CS3525 Enterprise Computing

I.e. Add your own opinion, and why

Add Examples to each point

Add a reference to each point

An enterprise data model is a type of data model that presents a view of all data consumed across the organisation. Integrated yet broad overview of the enterprise’s data.

https://www.techopedia.com/definition/30596/enterprise-data-model

Helps create XML schema, entity model diagrams etc. Should be high level, presented in a graphical format.

Data models:

Conceptual data model vs logical?

Types of data modelling: Strategic data modelling & data modelling during systems analysis

Data modelling process: Methodologies: bottom up & top down

Whitten et al:

Two types of data modelling

**Strategic data modelling**: Creation of an information systems strategy, which defines an overall vision an architecture for information systems. Information engineering is a methodology that embraces this approach

**Data modelling during systems analysis**: In systems analysis logical data models are created as part of the development of new databases.

Data modelling is also used as a technique for detailing business requirements for specific databases.

## Modelling methodologies

According to Len Silverston, only two modelling methodologies stand out, top-down and bottom-up.

**Bottom up/View Integration** models are often the result of a reengineering effort. Start with existing data structures, fields on application screens or reports. Usually physical, application specific and incomplete from an enterprise perspective.

**Top down** logical data models created in an abstract way by getting information from people who know the subject area (HCI interview?). A system may not implement all the entities in a logical model, but the model serves as a reference point or template.

Can also be a mixture of the two above.

Data modelling

You can for Entity relationship model – depicts data in terms of entities and relationships described in the data. Abstract conceptual representation of structured data. Relational schema database modelling method, used in software engineering to produce a type of conceptual data model of a system, often a relational database, and its requirements in a top-down fashion.

Generic data models – generalizations of conventional data models. Standardied relationships and shit.

Semantic data modelling: When a logical data structure of a DBMS cannot totally satisfy the requirements for a conceptual definition of data. I.e. define the meaning of data within the context of its interrelationships with other data.

**Information engineering:** Approach to designing and developing information systems.

Architectural approach for planning, analysing, designing and implementing applications.

“Integrated and evolutionary set of tasks and techniques that enhance business communication throughout an enterprise enabling it to develop people, procedures and systems to achieve its vision.” Also defined as the generation, distribution, analysis and use of information in systems.

**Systems analysis** is the process of studying a procedure or business in order to identify its goals and purposes and create systems and procedures that will achieve them in an efficient way. Another view sees system analysis as a problem-solving technique that breaks down a system into its component pieces for the purpose of studying how well those components parts work and interact to accomplish their purpose.

“An explicit formal enquiry carried out to help a decision maker identify a better course of action and make a better decision than she might otherwise have made.

Development of a computer-based information system includes a system analysis phase. This **helps produce the data model**, a precursor to creating or enhancing a database.

**System Analysis**

* Development of a feasibility study: determine whether a project is economically, socially, technologically and organizationally feasible
* Fact-finding measures: designed to ascertain the requirements of the system’s end-users – typically involving interviews, questionnaires, or visual observations of work on the existing system.
* Gauging how the end-users would operate the system, what the system would be used for and so on.

Another view outlines a phased approach to the process.

Breaks systems analysis into 5 phases:

* Scope definition- denote an instrument for observing, viewing or examining
* Problem analysis- analyse the problem that arises
* Requirements analysis- determine the conditions that need to be met
* Logical design- look at the logical relationship among the objects
* Decision analysis- making a final decision

This essay will focus on Enterprise data modelling and how it relates to

Will focus on the conceptual data model without going into the logical and physical stages,

Straying away from