



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN BUSINESS

BMS 905: STRATEGIC INFORMATION SYSTEMS

DATE: Friday 19th May 2017

TIME: 5.30p.m - 8.30p.m

INSTRUCTIONS:

1. Answer *question 1* and any other *Three questions*
2. You are required to provide clear and precise answers

QUESTION 1

Read the case given below and answer the questions that follow;

Technology Research Inc. (TRI) is a leading international provider of market information and industry analysis to information technology vendors and purchasers. TRI employs more than 300 analysts and annually publishes more than 15,000 research reports addressing over 50 distinct subject areas (called research programs).

The online knowledge repository comprises a standard set of knowledge units containing the executive summaries, abstracts, main text, graphics, tables, and charts making up research reports. The repository is dynamic in that research reports are being updated continuously. Knowledge units are indexed and linked for flexible access, and users may sequentially navigate from one to the next within a report, access similar units across reports (e.g. executive summaries only), or access particular units directly. Standardization provides the ability to integrate analysts' explicated knowledge across research

programs so that it can be subjected to meta-analysis, creating new knowledge not possessed by any one analyst. As technology changes, new research areas emerge that cut across TRI's traditional research programs and internal organizational boundaries. Building repositories using a flexible, yet standard – and therefore integrable – structure has enabled TRI to respond by creating composite virtual research programs. From its repositories, TRI derives standard monthly reports and more frequent ad hoc bulletins for each research program in several electronic formats (web, CD, fax, email).

TRI's refinery encompasses two stages: analysis and publishing. Analysis involves collecting, analyzing, and interpreting market information, and reporting the results. The analysts' tacit knowledge of their particular industry is applied to this information to produce an explicitly reported interpretation. The process is similar to investigative reporting, in that analysts try to get "the story behind the numbers."

In the publishing stage, editors convert analysts' reports to a standard format and decompose them into knowledge units, assigning standard document identifiers and keywords and creating links among knowledge units. While perhaps less efficient than having all analysts initially write to a standard format, TRI's approach preserves the analysts' autonomy and creative, entrepreneurial spirit. This tradeoff is one that TRI explicitly manages to foster a balance between knowledge management efficiency and speed on the one hand, and knowledge worker morale, commitment, and performance quality on the other. Distribution of online documents is done primarily via web-enabled Lotus Notes.

TRI's experiences illustrate how digitizing content is not, by itself, adequate to exploit the opportunities for flexibility and innovation in the design and delivery of explicit knowledge. Digitized documents must be structured as knowledge units within a modular and flexible repository from which multiple knowledge

views can be rapidly and efficiently created as new user needs arise in new contexts. Additionally, a robust, seamless and scalable technology infrastructure has been key to enabling the flexibility required for an integrative knowledge management refinery. It provides a wide range of user-defined views of rich, multimedia documents, embeds hyperlinks, and provides an efficient yet flexible distribution channel.

Implementing this new architecture has been as much an organizational and social, as a technical intervention. TRI has explicitly assigned and trained people to perform new roles to shepherd the movement of knowledge from raw to useable product, and this investment has been instrumental in their success. However, existing roles and responsibilities of TRI's analysts, editors, and IT professionals have changed. The move toward process and content standards reduced analysts' level of autonomy and discretion regarding writing format and style, while placing many of those decisions in the hands of editors and production clerks. Ultimately, success with electronic publishing was based as much on effectively managing organizational change as in implementing a sound product architecture and electronic publishing technology. (Zack, O.M. (1999). *Managing Codified Knowledge*. Sloan Management Review, Volume 40, Number 4, pp. 45-58)

a) Give a detailed explanation about each of the following statements;

- i. *"... so that it can be subjected to meta-analysis, creating new knowledge not possessed by any one analyst".* (4 Marks)
- ii. *"Implementing this new architecture has been as much an organizational and social, as a technical intervention".* (4 Marks)
- iii. *"...has been as much an organizational and social, as a technical intervention".* (4 Marks)

- b) Computerization of knowledge management does not necessarily imply optimization of the generation of explicit knowledge. Justify the statement. (6 marks)
- c) Explicate the usefulness of knowledge management in an electronic commerce environment. (6 Marks)
- d) Narrate the historical motivation behind the dynamism of knowledge management. (6 Marks)
- e) Information and communication technology infrastructure and regulatory issues have significant impacts on knowledge management. Discuss the statement. (4 marks)
- f) Explain how the ethical dimensions should be addressed to create conducive environment for knowledge management. (6 marks)

QUESTION 2

By using the *TRI case* mentioned in *Question 1 above*, explain;

- a) The implications of knowledge management on stakeholders working in a database environment. (4 Marks)
- b) The characteristics of Enterprise Content Management. (6 Marks)
- c) How strategic planning of information systems can impact on knowledge management. (5 Marks)
- d) The metric indicators used in gauging the impacts of knowledge management. (5 Marks)

QUESTION 3

Study the following case and answer the questions below;

The doubling of computing power every 18 months has made it possible for most organizations to use information systems for their core production processes. As a result, our dependence on systems and our vulnerability to system errors and poor data quality have increased. Social rules and laws have not yet adjusted to this dependence. Standards for ensuring the accuracy and reliability of information systems are not universally accepted or enforced.

Advances in data storage techniques and rapidly declining storage costs have been responsible for the multiplying databases on individuals—employees, customers, and potential customers—maintained by private and public organizations. These advances in data storage have made the routine violation of individual privacy both cheap and effective. Already massive data storage systems are cheap enough for regional and even local retailing firms to use in identifying customers.

Advances in data analysis techniques for large pools of data are a third technological trend that heightens ethical concerns because companies and government agencies are able to find out much detailed personal information about individuals. With contemporary data management tools, companies can assemble and combine the myriad pieces of information.

a) In reference to the statement *“These advances in data storage have made the routine violation of individual privacy both cheap and effective”*, explain:

- i. The various ways that may lead to violation of individual privacy
(4 Marks)

- ii. How data storage technologies have complicated the legal and moral concerns. (6 Marks)
- b) Explain the moral dimensions of information systems. (5 Marks)
- c) Explicate the steps followed in ethical analysis about information systems usage in a corporate environment. (5 Marks)

QUESTION 4

In reference to the case study in *Question 3* above;

- a) Explain the fundamental aspects that should be addressed in a professional code of conduct to ensure responsible use of information systems. (8 Marks)
- b) Elucidate the factors that affect the creation of conducive legal environment for use of computerized information systems. (6 Marks)
- a) Expound on the meaning of the statement "*Advances in data storage techniques and rapidly declining storage costs have been responsible for the multiplying databases...*" (6 Marks)

QUESTION 5

Study the following case and answer the questions below;

The merge of the information technology and the web standards have formed the electronic business "E-business". Succession in e-business will need organizations to revise their strategies and goals to meet market rules of demand and supply. Conversion of ordinary business into e-business has forced organizations to be redesigned and reshaped. E-business is a combination of economic, technology and market forces that reinvented strategies of traditional business. The business process is counted to use the power of computers and communication networks. This can allow

organizations to stay competitive and more efficient. Also, new business models have been introduced and implemented in a variety of ways.

- a) Give a detailed explanation about the statement "*The merge of the information technology and the web standards have formed the electronic business*". (6 Marks)
- b) The modern e-business models are ideal not only for the near future but also for the far future. Discuss the statement. (8 Marks)
- c) Explain the various types of data communication systems implied by the statement "*...power of computers and communication networks*". (6 Marks)