CS330 W2005 Midterm Solutions

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1. b
2. c
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4. e
5. b

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Short answer

1. Identify & describe the four levels of the organizational Hierarchy. What types of information systems serve each level?

From lowest to highest, the four levels of the organizational hierarchy are operational, knowledge, management, and strategic. Types of information systems include transaction processing systems, office systems, knowledge work systems, decision-support systems, management information systems, and executive support systems.

Transaction processing systems, such as order tracking, payroll, machine control, and compensation, serve the operational level. Engineering workstations, word processing, graphics workstations, managerial workstations, document imaging, and electronic calendars are examples of knowledge work systems and office systems that serve the knowledge level. Sales region analysis, cost analysis, annual budgeting, and relocation analysis are examples of decision-support systems and management information systems. Many of these systems are programs that students learn in their management science or quantitative methods courses. Some are based on database management systems. Examples of executive support systems that serve the strategic level are sales trend forecasting, operating plan development, budget forecasting, profit planning, and manpower planning.

2. Compare the client/server, and peer-to-peer models of computing.

The term client/server refers to a model for computing that splits processing between "clients" and "servers" on a network, assigning functions to the machine most able to perform the function.
The peer-to-peer computing model is a form of distributed processing that links computers via the Internet or private networks so that they can share processing tasks. Each computer, or peer, is considered equal in terms of responsibilities, and each acts as a server to the others in the network. Unlike the client/server model, a dedicated file server is not required. However, network performance is generally not as good as the client/server, especially under heavy loads.

Essay questions

Please mark essays "easy" – Use a 25/22.5/20/17.5/1512.5/10/0 scale.

Question 1. Discuss the importance of enterprise systems in the digital firm. Your discussion could include:

- what are enterprise systems? digital firms?
- how do they change the way an organization works? What are the challenges? the benefits?
- what are the four key enterprise applications for organization-wide process integration

Responses can include:

Enterprise systems integrate the key business processes of an organization into a single software system. Data from various functional areas are maintained centrally where they can be accessed and used by other functions and crossfunctional processes. This changes the work flow of an organization. Now information can seamlessly flow throughout the organization, improving coordination, efficiency, and decision making.

Digital firms conduct all of their day-to-day operations via computing and communications systems. They attempt to eliminate paper, and make all information available anywhere, anytime.

An organization operates in an ever-increasing competitive, global environment. Operating in a global environment requires an organization to focus on the efficient execution of its processes, customer service, and speed to market. To accomplish these goals, the organization must exchange valuable information across different functions, levels, and business units. By integrating its processes, the organization can more efficiently exchange information among its functional areas, business units, suppliers, and customers. The four key enterprise applications are enterprise systems, supply chain management systems, customer relationship management systems, and knowledge management systems.

Organizations tend to be flattened by eliminating middle management. As a firm moves towards full digital deployment, workers are empowered to manage their own information. Since managing is principally decision-making, having information of better quality, depth and timeliness improves management capability. Automating this process improves firm efficiency.

Displacement of workers is a challenge. Human resources are usually a firm's most valuable resource, and workers who are displaced by changes in technology must be treated fairly, equitably and ethically.

Technical challenges abound; deployment of enterprise systems require a long-term committment by management. Systems may require modifying of changing the way that the firms does business (business process reengineering).

Question 2. Discuss how the Internet is changing the economics of information and business models. Your discussion could include:

- what new business models have emerged, and what are examples of how are they applied?
- opportunities for collaboration & extensions of enterprise systems
- benefits, opportunities and potential problems

The Internet radically reduces the cost of creating, sending, and storing information while making that information more widely available. The Internet reduces search costs, allowing customers to locate products, suppliers, prices, and delivery terms. The Internet enables companies to collect and analyze more detailed and accurate information about their customers, allowing these companies to better target market their products and services. The Internet shrinks information asymmetry and has transformed the richness and reach of information. It can help companies create and capture profits in new ways by adding extra value to existing products and services. It also provides the foundation for new products and services.

There are several new business models [NB not necessary to list all of these, a few will suffice]. virtual storefront, information broker, transaction broker, onlinemarketplace, content provider, online service provider, virtual community, and portal.

Virtual storefronts sell physical products directly to consumers or individual businesses. Information brokers provide product, pricing, and availability information to individuals and businesses; they generate revenue from advertising or from directing buyers to sellers. The transaction broker saves users money and time by processing online sale transactions and generates a fee each time. The online marketplace provides a digital environment where buyers and sellers meet, search for and display products, and establish prices for those products; it can provide online auctions and reverse auctions. A content provider creates revenue by providing digital content, such as digital news, music, photos, or video over the Web.

The online service provider provides online services for individuals and businesses and generates revenue from subscription or transaction fees and from advertising. The virtual community provides an online meeting place where people with similar interests can communicate and find useful information. The portal provides an initial point of entry to the Web along with specialized content and other services.

The principal benefits of Internet business models include: expanding markets. improving product quality, improving customer service, and providing platforms for new kinds of businesses (such as application services).

The problems with these include the observation that some of the models are unproven – the might not be economically sustainable in the long run. There are always concerns about privacy and security.

Using the Internet as a platform for extending Intranets and Extranets is very cost effective. Firms can focus on developing and deploying applications without having to create their own WAN infrastructure (as was done in the past). Collaboration with a wide range of suppliers and customers is much easier to accomplish – the promise of extending the firm's supply-chain management systems in each direction (towards suppliers and towards customers) is much easier to realize using the Internet. Security is a significant concern with the Internet for collaborative platforms.

Question 3: The ethics question

Responses must indicate a definite answer, either yes or no. There should be a discussion of each the principles of ethical decision-making. Some of these are less important than others:

1. golden rule (do unto others): if the RMP site is ethical, then "ratemystudents" would be ethical, too. As would any site that offers anonymous, unrestricted opinions about any identifiable community. This would seem to be perilously close to violating various discrimination laws that prohibit making public statements about identifiable minorities. Can we tolerate this kind of site about doctors, religious figures, etc.

2. Kant's categorical imperative: singling out individual professors for this kind of treatment seems to be in violation of the categorical imperative. Since the choice of which professors are rated is made arbitrarily by posters, there is a question about why some professors are rates and others are not. The obvious answer to this is that it appears that only disgruntled students make posting, thus skewing the results to the point that they are nearly useless. This is not ethical.

   The categorical imperative can also be used to argue the "identifiable community"situation. Would it be acceptable to rate everyone in society this way (anonymous, un-appeal-able). Most would argue "no, this is not ethical".

3. Descarte's rule of change (slippery slope): the site seems to behave ethically with respect to the slippery-slope rule in the sense that it facilitates repeated posting about the same person, and encourages postings about as many people as possible. This may be unpleasant, but it conforms to the rule. However, it could be argued that the slippery-slope rule applies to identifiable communities.

4. The utilitarian principle (greatest overall value) doesn't seem to me to be particularly applicable here. If one perceives that the site has any value at all, then choosing to let it exist is "ethical".

5. The risk aversion principle is interesting. There is significant risk that the postings could induce lawsuits against the operator of the site, despite what they might think about the US free-speech laws. There is significant potential cost to the professors whose reputations may be irrevocably damaged, especially as there is no way to remove contentious postings.

6. The "no free lunch" posting is not really relevant. Ownership of the site is clear, and posters agree (implicitly by action) to post their comments without compensation.

The operators of the site disclaim any responsibility for the postings they allow, which seems to be contradictory. They will deny some postings, but try to avoid any accountability for those that are permitted. They disavow any liability for postings. This is a complete violation of the requirements for a framework for due process.

I think that it is a close call whether the site is ethical. However, I believe that it is not. In particular, rules 1, 2 and 5 are the basis for this opinion. The behaviour of the site with respect to these three rules seems to be unethical. The lack of accountability and liability provides further basis for the "unethical" label.