIbasedpredictionsand forecasting
4.	SocialImpact/Customer Satisfaction	➢ VisibleprofitsdrivenbyinformeddecisionsOptimizes ➢ alesandmarketing ➢ Abilitytoreacttocompetitor’s strategies
5.	BusinessModel(RevenueModel)	Threetierpricing-Basic,Standard,Enterprise ➢ Basic:Limitedfeaturestargetingstartupsandindividuals. ➢ Standard:Limitedpremiumfeatures.Targetcustomers-MediumScalebusinesses. ➢ Enterprisewith all premium features targetedatLargecorporations.
6.	Scalabilityofthe Solution	➢ MoreB2Bcustomerservicescanbeprovidedalongside ➢ Usablebyallcustomerfacingcompaniesandstartupsofallscale

3.2 ProblemSolutionFit:

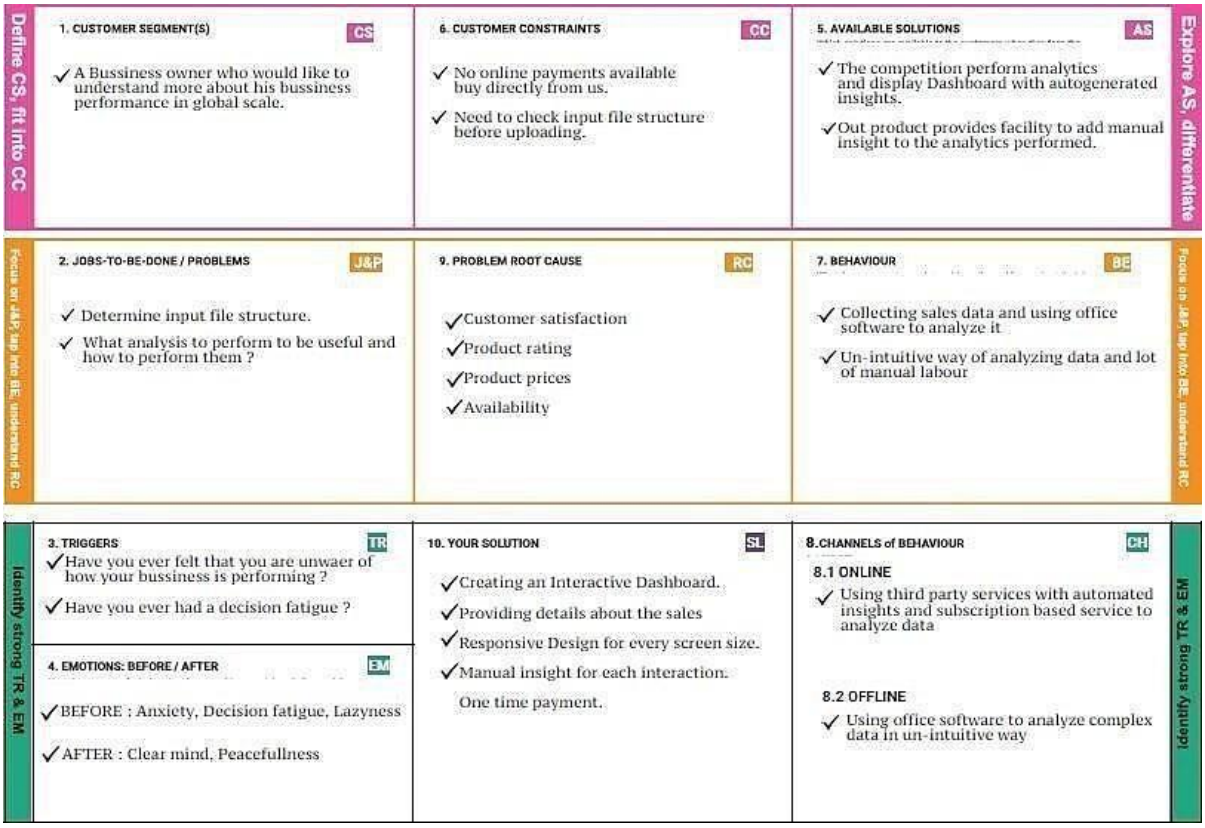


Figure:3.6-ProblemSolutionFit

The Problem-Solution Fit simply means that you have found a problem withyourcustomerandthatthesolutionyouhaverealizedforitsolvesthecustomer's problem. This occurs when you have evidence that customers care aboutcertain jobs, pains, and gains. At this stage you have proved the existence of aproblem and have designed a value proposition that addresses your customer's jobs,painandgains.

CHAPTER 4

REQUIREMENT ANALYSIS

4.1 FunctionalRequirement

Followingarethefunctionalrequirementsoftheproposedsolution.

FRNo.	Functional Requirement(Epic)	SubRequirement(Story/Sub-Task)
FR-1	UserRegistration	RegistrationthroughGmailorGoogleBusiness
FR-2	UserConfirmation	ConfirmationviaEmailConfirmationviaOTP
FR-3	UserInput	Datauploadedmustbeofproperformat
FR-4	Data Verification andValidation	Dataiscleanedandverifiedforoutliers,duplications
FR-5	DataVisualization	Propergraphsandchartsarechosenforparticularsetofdata andshown
FR-6	BusinessDecisions	Recommendationsaremadeaccordingtodata

Table:4.1-FunctionalRequirement

4.2 Non-FunctionalRequirements:

Followingarethenon-functionalrequirementsoftheproposedsolution.

NFRNo.	Non-Functional Requirement	Description
NFR-1	Usability	The system must be easy to use. The user must be abletouploadtheirsalesdataeasilyandfilteritinoursystem.
NFR-2	Security	Usersalesdatamustnotbemisused.Theuser'sloginmustbesecure.
NFR-3	Reliability	User's data and visualizations must stay in the systemwithoutcrashing.Thesystem'sreliabilitymustbeensuredstoringpropercopiesand resultsofdatawiththeirappropriatevisualizations.
NFR-4	Performance	The system must be able to withstand large volumes ofdata and enable visualizations. It should allow multipleteammemberstoaccessdatasimultaneously.The websitemustbeflexibletodifferenttypes ofdata.
NFR-5	Availability	Uploadeddatamustbeavailableatalltimesandbefaulttolerant.
NFR-6	Scalability	Itshouldbeabletoproduceadvancedgraphsandprovideproperinterpretationofdataoverlargevolumes.

CHAPTER 5

PROJECTDESIGN

5.1 DataFlowDiagram:

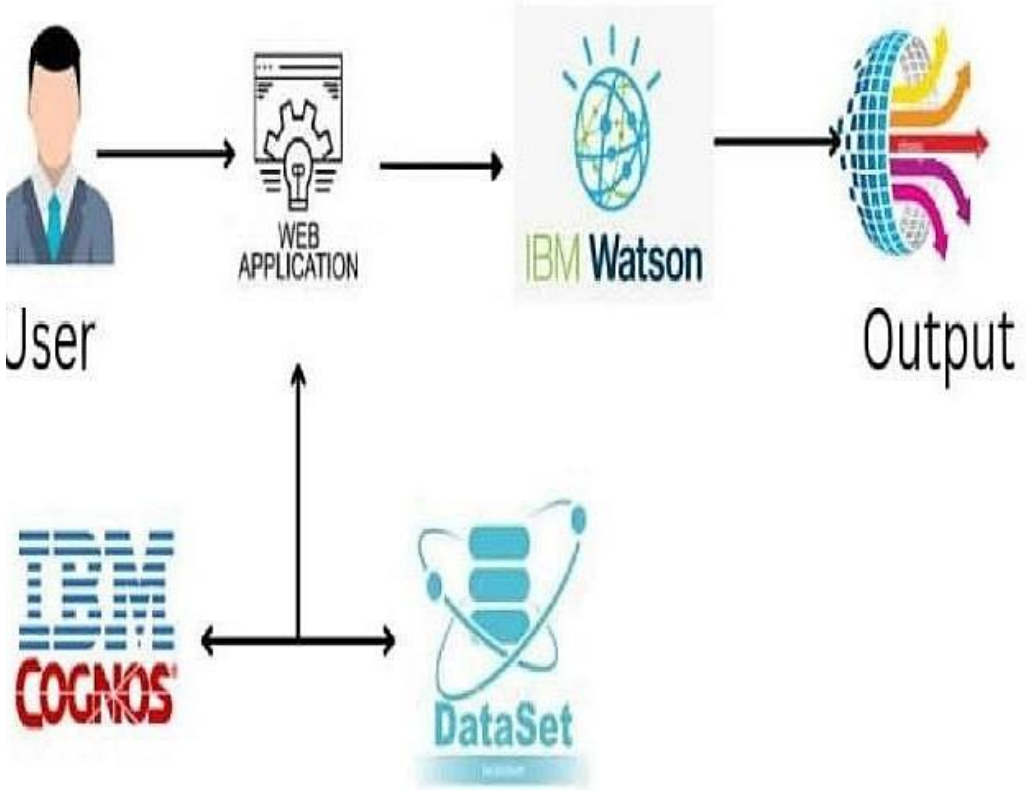


Figure:5.1–DataFlowDiagram

Theuserusesthepredefineddatasetin theIBMCognos.Awebapplicationisused to fetch the datas in the IBM Cognos. The output is predicted in the form ofgraphicalvisualizationwiththehelpofIBMWatson.

5.2 Solution&TechnicalArchitecture

- The data is fetched from the user and data is analyze, pre-processed etc.…Datareporthasbeencreated.
- UsingIBMCognos,theDatavisualarebeinggenerated according to thedatareportwhichwehavecreatedusingtheuserdata.

> Thiscancreatehugechangesinglobalmarketsales amongpeoples

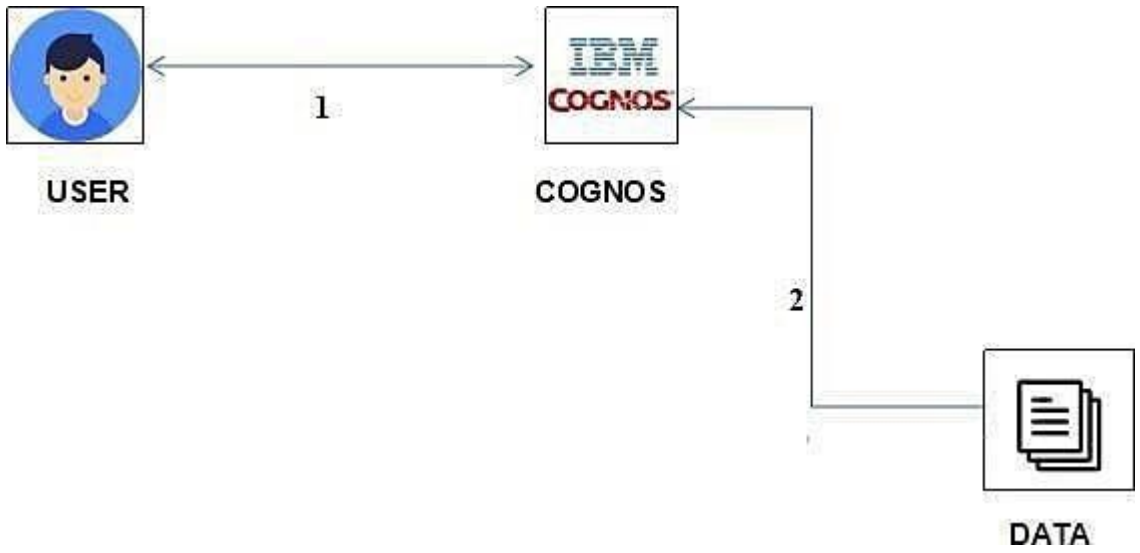


Figure:5.2-Solution&TechnicalArchitecture

ThedatasetareaccessedwiththehelpofIBMCognos.Theoutputaregraphicallyvisualizedwiththehelpofthesedatasets.

5.3 UsersStories

UserType	FunctionalRequirement (Epic)	User Story Number	UserStory/Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password,and confirming my password.	Icanaccessmy account / dashboard.	High	Sprint-1
		USN-2	As a user, I will receiveconfirmation email once Ihave registered for the application.	I can receive my confirmation emailandclick confirm.	High	Sprint-1

		USN-3	As a user, I canregister for theapplication throughFacebook.	I can registerand access thedashboardwithFacebook Login.	Low	Sprint-2
		USN-4	Asauser,Icanregisterfortheapplicationthrough Gmail.		Medium	Sprint-1
	LoginDashboard	USN-5	Asa user, I can logintotheapplication byenteringemail andpassword.		High	Sprint-1
Customer (Webuser)	Login	USN-1	Asauser,Icanregisterfortheapplication byenteringmyemail,password and confirming my password.	I can access myaccountanddashboard.	High	Sprint-1
Customer CareExecutive	ChatBox	USN-1	Itcanbeusedby easily access andresponsible	Icanaccessby easily through application	High	Sprint-2
Administrator	Calling	USN-2	Itcanbeusedbyeasily access and responsible.	Icanaccessbyeasily through application	High	Sprint-2
	Mail	USN-3	Itcanbeusedby easily access andresponsible.	Icanaccessby easily through application.	High	Sprint-1

Table:5.1-UsersStories

CHAPTER 6

SPRINTPLANNING&ESTIMATION

6.1 SprintPlanning&Estimation

TITLE	DESCRIPTION
LiteratureSurvey&Gathering	Literature survey on selected project andgatheringinformationbyreferringtheproject'srelatedtechnique papers,researchpublications,etc.
PrepareEmpathyMap	Prepare empathy map canvas to capture the user'spains&gainsandpreparethelistofproblemstatements.
Ideation	To list by the organizing brainstorm sessions andprioritize the top three ideas based on the feasibilityandimportance.
ProposedSolution	Toprepare theproposedsolutiondocuments,whichincludesthenovelty,feasibilityofideas,businessmodesocialimpact,scalabilityofthesolution,etc.
ProblemSolution Fit	Includescustomersegmentsandcustomerconstraints,the problem root cause and jobs to bedone.
SolutionArchitecture	Fromdatacollectionto digit recognition by thewebapplicationarerepresentedinarchitecturaldiagrams.

CustomerJourney	Preparethecustomersjourneymaphelpthecustomer understandtheuserinteractionandexperienceswiththeapplicationfromthebeginningtotheend.
FunctionalRequirement	Preparethefunctionalrequirementdocument.
DataFlowDiagrams	Dataflowdiagramsanduserstoriesareprepared,and foursprintphasesaredescribed..
TechnologyArchitecture	Technicalflowgraphsarecreated,andthefunctions oftechnicalstacksaredefined.
PrepareMilestoneandActivityList	Preparethemilestonesandactivityoftheproject.
SprintDeliveryPlan	Todevelopatemplateforsprintplanning.
Project Development – Delivery ofSprint-1,2,3&4	Developandsubmitthedevelopedcodebytestingit andhavingnoerrors.

Table:6.1-SprintPlanning&Estimation

6.2 SprintDeliverySchedule

SPRINT	DESCRIPTION
SPRINT1	Asauser,Ican register for the application by enteringmemail,password,andconfirmingmy password. As a user,willreceiveconfirmationemailonceIhaveregisteredfothea pplicationasauser,Icanregisterfortheapplicatiothrough Facebo okasauser,IcanSignInintothApplicationbygivingoutmyregiste red EmailID& assword
SPRINT2	As a user, I can upload Global Sales Datasets for Analysipurpose. As a user, I can spot the Trends in the Datasets ancreateinteractiveVisualizationCharts.Asauser,Icahandle Sales Data Analysis to make meaningful insights oufromthedatasets
SPRINT3	Asacustomercareexecutive.Icanbeabletosolvethedoubtsandq ueriesoftheusers
SPRINT4	AsanAdministrator,IcanmodifytheDashboardsaccording totheirneeds.

Table:6.2-SprintDeliverySchedule

6.3 ReportsfromJIRA

BurnUpChart

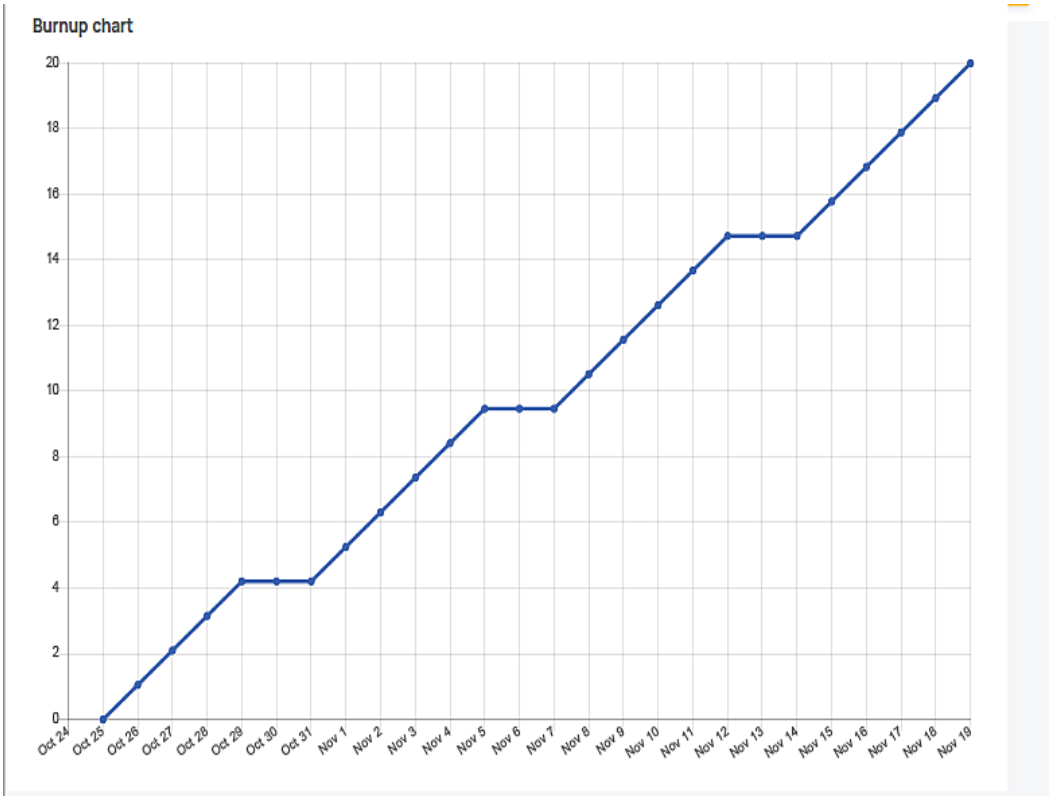


Figure:6.1-BurnUpChart

Theburn-upchartisatoolusedinScrumprojects.Itisavisualrepresentation of a team's work process. It displays the scope of a project and thework completed. Using a burn-up chart, a team can easily track their progress astheyworktowardscompletionofasprint.

BurndownChart

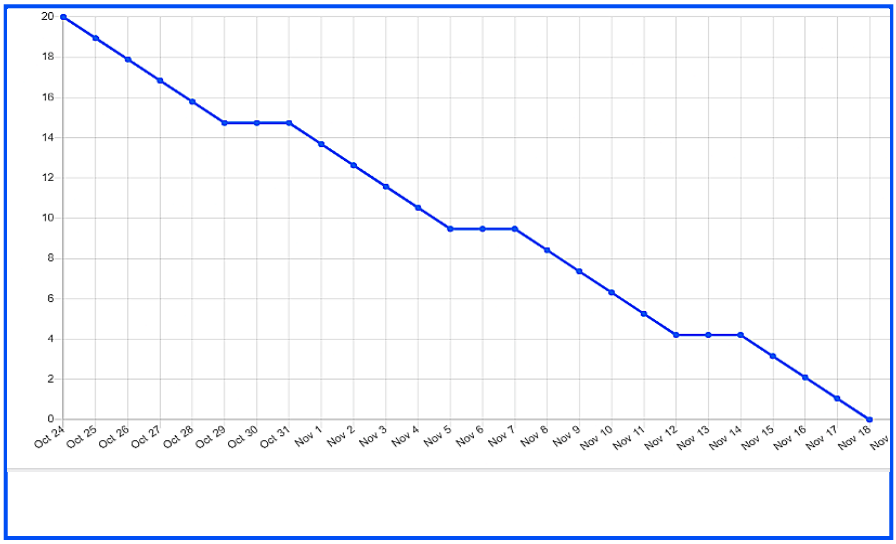


Figure:6.2-BurndownChart

The burndown chart shows the amount of work that has been completed in asprint and the total work remaining. Burndown charts are used to predict your team'slikehoodofcompletingtheirworkinthetime available.

CHAPTER 7

CODINGANDSOLUTIONING

7.1 Feature-1

- Excelworksheetscomewithastandardlimitof1,048,576rows.Whileperformance in Excel will slow well before the said row limit, it's a commonrequirementforuserstoanalyzedatasetsoveronemillionrowsinsize.Congo'sAnalyticscompressesyourdatasoyoucanextractinsightsfromlargedatasets.Withawell-builtdatamodel,Congo'sAnalyticscanhelpyouanalyzedatasetscontainingover100millionrows.
- CognosAnalyticsalsooffersusefulfeatures for working with truly largedatasets that are greater than several hundred million rows. For example, userscansetupaggregationtablesinCognosAnalytics.Aggregationstakeadvantageofpre-calculateddatatoacceleratequeries,reducingthetimeneededtorenderyourreports.
- AdditionalcomputingpowercanbeunlockedwithCognosAnalyticsPremium. If your organization needs to store very large datasets in CognosAnalytics,youcanpurchasededicatedcloudCognosAnalyticsPremiuminstancestoenableevenfasterquerytimes and refreshcapabilities.
- While Cognos Analytics supports many standard data visualizations out of thebox, it's also possible to build your own with custom data visualizations. Byadding open- source data visualization libraries from R and Python, analystscancreatehighly customizable visualizations to add to their next CognosAnalytics report. With around 750 million users, Excel remains the world'snumberone data analysistool.

> If you’re comfortable creating Pivot Tables in Excel, you can use this familiarexperience to slice and dice your data, referencing the same datasets used inotherCognosAnalyticsreports.

> Finally,userscangetthelatestdatafromCognosAnalyticsdatasetsbyrefreshing their Excel connections. This ease of access is a game-changer fororganizationsstuckbetweenthe twoplatforms.

7.2 Feature-2

> Cognos Analytics can help you build interactive and insightful mapping datavisualizations.Itcomes standard with three different map types: StandardMap,FilledMap(choropleth),orArcGISMapsforCognosAnalytics.

> Aligning on one version of the truth across many reports is a challengingundertaking that often ends with inconsistent definitions of metrics and KPIs.One of Cognos Analytics most compelling features is its ability to definemeasures in a data model and then re-use these calculations across numerousconnected reports. By defining your KPI calculations in central datasets, youcanensure “Gross Profit” and “Sales Revenue” return the same numbers,regardlessofwhichreportyou’reviewing.

> ThisfeaturedifferentiatesCognosAnalyticsfromother data visualizationtools,whichoftendefine KPIsineachreportindividually.

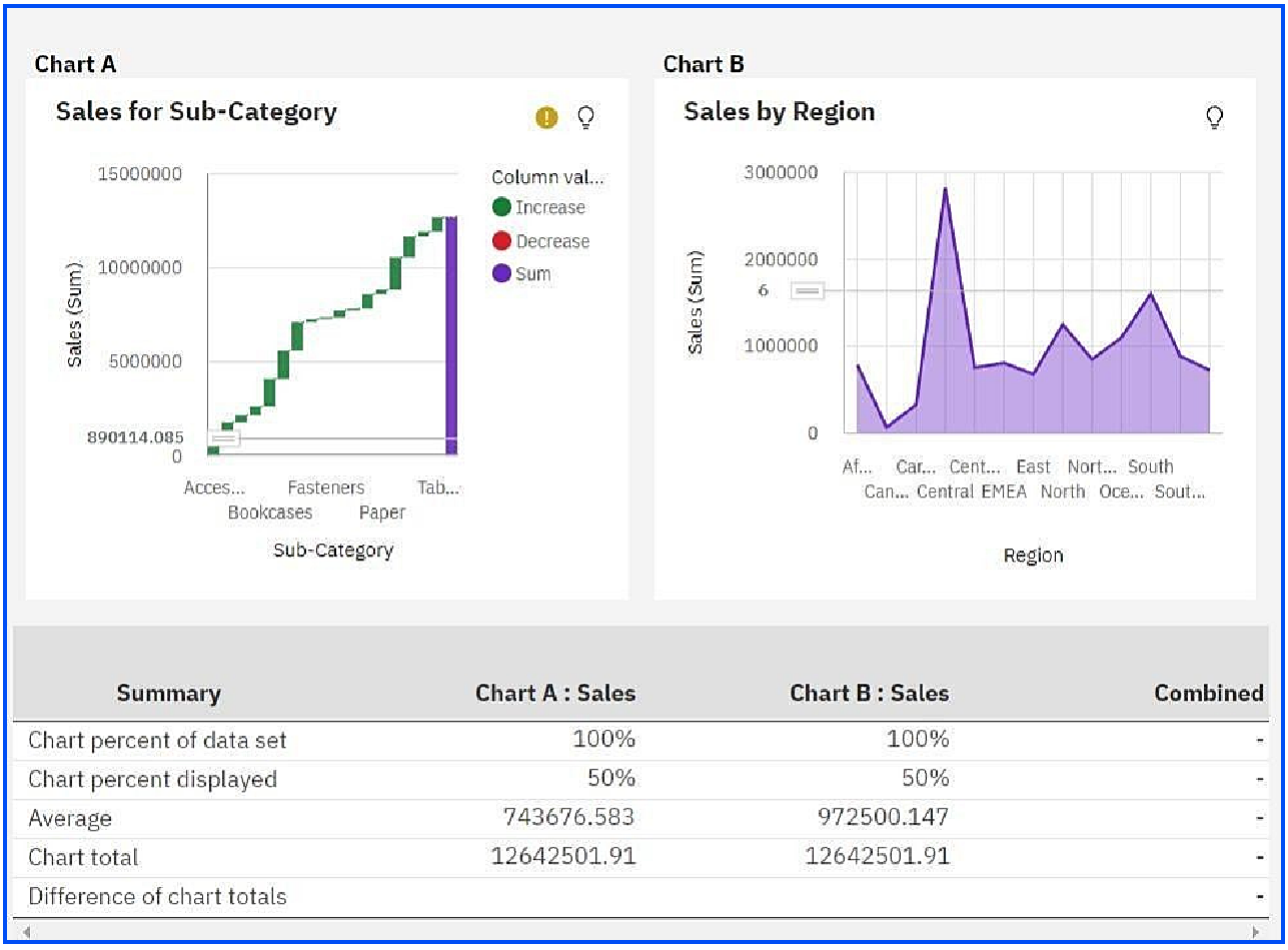
CHAPTER 8

TESTING

8.1 TestCases

Salesforsub-categoryandsalesbyregion:

The sales for sub-category and sales by region can be tested using the waterplot and area visualization that can be able to predict the data on the predefinedmanner.



Summary	Chart A : Sales	Chart B : Sales	Combined
Chart percent of data set	100%	100%	-
Chart percent displayed	50%	50%	-
Average	743676.583	972500.147	-
Chart total	12642501.91	12642501.91	-
Difference of chart totals			-

Figure:8.1-Salesforsub-categoryandsalesbyregion

Sub-categorywisesalesandprofitsusinglineandbarchart:

This can be able to easily classify the sub-category and sales that have beensell the assigned products. It can easily identify the relationship between the salesandprofitmanner.

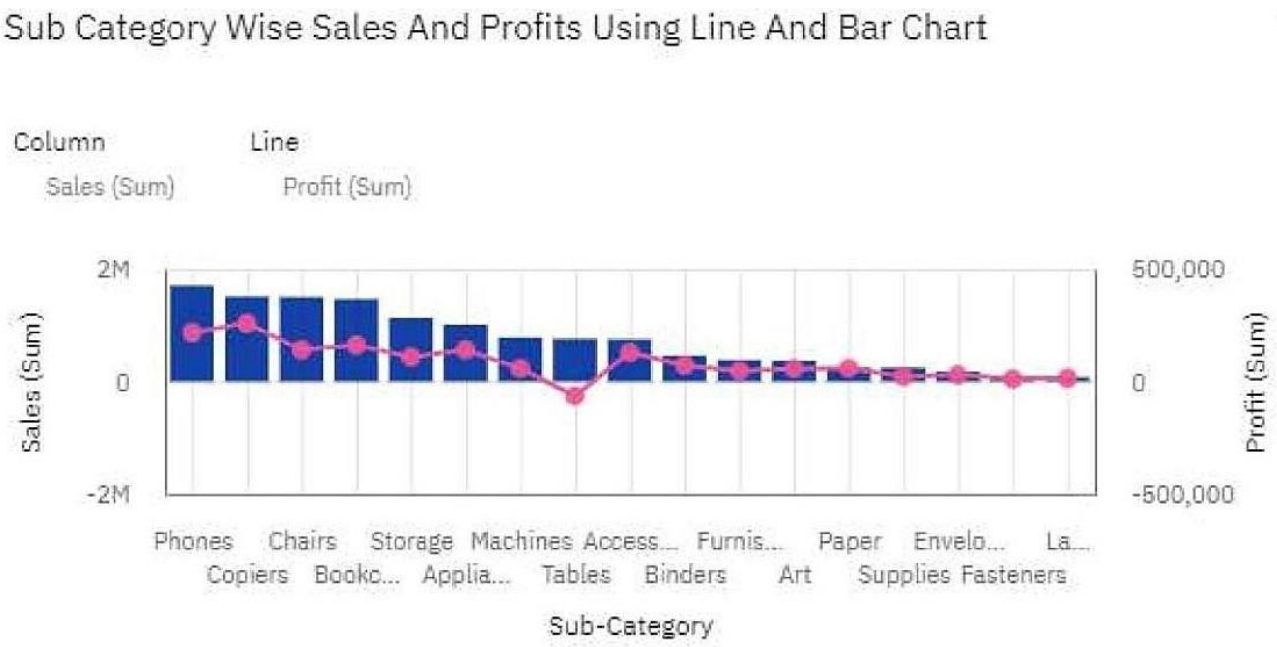


Figure:8.2-Salesforsub-categoryandsalesbyregion

SalesbyOrderPriority:

The valuesthatarewiththescaledratiohasbeenprofitedusingtheLineplotanditmustbehelpthesales ofdatabasedonthedifferentprices.

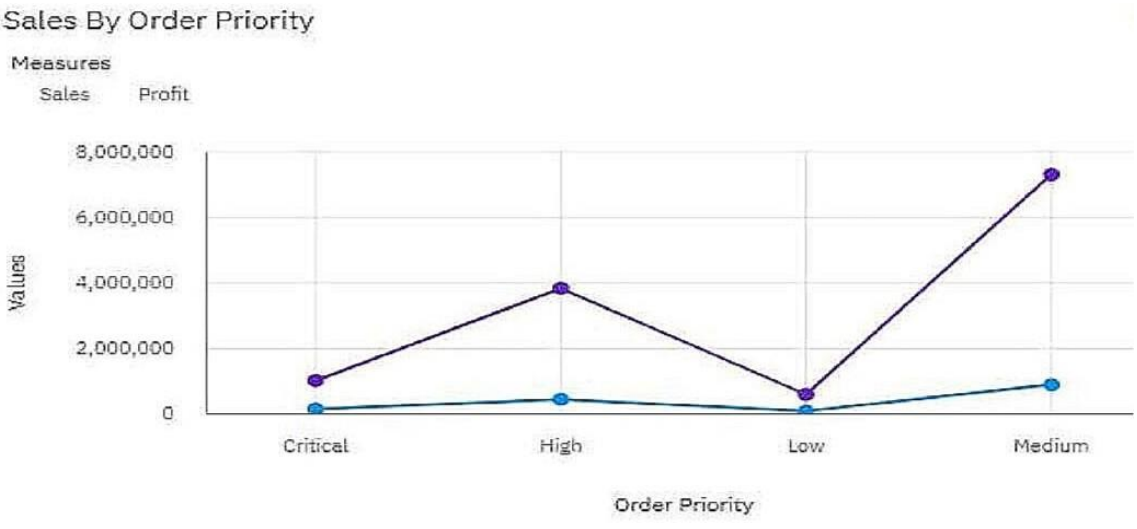


Figure:8.3-SalesbyOrderPriority30

Sales,ProfitandQualitybySegment:

Inadifferentsegmenteachshophasbothoccursprofit,sales,solet'splotthe graphtovisualizethesalesprofitqualitybysegmentwise.

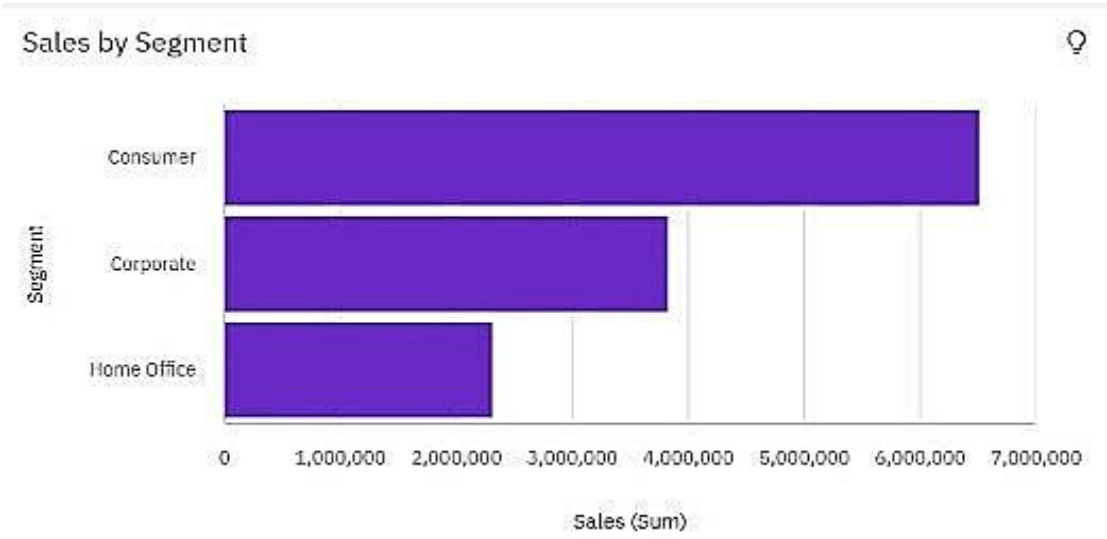


Figure:8.4–Sales,profitandquantitybysegment

Profitandsalesbysub-category:

TheProfitandsalesbysub-categoryshowstheprofitgainedandthesalesquantityoftheproductinagraphicalrepresentationwiththeprovidedata.

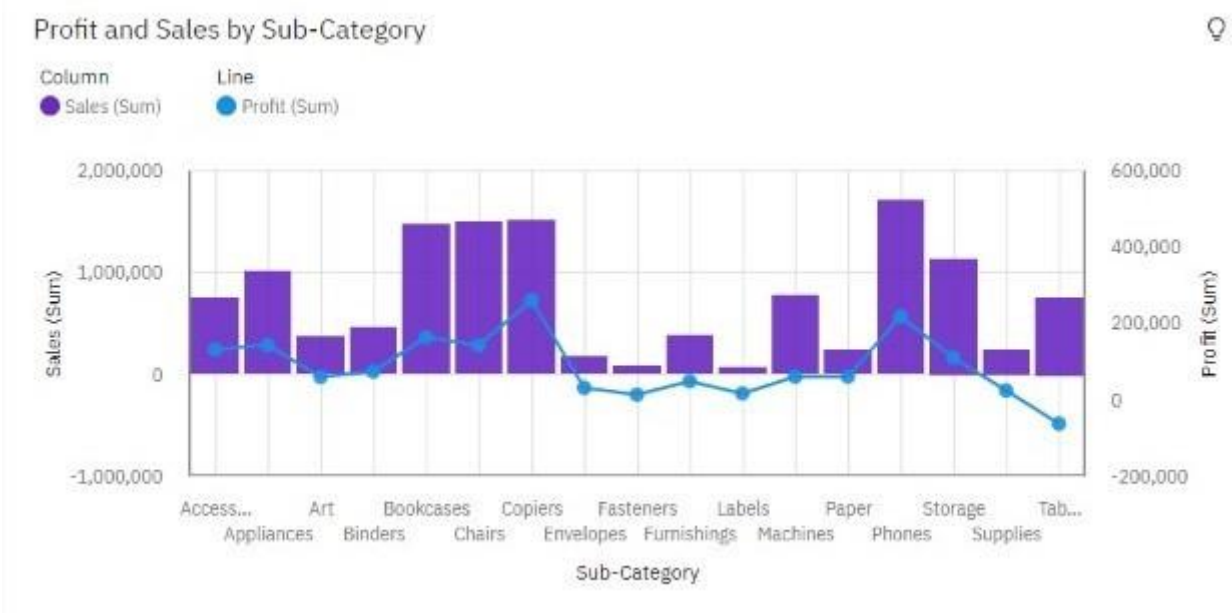
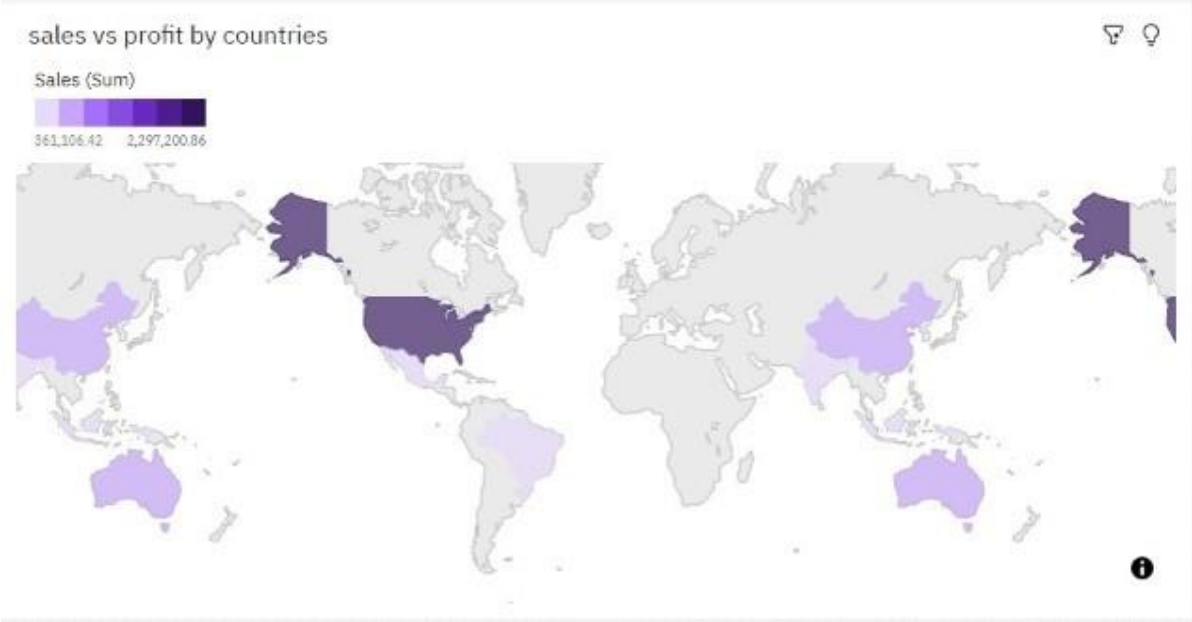


Figure:8.5–Profitandsalesbysub-category

SalesvsProfitbycountries:

TheSalesvs Profit by countries shows the profit gained and the salesquantity of the product over countries in a graphical representation with the providedata.

Figure:8.6–SalesvsProfitbycountries



CountrywiseSalesvsProfitusingwordcloud:

Word clouds or tag clouds are graphical representations of word frequencythat give greater prominence to words that appear more frequently in a source text.The larger the word in the visual the more common the word was in the document.The Country wise Sales vs Profit using word cloud shows the profit gained and thesales quantity of the product over countries in a graphical representation provideddata.

Figure:8.7–CountrywiseSalesvsProfitusingwordcloud

SalesvsProfitScatterplotwithSub-CategoryandRegion:

The Sales vs Profit Scatter plot with Sub-Category and Region shows theprofit gained and the sales quantity of the product over countries with sub-categoryandregionsinagraphicalrepresentationwiththeprovideddata.

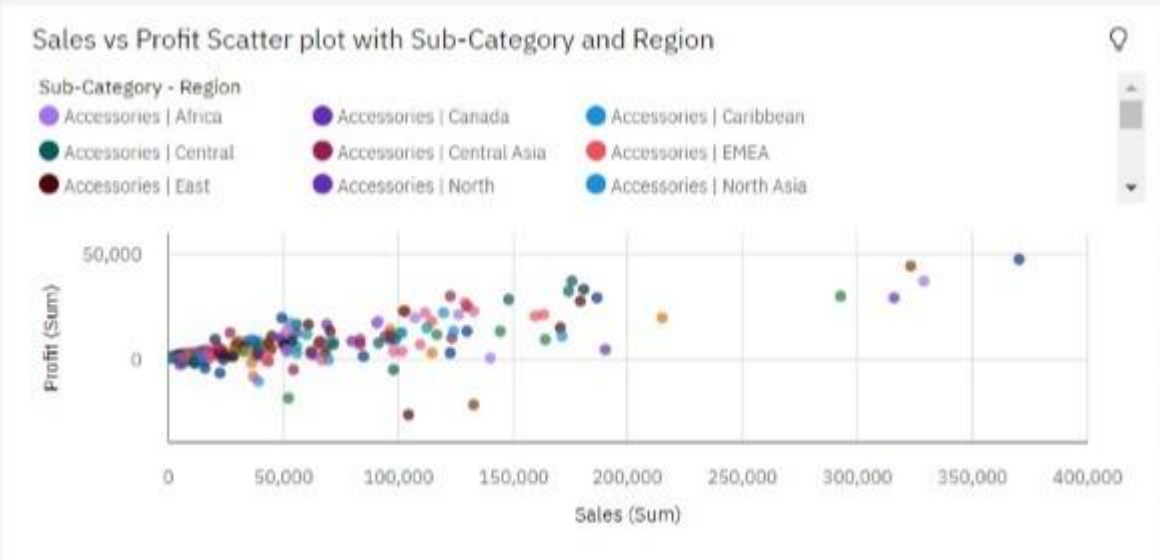


Figure:8.8–SalesvsProfitScatterplotwithSub-CategoryandRegion

8.2 UserAcceptanceTesting:

1. PurposeOfDocument

The purpose of this document is to briefly explain the test coverage and openissues of the Global Sales Data Analytics project at the time of the release to UserAcceptanceTesting(UAT).

2. DefectAnalysis

Thisreportshowsthenumberofresolvedorclosedbugsateachseveritylevel,andhowtheywereresolved.

Resolution	Severity1	Severity2	Severity3	Severity4	Subtotal
ByDesign	9	5	1	1	16
Duplicate	2	1	4	1	8
External	4	3	0	2	9
Fixed	12	4	6	17	39
Not Reproduced	0	0	1	0	1
Skipped	0	1	1	2	4
Won'tFix	0	8	6	2	16
Totals	22	22	19	25	93

Table:8.1–DefectAnalysis

3.TestCaseAnalysis

Thisreportshowsthenumberoftestcasesthathavepassed,failed,anduntested

Section	Totalsection	NotTested	Fail	Pass
PrintEngine	8	0	0	8
ClientApplication	47	0	0	47
Security	4	0	0	4
Outsource Shipping	5	0	0	5
Exception Reporting	8	0	0	8
FinalReport Output	3	0	0	3
Version Control	5	0	0	5

Table:8.2-TestCaseAnalysis

CHAPTER 9

RESULTS

9.1PERFORMANCEMATRICES:

S.No	Parameter	Screenshot/Values
1.	Dashboarddesign	NumberofVisualization/Graphs-7-8visualization/6-7 graphs
2.	DataResponsiveness	UsersandAnalystorDevelopers
3.	AmountDatatoRendered(DB2Matrics)	5Countries
4.	UtilizationofDataFilters	Sales,Profit,Products, MarketrateandOrderId
5.	EffectiveUserStory	NumberofSceneAdded-30userstories
6.	DescriptiveReports	NumberofVisualization/Graphs-4visualization/6graph

Table:9.1-PerformanceMetrices

CHAPTER 10

ADVANTAGES & DISADVANTAGES

Advantages:

- As a business grows, products evolve, new sales opportunities emerge.Tracking sales data helps enterprises understand the product fitment acrossindustriesand regions.
- Salesdatadealsclosed,qualifiedopportunities,lengthofsalescyclescaptured over a year or even a quarter, can significantly improve the waybusinessesstrategizetheirsalestargets.
- Personalizedcustomerjourney's are hard to build without insights intocustomer behavior. The customer's journey has multiple touch point, whichcan be improved by tracking factors like time on a certain website, toneduringthecall, andresponserate.

Disadvantages:

- Amarketanalysisdoesnotguaranteeanaccuratediagnosisofamarket.
- Datamisinterpretationfromamarketanalysiscanbedetrimentaltoyourmarketingcampaign.
- Someofthedataanalyticstoolsarecomplex touse.
- Thismaybreachprivacyofthecustomersastheir information suchaspurchases.

CHAPTER 11

CONCLUSION

Sales data is enormously powerful and it's something you come by just bytrackingyouractivitieseffectively.Knowinghowtofullyutilizeitwillrevolutionizeyo ursalesprocess,leadingtobetterleadgeneration,clientengagement and retention and, ultimately, more sales. When coupled with the salesactivities we've explored, you'll have a cycle that provides you with refined data,revealing how you can save time and make money. But remember, analyzing yourdata isn't a one time event, it's a constant process. The sales industry doesn't staystill for long and you'll want to make sure your team has the best chance it can tobeat the competition. This report aims to increase the level of awareness of theintellectualandtechnicalissuessurroundingtheanalysisofmassivedata.

CHAPTER 12

FUTURESCOPE

As the spread of Covid-19 spread across the world, most of the processesstarted happening online. With everything taking place online, there was a hugeamount of data generated through these processes, which accelerated the growth ofdata scientists all around the world. The recent surges in e-commerce platforms,online transactions, and more students opting for online courses have contributed totheneed to analyze massive data chunks for a comprehensive understanding. This,inturn,hasamplifiedthefuturescopeofdatascienceacrosstheworld.

Some of the industries that use data analytics are those in finance, media,outsourcing, and internet commerce. To filter out the potentially dangerous areas ofpopulateddataandbreakdownthedatathatmaybeaccessed,banksusedataminingtechnologies.Asaresultofthecountry'stransformation,thedatasurrounding us is evolving rapidly. Having a prominent data expert on staff is nownecessary for most firms, as it provides valuable information. Future Scope of dataanalytics in is prominent in the fields of Banking, Manufacturing, Retail, HealthCare, InformationandCommunications Technology,etc.

CHAPTER 13

APPENDIX

GitHub&ProjectDemoLink

GitHubLink:

https://github.com/IBM-EPBL/IBM-Project-52907-1661186528

ProjectDemoLink:

https://drive.google.com/file/d/10oPESCUlFyMCOUifMD22KGjXaGjHVGrH/view