Business Proposal to Implement a Data Warehouse

Problem Statement/Situation

Currently, ABC Corp uses a variety of databases for different functionalities and systems like insurance sales, customer support, claims etc. Though databases are a great way to store and organise data, they are particularly helpful when used for transaction purposes handling small atomic questions and to keep track of the company's day-to-day operations. But when it comes to finding insights or querying a lot of data from the databases, for the purpose of generating reports, the process becomes time consuming and cumbersome. It is especially time consuming since the reports and insights require data to be queried from a variety of disparate databases. Owing to the fact that it is a manual process, it is also prone to errors and consistency risks which can significantly hamper the quality and efficiency of reports and insights that play a pivotal role in the decision making process.

Proposed Solution

With the competition intensifying among the various healthcare insurance corporations, it is now more than necessary to make key facts and figures available, anytime and anyplace inorder to be able to react to volatile changes and fierce competition in the market.Transactional databases that are currently being used in our organisation cannot readily provide the aforementioned details without great effort thereby necessitating the implementation of a data management system called Data warehouse.

A data warehouse is a centralized system that combines information from multiple sources within an organization in a single repository. A data warehouse design paradigm focuses on analysis and decision making, contrary to performance and speed, which are offered by transactional systems. A data warehouse aggregates the current and historical data making it suitable to identify useful trends that can be leveraged to make better decisions..Data warehousing is being actively implemented in the healthcare industry and is slowly but significantly becoming the base of healthcare systems.

Benefits of Implementing a Data Warehouse

Improved Business Intelligence

The data warehouse can be used to collect, assimilate, aggregate and extract data from our different systems like insurance sales, customer support and claims. With the data warehouse in place, details from such systems don't have to be separately queried and manually retrieved thereby facilitating an improved business intelligence.

Saves Time

A data warehouse stores data from distinct sources, resulting in the aggregation and integration of all the data. Now since the critical data is available to all users, it allows them to query the data themselves with little to no IT support, saving more time and money.

Enhanced Data Quality

A data warehouse converts data collected from multiple sources into a consistent and a unified format. This will cause the data to be more accurate reducing the possibility of errors or inconsistencies, which will become the basis for solid decisions.

Smarter Decision Processing

In addition to providing consolidated insightful data all at one place, data warehouses are also equipped with features like data mining, artificial intelligence and machine learning which will enable forecasting ,identify potential Key performance indicators, and gauge predicated results, allowing key personnel to plan accordingly.

Implementation and Pricing

Data warehouses can be implemented using several ways. It can either be built from scratch, hosted on-site, hosted in data centers or be used as DataWarehouse as a Service(DWaaS) from vendors like Redshift, BigQuery,Azure etc

Costs incurred to implement a data warehouse are roughly broken down into data storage, visualization, ETL software, staff and ongoing support.

Typical on-site data storage costs for midsize companies like ABC Corp is approximately $12,000 per year. On the other hand,cloud-based storage costs around $1,000 per year which is generally the most preferred option..

In addition to data collection and storage it's important to have report and analysis tools, like a visualization software(Tableau, PowerBI). There are a wide range of products available with the standard package costing approximately $3,000 per year.

ETL (Extract, Transform and Load) software contains a set of tools required to pull data from various sources into the data warehouse. It costs approximately $20,000 per year for a good holistic package.

Engineering staff when managed in-house can be quite expensive with all the labor costs adding up to roughly $450,000 per year.It is generally more cost effective to partner with companies that can provide a full set of these skills.

For the purpose of maintenance and ongoing support, a generally accepted rule of thumb is to budget 50% of the cost of implementation for annual changes.

Pitfalls/Challenges

Even though Data Warehousing has become an important modern practice, one with a great number of benefits, it is still important to be aware of the challenges that might occur during the implementation of a data warehouse. Following are some pitfalls-

Information Driven Analysis

Data warehousing is driven by the information provided, which makes mapping key concepts completely during the early stages of deployment a crucial step. It is important to have a good initial business information model.

Structuring and Optimising Data

As information is added to the warehouse, structuring data becomes increasingly difficult which can slow down the process significantly. In addition, it will become difficult for the system manager to qualify the data for analytics. Therefore it is important to carefully design and configure the data analysis tools.

Balancing Resources

Adding multiple departments to access the system can add stress to the warehouse and decrease efficiency, therefore, it becomes important to implement access control and security measures to maintain the performance of the warehouse.

Conclusion

Data warehouses offer the most reliable and accurate way for our organisation to store and access structured data for gauging insights and generating; It definitely acknowledges and provides the solution for all the pain points present in our company.It will also help our business better monitor performance and improve decision-making. It has the potential to generate high returns on investment and is worth all the time and effort.

References

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