**Problem Statement:**

Atliq Hardware is a company which supplies computer hardware and peripherals to many of clients they have this clients called excel stores, nomad stores across india and they supply all these equipments to them now atliq hardware has a head office in delhi and delhi india and they still have a lot of regional offices through out the india now bhavin patel is the sales director for this company he is facing lot of challenges

so, the challenge is the market is growing dynamically and he's facing issues in terms of tracking the sales in this dynamically growing market and he is having issues with the insights of his business so he has this regional managers for north india and south india and central india

whenever he wants to get insights in these three regions he would call these people and on the phone this local regional manager will give him some insights that this was the sales last quarter and we are going to grow by this much in the next quarter the problem is the conversation which is happening they are all verbal and you know there is this habit that all managers have which is they try to paint a rosy picture you know they dont want to look bad so sometimes they will lie or even if they are not lying they will try to sugarcoat the facts so bhavin patel who is a sales director is extremely frustrated with this because he sees that overall the sales are declining but when he is talking with his regional managers he is not getting a complete picture when he asked for our numbers what these people will do is they will give him a lot of excel files and this atliq hardware is a pretty big business and they have so many clients so that these excel files that you get there are so many excel files with so many rows in it okay and bhavin patel is very frustrated he is like why are giving me the 69 excel files just tell me in simplistic terms how our business is doing what are the biggest areas where we need to focus ,if there is a region where the sales numbers are declining may be we can start some promotion offer or maybe we can engage

with customers in a more better way so we can increase of ourselves so he is interested in getting a simple understandable digestable insights but what these guys are giving is so many suffice and you know we humans cannot

consume so much numbers actually so there is saying which says a picture is worth a thousand words so he is more interested in a dashboard which he can go and he can look at the real data because data will speak the truth okay so if the data is coming from a correct source and if you build a visualization such as shown in this image for buying patel it becomes very easy

Now he can come to office and he can open this chart and see how the numbers are trending he can also set monthly email reminders where you know at the end of the month power bi will send him an email saying this is how the business looks basically in terms of revenues customers and so on that way now bhavin doesn't have to call these managers and whatever information he is getting from powerbi will be the actual information it will be telling him the truth and then he as a sales director he can make data driven decisions and this decisions will help him increase the sales for his company.

Further Steps:

project planning and data discovery aspect of our sales insights data analysis project. Once sales directory of AtliQ hardware has decided to invest in data analysis project he will do a meeting with IT director, data analytics team to come up with a plan. They will use AIMS grid to define purpose and success criteria of this project.

Once AIMS grid is defined, next step is data discovery. In this step, data analyst team approaches IT team within an organization who owns software system that keep track of sales records.These records are stored in mysql database. Power BI can be plugged to this database to pull necessary information required for data analysis.I also discuss ETL, OLTP, OLAP and data warehouse concepts. Many times we need separate data warehouse or OLAP system to run our data analytics queries but in our project we will directly use mysql database.

AIMS Grid:

Aims grid is a project management tool it has four components

**First component is PURPOSE**: we want to determine what is our pain point what do we want to do exactly

This project purpose:

1)To Unlock sales insights that are not visible before for sales team for decision support and automate them to reduce manual time spent in data gathering.

**Second Component: STAKEHOLDERS:** who is involved in this project.

2) stakeholders in this projects:

* Sales Director
* Marketing team
* Customer Service Team
* Data & Analytics Team
* IT

**Third component: END RESULT – what do you want to achieve**

3) End Result :

* An automated dashboard providing quick and latest sales insights in order to support data driven decision making

**Fourth Component: Success Criteria**

4) Success Criteria :

* Dashboards uncovering sales order insights with latest data available
* Sales team able to take better decisions & prove 10% cost savings of total spend
* Sales analysts stop data gathering manually in order to save 20% of their business time and reinvest it value added activity
* IT team has sales management system which is just a simple software that is keeping track of all the sales number so whenever they sell any computer or any harddisks in local region this software is printing the invoice so it has all the records stored in a MySQL database .
* Data analytics team will reach out IT team and ask them that they want to use MySQL Database which has all records that we need for our Analytics.
* Data analytics team will integrate MySQL and they will use MySQL as a source in Power BI tool and build dashboard
* Majority of the time when data volume is high you want to make sure that MySQL database is not affected by the queries that you are doing in your Power BI so sometimes what people do is not sometimes actually many times they will design **Datawarehouse**
* What is data warehouse : Datawarehouse (In this scenario ) is basically we take data from MySQL which is also known as OLTP (Online Transaction Processing system ) it is a very critical system
* Actually we pull the data from OLTP which is MySQL in our case they all do all the transformation which is also called ETL(Extract ,Transform, Load) after doing that transformation they store data in a datawarehouse there are many datawarehouses like Teradata or snowflake and so on and for doing this transformation people use tools such as Apache Knife and even python and pandas by doing this transformation you are reformatting the data in a way that is best for performing analytical queries
* Becoz if you perform your query directly on MySQL database there are two problems one is if you cause that database to slow down then your mainstream business is effected
* Second one data stored in OLTP is not often in format that you want so you want to do lot of transformation such as currency conversion you want to remove the columns which are not needed there could be n no.of. transformations that you want to do and all of that happen in ETL tools such as informatica, Apache and for doing this they have the steam of data engineers job is to do this transformation and maintain the data ware house infrastructure and after that our data masters will come in play and data masters will pull data from data warehouse and they will build the pbi dashboard
* for simplicity we are not going to build any datawarehouse we will have an sql database and then we will directly plug powerbi to that sql database and build our dashboard 