



Information Technology Institute

Data Warehouse Project

Project Description

A major airline company decided to hire you to assist the executive management to analyze their current business processes and expand the company by discovering new opportunities.

Executives decided that the first deliverable should focus on the flight activity to ensure good ongoing business process.

The marketing department wants to analyze what flights the company's frequent flyers take, what fare basis they pay, **how often they upgrade, how they earn and redeem their frequent flyer miles**, whether they respond to special fare promotions, **how long their overnight stays are**, and what proportion of these frequent flyers have gold, platinum, aluminum, or titanium status.

Your analysis shall also include the reservation process where finance team will be interested in analyzing the company profit. Note that reservation processes can take place through multiple channels.

Airline company also provides customer care interaction before, within and after your trip to handle customer inquiries, complaints and keep their feedback for business enhancements. Analysis should include interaction type and problem severity (if issue exists)

Apply dimensional modeling process to design the logical and physical design to support such kind of analysis for decision support.

Project Requirements

1. State the dimensional modeling process for each business process
2. Using any diagramming tool you like, construct a logical data model for this case

study. Output should be an image or PDF. State why did you choose this particular data model design? What does the data represent? (Details about each model component is necessary).

3. Translate the logical data model to a physical data model which includes the following: tables, columns (name, data type), primary indexes, and foreign indexes and state why these types of indexes are used for each column. Output should be a Word or Excel file.
4. Create the table in oracle DBMS and populate sample data to be used in your queries.
5. Construct a sample of SQL queries (5 – 8 queries) using your physical model design which can be used to answer possible questions by the decision maker as described in the case-study above. List the business question with each query. Output should be a Word file
6. A report of maximum 2 pages is required to elaborate different types of indexes used in Data warehousing and their usage.

Deliverables

- A single group ZIP file that meets the projects and report requirements (above).
- Send your ZIP file to the e-mail: aemad1449@gmail.com
- Project Delivery Date: 4-Dec-2022 at 23:59 pm.

Notes

- For the project, students are free to expand the case-study with different subject areas or possible decision support analysis scenarios which they find relevant or interesting. Bonus marks are awarded for extra features and details added to your project. Incorrect or irrelevant additions will not award any marks!
- Copying projects or parts of a project from another group is not allowed! Only collaborating on the theoretical aspects is allowed and is limited to sharing business intelligence theoretical references

Best of luck

