

Name of product : Educational Business Intelligence (EduBI)

Researcher details

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Faculty : Faculty of Informatic & Computing

Cluster/Area of study : Data Mining

Status of the product : Patented/ Copyright

Product description :

Business Intelligence (BI) refers to skills, processes, technologies, applications and practices used to support decision making. BI technologies provide historical, current, and predictive views of business operations that are normally used to analyze business data. Online Analytical Processing (OLAP) is one of the common BI approaches in answering multi-dimensional analytical queries for analytical purpose. We proposed Educational Business Intelligence (eduBI) architecture by utilizing BI technologies to integrate various sources of academic data into a single repository (Educational Data Warehouse – EDW). Taking UniSZA as our case study, the patterns on students' academic behaviors and performance were analyzed using eduBI. A set of data from students' examination results in relational database was extracted into multi-dimensional model to support OLAP query processing. Next, an analysis on students' academic performance using BI technologies such as Analytical Reporting, Dashboard, and OLAP was performed. eduBI plays a significant role by optimizing the time to perform current and historical data analysis on students' results hence serves as a platform to identify the strengths and weaknesses of the students. Based on the findings, appropriate recommendations can be provided to the students as an aid to enhance the students' academic performance.

PROBLEMS & OBJECTIVES



Educational System Environment



Objectives of Advanced Analytical eduBI..

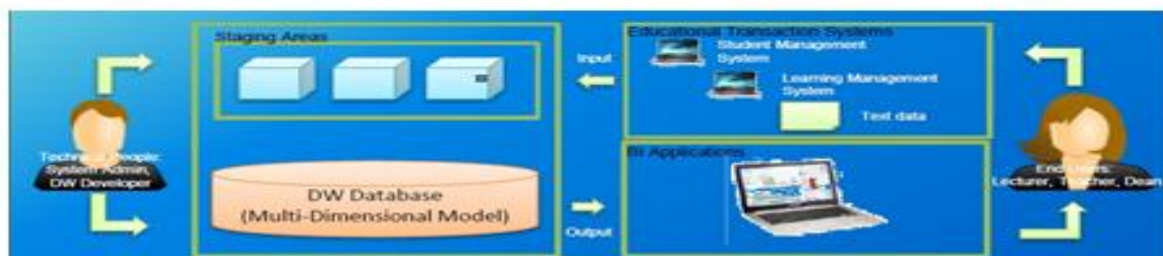
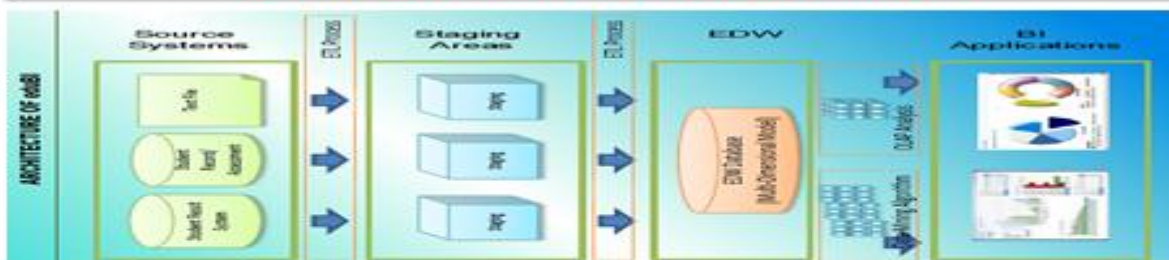
" Many application systems exist to support educational institutions – huge data"

"Information from each systems are not utilized to analyze students' performances "

- Integrate data from various sources to evaluate students' performance
- Map the success of BI in Business domain into Academic domain

MONEY (Profit & Loss) Vs. CGPA/GRED (Success & Fail)

NOVELTY & INVENTIVENESS: PROPOSED FRAMEWORK



USEFULLNESS & APPLICATION : ADVANCED REPORTING

Pie Chart



Comprehensive Reporting



Bar Chart



Dashboard



OLAP



APPLIED TECHNOLOGIES

DBMS



ETL Server



Web Server



Supporting Software

BI Server



eduBI A New Perspective on Analytical Analysis for Students' Academic Performance

MARKET & COMMERCIAL POTENTIAL

School (Primary & Secondary)

Institute of Higher Learning (Universities & Private Colleges)

KPT KEMENTERIAN PERKAJIAN TEKNOLOGI

BAHAQIAN MATRIKULASI Kementerian Pendidikan Malaysia

“eduBI is not offering a SYSTEM but is a SOLUTION”

Towards the **transformations** of Malaysian Academic Education System

