Project Proposal

Propose a Design for a Business Intelligence/Data Warehouse System

Didem Bulut Aykurt

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Explanation

Over the previous few years, our organization has seen a reduced ticket sales revenue. As the CIO, I advise implementing a business intelligence/data warehouse system to address this problem. In addition, strategic information that is currently unavailable will be made available by a business intelligence/data warehouse system, boosting revenue from ticket sales. This proposal explains the necessity of a business intelligence/data warehouse system, why it is not a waste of time or money, why the current system is not enough, and how a business intelligence/data warehouse system will increase revenue from ticket sales.

This proposal explains the value of a business intelligence/data warehousing system and how it might assist our organization in retrieving ticket sales revenue. Our current system is not supported because it simply manages ticket sales transactions and doesn't offer insightful data that could increase ticket sales. A business intelligence/data warehouse system will improve revenue from ticket sales by delivering high-priority information not currently available in our system.

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Goals and Specific Objectives

Increasing revenue from ticket sales is the main objective of implementing a business intelligence/data warehouse system. To achieve this, we must:

- Examine our present ticket sales procedure to find areas that could be improved.
- Collect information from various sources, such as customer reviews, ticket sales, and market trends.
- Store data in a data warehouse to be streamlined to ensure greater evenness and precision.
- Affective use of data analytics software to examine and display high-quality data.
- Practical the capacity to gain an accurate and deep intuitive understanding of stakeholders to increase ticket sales.

Solution

Regarding our aims and targets completing successfully, I recommended bringing into a particular condition in a business intelligence/data warehouse system with the following components:

Data Sources

We will collect information from each significant source system, such as ticket sales, client reviews, and market trends. This data will be included in a strengthened data warehouse for constancy and precision.

Data Warehouse

For all information related to ticket sales, we will build and execute a data warehouse to store and manage it and make a successful dimensional data warehouse that is reliable, scalable, and maintainable.

- ETL reassures data accuracy and consistency; we will create and implement an Extract, Transform, and Load (ETL) process.
- Data analytics analyze and visualize data; we will use tools like dashboards, reports, and predictive analytics.

Cooperation with Stakeholders

We will work with stakeholders to produce and create a perception that can be used to increase ticket sales.

Risks and Countermeasures

The employment of a business intelligence/data warehouse system requires some risks, such as:

- Data Quality: Bad data quality can produce inaccurate insights. We will lessen this risk by establishing data quality measures like cleansing and validation.
- Integration: Combining data from several sources can be difficult. We will reduce this risk by creating a solid ETL procedure.
- User Adoption: The ROI will likely be low if users don't accept the new system. We will reduce this risk by offering instruction and helping assure user acceptance.

Schedule

The following is the project timeframe for putting in place a business intelligence/data warehouse system:

- Analysis and planning: two weeks

- 12 weeks for design and development

- Four weeks for testing and deployment

- Continuous training and assistance

Deliverable Acceptance and Quality Assurance

The following deliverables will be created throughout the project:

- Organizational Requirements Document

- Documentation for the Data Warehouse

- Process Design Document for ETL

- Information Design for Data Analytics

- Exam Plan

- Plan for User Training

- Sustained Plan

The next step is to ensure quality that stakeholders will examine and authorize each deliverable. A guaranteed strategy will also ensure that deliverables match the requirements.

Documentation for the Data Warehouse

This project aims to describe the data warehouse structure that will hold and control all information about ticket sales.

The data warehouse will incorporate the following data sources:

Sales of Tickets, the current ticket sales system, will be used to collect sales data.

Customer feedback: social media and customer surveys will be used to get feedback information.

Market Trends, information about the market will be stored from outside sources, including news stories and industry reports.

The star schema design will be used to create the data model for the data warehouse. For example, ticket sales will be the fact table, and customers, events, venues, and times will be the dimension tables.

The following steps will be included in the ETL process:

- First, data will be transformed, including cleansing, validation, and enrichment, to ensure consistency and accuracy.
- Next, data will be loaded into the data warehouse, including fact and dimension tables.

Data Analytics To evaluate and present the data, the following data analytics technologies will be used:

Dashboards will give stakeholders a high-level perspective of ticket sales data, including key performance indicators (KPIs) and trends.

Reports will be produced to give stakeholders a thorough understanding of ticket sales data, including sales by event, venue, and time.

Forecasting ticket sales and seeing patterns and trends in sales data will use predictive analytics technologies.

A web-based connection to access the data warehouse. Access to dashboards, reports, and tools for predictive analytics will be made possible through the interface. According to user roles and permissions, access to the data warehouse will be controlled.

Process Design Document for ETL

This document contains the design of the ETL process that will guarantee data accuracy and steadiness in the data warehouse.

Extraction the following sources will be used to extract data:

Sales of Tickets, SQL queries will retrieve sales data from the current ticket sales system.

Feedback from customers, using third-party technologies and APIs, feedback data will be collected through consumer surveys and social media.

Market Trends using online scraping technologies and APIs will gather market data from multiple sources, such as industry publications and news stories.

Data transformation includes the following procedures to assure the correctness and consistency of data:

Data cleansing, Data will be cleaned to eliminate errors, duplication, and discrepancies.

Data validation, data will be checked to see if it complies with the necessary standards and requirements.

Data Enrichment will add additional data, such as customer profiles and event specifics**,** to the existing data.

SQL queries will be used to load data into the data warehouse. To ensure that only new data is added to the data warehouse, merge statements will be used to update the fact and dimension tables.

Information Design for Data Analytics

This document defines the design of the data analytics tools used to examine and display data in the data warehouse provided in this document as its goal.

The following KPIs will be included in the dashboards that will be created to give stakeholders a high-level view of ticket sales data:

- Total Sales of Tickets
- Revenue by Event

- Sales by Location
- Sales per Hour

Reports will be prepared to give stakeholders granular insights into information about ticket sales, including the following:

The event Sales will report sales by income, number of tickets sold, and attendance.

Sales by Location will report detailing sales, including revenue, by locations' sales of tickets and attendance.

Sales by Time will report breaks down sales into daily, weekly, and monthly patterns.

Predictive analytics technologies will forecast ticket sales and spot trends and patterns in sales data. There will be use of the following methods:

Time Series Analysis is based on previous data; time series analysis will be utilized to estimate ticket sales.

Regression analysis will point to variables like event type and venue location that affect ticket sales.

Based on their behavior and preferences, groups of clients will be identified using clustering analysis.

Exam Plan

This document aims to provide an overview of the business intelligence/data warehouse system's testing strategy.

Testing Methods The following testing methods will be used:

Unit testing will ensure that each part of the system functions appropriately as each system part, including the ETL procedure, data warehouse, and data analytics tools, will be tested.

- **Integration testing** will ensure that every system component functions appropriately, such as evaluating the system to see if it satisfies its requirements and expectations, including usability, functionality, and performance.
- **Finally, system testing** will ensure the system complies with the requirements and specifications as the system's performance, user access, and data accuracy will all be examined about the requirements and specifications.

Plan for User Training

This document aims to provide an overview of the business intelligence/data warehouse system's user training program.

Training Programs The following training programs will be offered:

Data Analytics Training is users will receive training on how to access dashboards, reports, and predictive analytics tools as well as how to use the data analytics tools.

System administration training is that system administrators will receive system management and upkeep instruction.

Training Techniques The following training techniques include:

Training in the Classroom is group user training sessions held in the classroom.

Online Training is for customers who cannot attend in-person training sessions; online training modules will be created.

On-the-Job Training users who need extra assistance will receive on-the-job training.

Training Resources will make the following training resources will be available:

- User Guides: User guides for the data warehouse and analytics tools will be created.

- Training Videos: Training videos for the data warehouse and data analytics software will be created.
- Support from the Help Desk: Users who need additional assistance will receive it from the Help Desk.

Sustain Plan

This paper describes the business intelligence/data warehouse system's support strategy.

Support in the following forms of support will be offered:

- Technical Support: Users that need help with the system will receive technical support. The IT division oversees offering users technical support.
- Support from the Help Desk: Users who need additional assistance will receive it from the Help Desk. Users can contact support by phone and email. Users will receive help desk support from the IT Help Desk.
- System upkeep: The IT division will oversee system upkeep.
- System Monitoring: The system will watch 24 hours daily to identify and fix any problems.
- Online help: Users can access user guides, tutorial videos, and other resources through an online help portal.

Recommendation and Conclusions

A business intelligence/data warehouse system must be implemented to increase ticket sales revenue. Our approach is not deficient because it purely manages ticket sales transactions and doesn't offer insightful data. We will be able to collect and analyze data from each significant source system using a business intelligence/data warehouse system, which will then deliver

valuable insights and boost ticket sales. Although there are risks involved in putting a new system into location, we can reduce these risks by putting in location data quality controls, creating a robust ETL process, and offering assistance and training to encourage user adoption. I advise moving forward with a business intelligence/data warehousing system implementation.

References

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Appendix

- Data from the data sources will be extracted and then translated into a format that can be loaded into the data warehouse.
- Data flow across the ETL process, data warehouse, and data analytics tools will be validated as part of the integration testing performed on all system components.
- KPIs will be included in the dashboards created to give stakeholders a high-level view of ticket sales data like total sales of tickets, revenue by event, sales by location, and sales per hour.
- Users will receive training on using the data warehouse, including accessing data and doing searches.
- User acceptability testing will be carried out to ensure the system satisfies user requirements and expectations.
- Maintenance will ensure the system is current and operating correctly; then, employees will be support and assistance techniques.

Conclusion To boost revenue from ticket sales, it is essential to construct a business intelligence/data warehouse solution. This proposal explains the necessity of a business intelligence/data warehouse system, why it is a good use of time and money, why the current system is insufficient, and how a business intelligence/data warehouse system will boost revenue from ticket sales. The suggested solution includes data sources, models, ETL processes, data analytics tools, user access, test plans, user training plans, and support plans. The suggestion also describes the dangers of implementing a new system and how they can be

reduced. Finally, we will install a business intelligence/data warehouse system to address the drop in ticket sales revenues.