**[Document Title]**

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**Abstract**

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## Introduction (5 marks)

## 1.1 Middlesex University

A University in England with roots back to 1878 who has since build up a reputation in London and international as a providing a high level of higher education from its wealth of experience and strategic operational capabilities. Through strengthening our efficiency by employing highly qualified academics, attracting the best ambitious students and strengthening our research reputation we can capitalise internationally on becoming an excellent international tertiary education establishment.

## 1.2 Objectives, Values and Mission

Our Objectives are to attract students that are determined to succeed and support these students with the correct support and insure student satisfaction by developing policies to maximise their performance. We strive to enhance graduate level employability in an effort to improve our university rankings. We have strategies and policy to organise our schools to enhance excellence.

“Our vision is to become a leading University of choice, recognised internationally for excellence in all that we do.”

## Marketing Department

Middlesex University Marketing department is based at our London campus and from here we launch and manage our advertising. We specialise and focus on each of our five schools across the three different campuses universally. We receive investments for our advertising projects internally as well as from external sources.

* + Try to get an updated version of the files below:
  + [University Regulations for the Academic Year 2004/2005](http://www.web.mdx.ac.uk/regulations/archive/regs0405/STS.HTM)
  + [Equality and Diversity at Middlesex University](https://www.mdx.ac.uk/__data/assets/pdf_file/0009/58707/Equality-and-Diversity-Strategy-2013.pdf)

[Click here](http://www.bbc.co.uk/bitesize/higher/business_management/business_enterprise/decision_making_business/revision/1/) for more information about the pyramid below.



## 2. Analysis of Operational Systems and Data Sources (20 marks)

What operational system they have in place? A discussion of the organisations current operational system

What data is stored?

What are the tables?

How are they connected?

What are the advantages and disadvantages of the current system?

Design an ER diagram from the Marketing department. UML notation!

Include the Determinacy diagram (**do we need to?**)

Design the DFD diagram (extra points! **Really?**)

Data store (DFD) is an entity on the ER and tables on the database schema

### Advantages and Disadvantages to Using a Data Warehouse

Operational database is designed to process and manage dynamic flow of real -time data. It allows access to the archived data and permits data modification of this data such as deletion, adding or changing. The significant difference between operational and warehouse systems are that operational system designed to assist with transaction process whereas data warehousing oriented for online analytical process (OLAP) (Exforsys). Therefore usage of data is optimized for different purposes, see Table 1.

|  |  |
| --- | --- |
| **Operational Database** | **Data Warehouse** |
| Supporting high-volume transaction performance with minimum rear reporting.  Provides process-oriented or process-driven analysis only around defined processes of the business and its tasks. | Supporting high-volume analytical transactions with maximum reporting that promptly used for making strategic decisions.  Provides subject-oriented analysis with main focus on the business area where company requires strategic decisions. The collected information is concise about particular issue and collected from more then one operational sources. The data analysis produce information about short-range strategies its assessment and evaluations. |
| Dealing with current data and this data updated on the regular basis. | Dealing with historical data and this data rarely changed. Data warehouse stores information as non-volatile and read only format. This data is loaded on the regular basis and growing constantly. |
| System optimized for fast data uploading but small content at the time. | System optimized for fast data retrieval and large content at the time. |
| Data is specific to application performance; therefore it is non-integrated or partially integrated causing data redundancy. | Controlling data redundancy problems within DBSM integration layer. |
| Doesn’t require expert level of computing skills to navigate system. | Requires advance computing knowledge to navigate system. |

Table : Operational system VS data warehouse (Rensselaer).

Data Warehouse is computerised system for storing information. This information helps organisation to analyse historical patterns and make important business decisions. The advantage of having large repository of information that it helps to solve number of problems, increase company profitability while and reduce cost to access this historical data within external sources. Furthermore, the data is consistent, relevant, structured and combined from various locations into one centralised location. This data centralisation helps to find multiple solutions than where data analysed separately. Data Warehouse allows storing already retrieved data within operational level that improves turn around time of data reporting and analysis(Power).

The advantage of having data warehouse in marketing is that the data is static and provides a "single version" of the truth about enterprise activities. To understand better its customers -students, future prospects on the marketplace and opportunities to attract more students- customers, researchers and funds.  
However there are a number of disadvantages that need to be addressed. Firstly, data warehouse is very expensive to maintain as data itself must be normalised, loaded and extracted. Moreover, company have to train their users otherwise it could lead to the security problems while conducting any queries via online access. Secondly, there is always a chance that new transaction system may not be compatible with the currently used systems. There are also a numerous ways of storing information in the data warehouse and applying one set of rules might not be beneficial if in the future company decides to change the way it conducts business (Exforsys).

3 - Data mark design

Two subject areas, within the section of the business

Snowflake is normalised! Star schema is not

4 - ETL process

How extract data from operational system?

What do you do with it before storing on the data warehouse?

Implement the prototype of one of the star schema

5 - OLAP.

How to query it?

What would managers be interested at?

6 - Conclusion

What challenges do we have to keep it up and running?

Performance? Amount of data stored. Flexibility to adapt/include/remove different columns.

Bibliography

Exforsys, Advantages and Disadvantages to Using a Data Warehouse | IT Training and Consulting – Exforsys. Available at: http://www.exforsys.com/tutorials/data-warehousing/advantages-and-disadvantages-to-using-a-data-warehouse.html [Accessed November 14, 2014].

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