Managing information technology essay example

Business, Customers

- Problems related to data planning and modeling, their solutions as well as associated advantages and disadvantages.

Data modeling and planning are time intensive and the characteristics of a good model depend on their purpose. Data planning tends to overestimate itself in many organizations and sometimes faces pitfalls in governance and strategy (Rosemann, 2006). Insufficient modeling standards and too much technical thinking also occur. Problems can be alleviated by creating various semantic networks for parts of the total area of study as well as consolidating various networks. Generalization of all semantic networks can also be utilized.

Data modeling is effective and transparent as such beneficial. It ensures close representation to the real world and readily translates into reliable information systems. It also enables usage by database and application development staff providing a clear picture of referential integrity constraints. It defines and analyzes data requirements necessary to support a business process as they support the development of information systems in sales, inventory, client and other quantitative data (Rosemann, 2006).

- Describe the benefits of twisted pair and identify one incompatible application.

Twisted pair medium is cheap and thin allowing more lines in one wire duct. It is also light and flexible so easy to string between walls thus the most widely used in analog and digital signal transmissions. It is easy to install, work with and is readily available. Twisted pair is less susceptible to electrical interference from wires than coaxial. Therefore, it is less likely to cause interference between them. It is electronically cleaner so it can

transmit data at faster speeds compared to coaxial and fiber optic. Twisted pair is not compatible with Ethernet and LAN applications (Brown et. al, 2012).

- Advantages and disadvantages of using standard protocols and reference models.

The main advantage of OSI is its ability in clearly distinguishing between concepts of services, protocols and interfaces. This case insulates users against any adverse effects of technological changes thus the equipment do not become obsolete too fast. OSI models promote modulation of network support software and any layer can be replaced with a new one (Brown et. al, 2012). The disadvantages in this case include the complexities of the system leading to poor performance. Direct replacement of layers is not always possible leading to loss of service to upper layers. The task of protecting equipment from being obsolete hinders technological progress.

- Define a modem and explain when and why it is necessary? Define a cable modem?

A modem is an electronic device that converts computer digital signals into frequencies allowing them to move through a cable line. It is helpful when one wishes to connect to the internet as it modulates and demodulates data allowing display on the computer. Cable modem refers to a hardware device that communicates with an internet service provider over ordinary TV network cables. It allows for high speed data access flow in both directions unlike in traditional cables where data flows in one direction. It contains sophisticated end to end IP networking and provides over the air radio frequency spectrum within sealed coaxial cable lines.

- Data captured as a student, a professional and customer and how it can be used.

Data captured as a student includes quantitative and qualitative data. Student data include names, course name, year taken, credit level, home subject area, nationality among others. Institutions use this information in planning and analysis as well as improving educational effectiveness. Professional data include personal identification, age, nationality, marital status, qualifications among others. This information applies in preparation of payroll, making hiring decisions, as well as to make corrections and updates. Grocery stores capture information regarding account numbers and customer identifications useful at points of sale terminals to support credit transactions. The data assist in making of loyalty cards and in developing stock plans. One can reduce information given to these institutions by providing information only on a need to know basis.

References

Brown, C. V., DeHayes, D. W., Hoffer, J. A., Martin, E. W., & Perkins, W. C. (2012). Managing Information Technology (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Rosemann, M. (2006). Potential pitfalls of process modeling: Part A. Business process management journal. 12(2).