IFS 354

Emerging Trends in Information Systems

Exercise 2

EMS
Where your Future is our Priority

Marks	30
Due date	14 April 2024 – 20:00
Submission	APEX credentials Report (PDF) Presentation recording
Lecturer	Ruchen Wyngaard
Department	Information Systems

Background

A key requirement of many modern-day information systems is to carry out business processes that are essential to the strategic goals of organisations. Business information systems are often deployed with this in mind where several aspects of information systems are used to achieve organisational success. An organisation's ability to generate meaningful insights based on its existing data stack to make predictive and informative decisions often serves as evidence of just how meaningful these types of systems are.

OT, an e-commerce supplier of computational hardware has started to explore the feasibility of developing a business information system to visualise its existing organisational data. More specifically, the company wishes to gain valuable insights into its e-commerce-related data. OT is an international company that sells computer hardware including GPUs, CPUs, RAM, motherboards and storage devices.

The company keeps a digital record of all its information such as all information associated with its products, employees, customers, orders and inventories just to mention a few. Given that the company has an international presence, it also keeps a record of location-specific data such as the regions it operates within and the location of its warehouses.

Adapted from OT sample database

Objective

Given the current state of the company's information system, it lacks data visualisation capabilities. As such, the company has decided to develop a new enterprise information system that will allow it to provide meaningful trends and insights into its existing data using visualisation capabilities. The company wishes to evaluate these

trends and insights to improve its strategic goals and make more informed decisions to optimise its operations. As the software development team of OT you are required to develop an application using the Oracle SQL, PL/SQL and APEX stack to achieve the above. Adhere to the requirements below when developing the system.

Requirements

- For this exercise you are required to form a pair of two. You are allowed to partner with a classmate of your choosing.
- Using the ot_schema.sql script, import the database into your Oracle APEX environment.
- Using the ot_data.sql script, import the data into your newly created database.
- Develop a web application that allows you to query the OT database.
- Your queries should be presented in the form of a dashboard with reports and visualisations. A minimum of **four reports and visualisations** are required.
- Make use of the built-in visualisation tools that APEX has to offer, this includes charts, graphs etc.
- Using various data analytics techniques your dashboards should present valuable insights which OT can use to make informed decisions about the company's operations and strategic goals.
- Write a 1 to 2-page report and submit a video presentation where you discuss the insights you were able to gather from the dataset and how these insights can be used by the company to optimise business operations and strategic goals.

Assignment evaluation

Criterion	Allocation (%)
Understanding and use of Oracle SQL and PL/SQL	6
Use of APEX for data visualisation	7
Design of web application	4
Depth of data analysis	5
Report and presentation clarity / comprehensiveness / correctness / language etc.	8

Total	30

Report format

- Follow formal report structure.
- Font Type: Arial Font Size: 12; 1.5 Line Spacing with margins of 2.54 CMs on all sides of pages.
- Appendices are placed at the back of the report and each appendix should start on a new page and have a letter assigned to it.
- Adhere to APA style for referencing.

Points to note

- Hand-written work will not be marked.
- No late submissions will be accepted for this exercise.
- To record your presentation, make use of OBS which can be downloaded here.