

CIS (21-774)
Computer Information Systems
in
Industrial Engineering
 Department of Industrial Engineering
 Sharif University of Technology

Session # 2



Course Description (Continued..)

- *Contents:*
- *The role of managers in Information Technology (IT)* (3 sessions)
- *Organizational Issues* (3 sessions)
- *Information Technology* (9 sessions)
- *Operational and enterprises systems* (4 sessions)
- *Exciting directions in systems* (3 sessions)
- *E-Business and E-Commerce* (3 sessions)
- *Issues for senior management* (2 sessions)

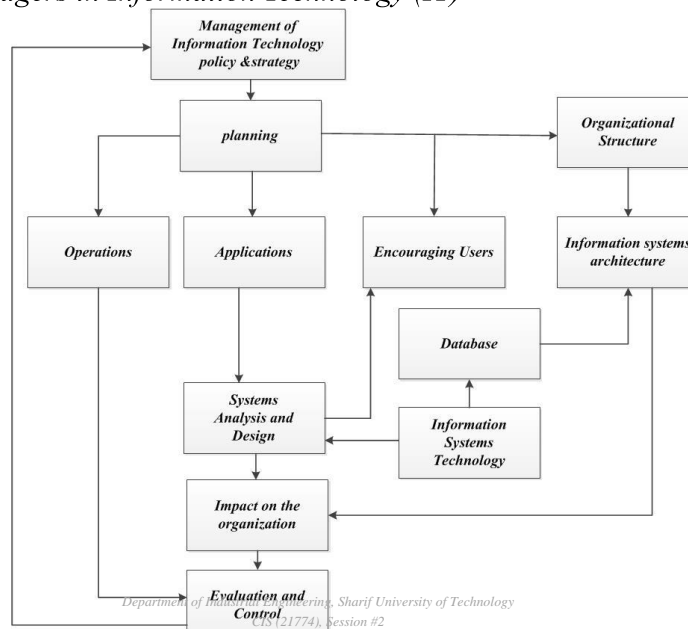
Course Contents

- *The role of managers in Information Technology (IT)* (3 sessions)
 - *Using technology to transform the organization*
 - *Interpreting and understanding Information*
 - *Information Technology (IT) in perspective*
 - *Frameworks for Information Technology*
 - *The Basics of Information Systems*

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The role of managers in Information Technology (IT)



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The role of managers in Information Technology (IT)

- *Using technology to transform the organization*
 - *We are living in revolutionary times, a revolution brought on by dramatic advances in information technology.*

 - *If the steam engine, a new form of power, and mechanization created an Industrial Revolution over 150 years ago, **computers** and **communications equipment** have produced a Technology Revolution in the last half of the twentieth century.*

The role of managers in Information Technology (IT)

- *Using technology to transform the organization*
 - *In the Technology Revolution, companies use IT as a new **source of energy for processing and accessing** information.*

 - *Information Technology helps the organization collect, store, retrieve, and apply knowledge to solve problems;*

 - *IT converts the raw material of information into useable knowledge.*

The Technology Revolution, like the Industrial Revolution, has changed the economy, creating new industries and ways of doing business.

The role of managers in Information Technology (IT)

- *Using technology to transform the organization*

Information Technology

- *Provides new ways to design organizations and new organizational structures.*
- *Creates new relationships between customers and suppliers who electronically link themselves together.*
- *Presents the opportunity for electronic commerce, which reduces purchasing cycle times, increases the exposure of suppliers to customers, and creates greater convenience for buyers.*
- *Enables tremendous efficiencies in production and service industries*

The role of managers in Information Technology (IT)

- *HW#01*

Considering the described benefits and contributions of Information Technology, report at least five other benefits and contributions as the revolutions of IT in an organization and its management structure.

- *The HW should be sent to omidf@ie.sharif.edu till Saturday, 30th of Shahrivar (Sep, 21st, 2013)*
- *Email subject: "HW01:studentnumber"*

The role of managers in Information Technology (IT)

A System and a Disaster

Oxford Health Plans is a successful health maintenance organization (HMO) in the New York area. The firm went public in 1991, and its stock price enjoyed steady growth. In 1997, however, problems with a new computer system led to significant losses, \$120 million in the fourth quarter on top of \$78 million in the third quarter. When the company announced its second quarterly loss, its stock price was 75 percent lower than its previous high. It was unable to send out monthly bills for many of its customers, and the company could not track payments to hundreds of doctors and hospitals. During the year, uncollected payments from customers rose to \$400 million, while Oxford's unpaid bills to (caregivers) rose to over \$650 million.

The problem began when Oxford started planning a system, based on the Oracle database management system, when it had a little over 200,000 members. By the time the system went live three years later, the HMO had 1.5 million members. The company tried to convert to the

new system all at once. While the computer system labored under the load, Oxford management continued its aggressive drive to sign up new members. The new system was intolerant of errors that were accepted in the old one. As a result, an account with thousands of participants might have been rejected for an error in any member's record.

Some customers refused to pay the HMO after not being billed for months so Oxford had to write off over \$100 million in uncollectible bills. The HMO's failure to pay its bills also angered care providers: At one point it owed Columbia University \$16 million and Cornell \$17 million for medical services. Oxford lost track of its actual medical costs—information a health care provider needs to set reserves and project liabilities.

While organizations have been implementing IT since the 1950s, we still seem to repeat many of the same problems. Oxford is a clear case of a management failure rather than a technology failure.

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The role of managers in Information Technology (IT)

- HW#02

Study the case described in the past slide. Use internet to find another similar disaster project concerning to IT.

- The Home work should be sent to omidf@ie.sharif.edu till Monday, 1st of Mehr (Sep, 23rd, 2013)
- Email subject: "HW02:studentnumber"

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The role of managers in Information Technology (IT)

- *Using technology to transform the organization*

Information Technology

- *refers to all forms of technology applied to **processing, storing, and transmitting information** in electronic form.*
- *Information systems execute organized procedures that process and/or communicate information*
- *Information technology, however, extends far beyond the computational capabilities of computers. Today computers are used extensively for communications as well as for their traditional roles of data storage and computation.*

The role of managers in Information Technology (IT)

- *Using technology to transform the organization*

Information Technology

- *One impact of Information Technology is its use to develop new organizational structures*
- *The organization that is most likely to result from the use of these variables is the T-Form or Technology-Form organization,*
 - *an organization that uses IT to become highly efficient and effective*

The role of managers in Information Technology (IT)

- *Using technology to transform the organization*
 - *The firm has a flat structure made possible by using e-mail and groupware (programs that help coordinate people with a common task to perform) to increase the span of control and reduce managerial hierarchy.*
 - *Managers delegate tasks and decision making to lower levels of management, and information systems make data available at the level of management where it is needed to make decisions.*
 - *The organization provides a fast response to competitors and customers.*
 - *Some members of the organization primarily work remotely without having a permanent office assigned*

The role of managers in Information Technology (IT)

- *Using technology to transform the organization*
 - *Information technology has demonstrated an ability to change or create the following:*
 - *Within organizations*
 - *Organizational structure*
 - *Inter-organizational relations*
 - *The economy*
 - *Education*
 - *National development*

The role of managers in Information Technology (IT)

- *Using technology to transform the organization*
 - *Six major trends have drastically altered the organizations*
 - *The use of technology to transform the organization*
 - *The use of information processing technology as a part of corporate strategy.*
 - *Technology as a pervasive part of the work environment.*
 - *The use of technology to support knowledge workers*
 - *The evolution of the computer from a computational device to a medium for communications.*
 - *The growth of the Internet and World Wide Web.*