IST722: Unit 03 Participation Questions

**This is an individual assignment.**

**Before you begin, please make sure you’ve read and understand 1) our class honor code, 2) course policies on late work and 3) participation policies as posted on the syllabus. “I didn’t know” is not an excuse.**

**You should cite your sources in a standard format like MPA or APA and include a list of works cited.**

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# Instructions

Answer each of the following questions as concisely as possible. More is not necessarily better. Please justify your answer by citing your sources from the assigned readings from our textbooks, our class lectures, or online if directed to do so. Be sure to cite in text and include a list of works cited. Place your answer below each question. When you’re finished, print out this document and bring it to class as part of your participation grade.

# Questions

1. From the Inmon perspective, what is the difference between an Operational Data Store and the Enterprise Data Warehouse? How do these components relate, compare and interact with one another?

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| Operational Data Store | Enterprise Data Warehouse |
| Serves as a conduit for data between operational and analytics system. | Serves as a repository for cleansed and consolidated data sets. |
| Is updates often as transaction system generates new data. | Is updated in batch processing mode on set schedule. |
| Does not grow over time | Grows in size over time due to historical data |
| Is sometimes used to analyze transactional database | Typically supports querying and reporting on historical data |
| Receives data from I&T layer and sends it to Data Warehouse | Receives data from I&T layer and ODS |
| It does not store summary data | It stores summarized data |
| Primary users are clerks, salespersons and administrators | Primary users are Managers, business analyst and customers |
| Subject oriented, Integrated and detailed data from external world applications | Subject oriented, Integrated and detailed data from external world applications |

1. Explain the rationale behind an ERP (Enterprise Resource Planning) System being a CIF component of the External World and also a component of Decision Support Systems?

The CIF collects the External World data through the Applications component. Applications interact directly with the data producers, gather raw data from them, and edit them for quality. Many applications were not designed to work as parts of a CIF. They are older, slower, and difficult to change or replace. In addition, they are not integrated; each application works with a separate data producer. Therefore, the data produced by the application component is not integrated either; it may have duplicates and inconsistencies in keys, definitions, encoding, and other features. Some people wonder why copy the data in a data warehouse rather than use them directly from applications. Others wonder why not integrate in applications rather than introduce an additional component. Both approaches would be very inefficient in large enterprises. The HR may be supported by an ERP system such as SAP, the training processes may be supported by a third party system, while the point of sale transactions could be stored in an Oracle DB. To assess the impact of training on sales reps’ performance, we need to query multiple systems, each with their own schemas and granularity. In addition, querying makes use of business rules, which need not be known by the users of the application component. It emerges that doing the querying and analytics in applications would be very inefficient. Applications interact directly with customers and should be as responsive as possible. That is why integration and analytics should be implemented in other CIF components. Thus, ERP is a component of both External world and DSS.

1. Inmon claims building the data warehouse is an iterative approach, calling it a spiral model over the typical requirements-driven waterfall model. Explain his reasoning behind this claim.

In the development of a data warehouse, Inmon argues that the data are available from the beginning, whereas the business requirements are not. Thus, a requirement-driven development cycle, such as the “Waterfall”, is not appropriate for DW development. A data-driven development approach for the data warehouse is proposed instead. We start the development by integrating some operational data and implementing very basic analytic capabilities. These attract a few users and help us understand what we can actually accomplish with those data. Then we integrate more data and develop more analytics to attract more users and get even more opinions and requests. Then we just keep improving the system using this iterative approach, usually termed a “Spiral”.

WORKS CITED:

<http://classes.ischool.syr.edu/ist722fudge/units/03/unit03-notes.pdf>

Inmon, W. H. Building the Data Warehouse, Fourth Edition. John Wiley & Sons., 2005.