ICT in Higher Education

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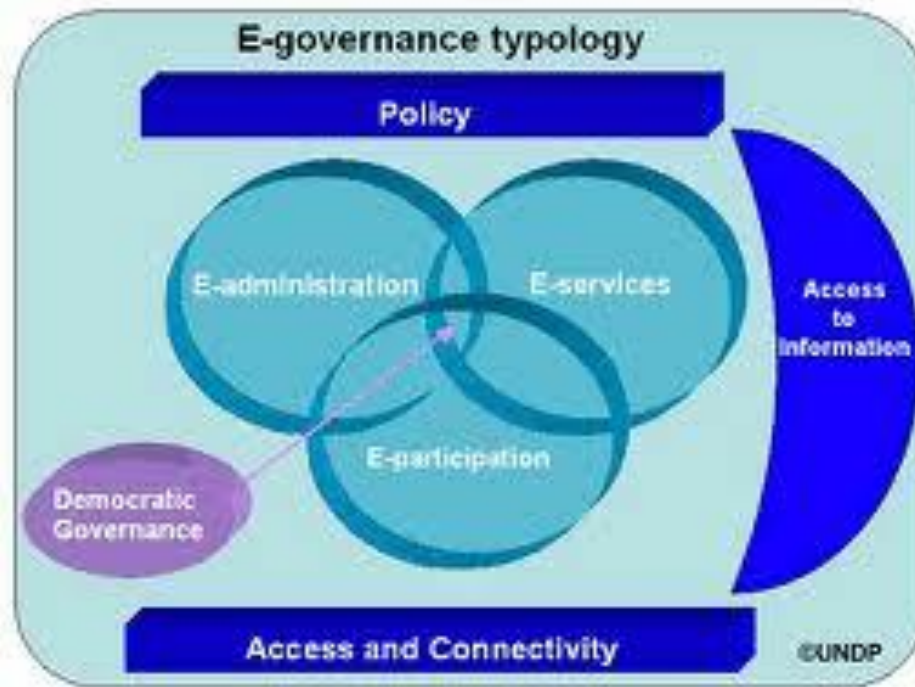djcbcg@caluniv.ac.in

ICT in Administration

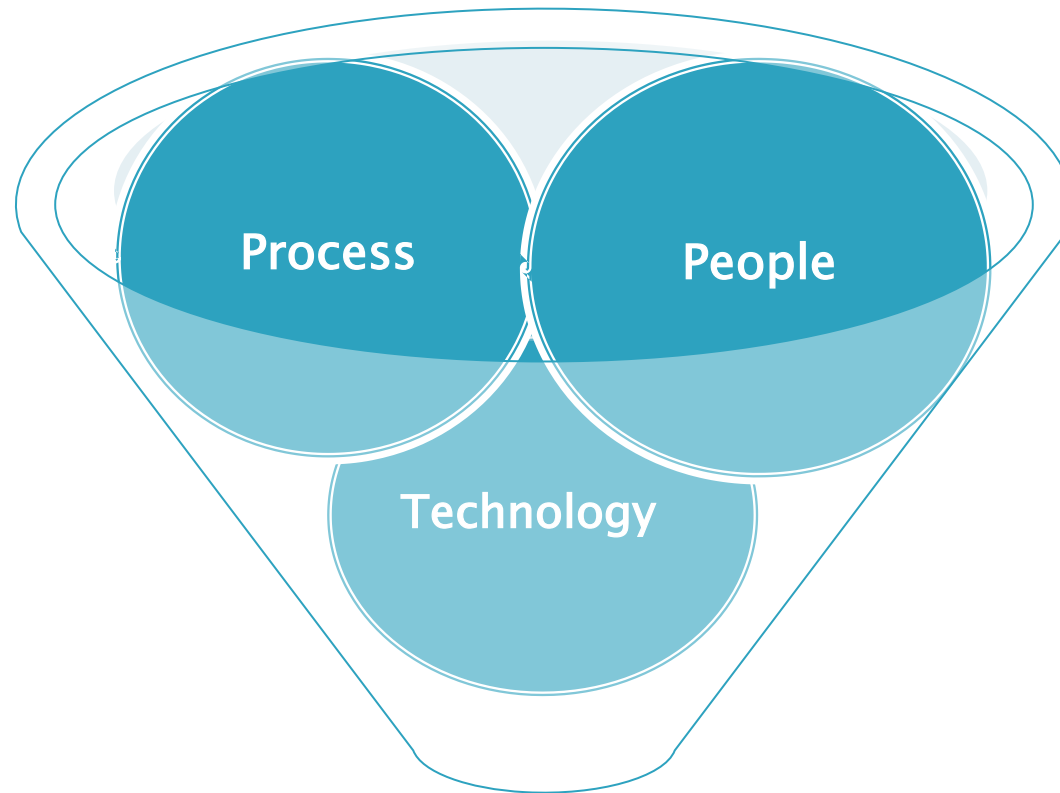>> Experience in the University of Calcutta

University of Calcutta

What is E-Governance?

- Governance using Information and Communication Technology (ICT)

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Enablers

Advantages

- Provides access to information to empower stake holders

- Enables their participation in governance

- Enhances stake holders economic and social opportunities

University of Calcutta

- 9 Major Campuses
- 68 PG Departments
- Nearly 131 Affiliated UG Colleges
- Over 300,000 students

Streamlining Administration is an overwhelming task

- Simple Computerization is not enough
- ICT deployment is essential

E-governance in University of Calcutta

- Administrative functions are being computerized by using suitable software packages
- Registration of students has been computerized
- Most of the pre and post-examination works pertaining to U.G. and P.G. examinations have been computerized
  ◦ A common server-based system is now working for the UG examinations on LINUX platform
- Digitization of old records
  ◦ A process of digitization of the old Tabulation Registers of marks of different examinations starting from the year 1860 has been taken up to facilitate proper record keeping and speedy dispatch of verification reports

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- Some of the administrative departments have also make their information available

- Office of DPO (Development and planning officer)

  https://sites.google.com/site/calunivdpo

- Office of ETO (Estate and trust officer)

  https://www.caluniv.ac.in/admin/estate.htm

- Controller of Examinations site

  https://cuexam.net

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- High Speed LAN with proper security measures is available in all the departments to transfer the information fast and securely

- There are individual websites for each and every colleges under University of Calcutta to provide all the information transparently to common people and students

- Application procedure for admission to majority of the colleges under our university and in post graduate departments of the university are also available through internet

Challenges

- A good amount of heterogeneity exists among the various affiliated university colleges since colleges are spread into both urban and rural areas and thus causing digital divide

- Bridging this digital divide for proper implementation of e-governance among the participating colleges needs escalation in terms financial budget and manpower

- Increasing change of technology usage and related applications in e-governance implementation poses a challenge to continue with the legacy systems which are still well utilized

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Computerizing Administration

- Examination Result Processing – 1985

- Student Registration – 1995

- Salary Statement processing – 1997

- PF Statement Management – 2001

Internet and e-mail

- Calcutta University Computer Centre
  - Dial-up 'uucp' e-mail through ERNET : 1996
- Dept. of Bio Physics & Molecular Biology
  - VSAT – a DBT facility : 1997
- Dept. of Radio Physics & Electronics
  - ISDN – Internet & 'uucp' e-mail : 2000
- Rajabazar Campus
  - ERNET Leased line – UGC INFONET : 2003
- Leased Line to all Campuses – VSNL (Tata)
  - University's own resources : 2004

Connecting Campuses : 2009

- Rajabazar Campus
  ◦ 4 Mbps + 2 Mbps (ERNET)
- Ballygunge Campus – 4 Mbps
- College Street Campus – 3 Mbps
- Alipore Campus – 2 Mbps
- B. T. Road Campus – 1 Mbps
- Salt Lake Campus – 1 Mbps
- Home Science Campus – 512 kbps
- Hazra Law College & Univ. Press – 512 kbps

www.caluniv.ac.in

- Departmental Profiles
- Admission Information
  - Forms / Interview & Selection lists
- Events & Conferences
- Online Catalog
- Access to e-books & journals
- Tender Notice
- Office Orders
- Web-based e-mail to all Teachers & Officers
- Average hits per day: 2,00,000

Library

- Web-accessible Catalog
  - Books/Ph. D. Thesis/Medical Dissertations
- Library Management
  - Accession
  - Issue/return
- Digitization of Rare Books Documents
  - Dates back to year 1561 publication
- Digital Archive of Paintings
- Digital Braille Library
- Internet Café in Central & Campus Libraries

Examination Management

- 1985 – UG Tabulation outsourced
- 2000 – Enrolment: use of OCR/OMR
- 2002 – Photo/Signature printed Admit Card
- 2002 – Photo printed attendance sheets
- 2002 – Examiners database
- 2003 – Computerized assignments
- 2003 – Mark sheet/certificate generation
- 2006 – Old records archived: since 1860
- 2009 – Examination Dept. website

CU-EDUSYS

- Order / Bill Processing
- Payroll
  - Salary
  - Deductions: Tax, Loan recovery, Insurance
  - Retirement benefits
  - Tax returns
- Receipts
  - Students' fees
  - Endowments
  - Govt. grants
  - Sponsored Projects

CU-EDUSYS (contd.)

- Installed in the Finance Office

- Initially $\rightarrow$ Accounts Dept. Network only

- Terminals extended to all campuses: 2009
  - Web-based terminal window

- To be extended to all Departments
  - Order placed with Tata Teleservices

More on EDUSYS

▶ Student Database
  ◦ Admission / Registration / Examination

▶ Teacher Database
  ◦ Promotion / Leave / Retirement

▶ Employee Database
  ◦ Promotion / Leave / Retirement

The other side…

» Limitations of ICT in Classroom Teaching

ICT and Digital Divide

- ICT may create a digital divide in the classroom
  - Students more familiar with ICT will feel more confident about the entire teaching-learning process
  - Such students will learn faster than those not so familiar to technology
  - Students from rural areas who are not exposed to technology may find feel a barrier
- ICT may divert attention from the main goal of the learning process to developing the ICT skills
  - ICT skill should remain as only a secondary goal in the process

Gap between Teacher and Learner

- ICT affects the connection process between teacher and student
  - ICT becomes a communication tool and draws more attention than what the teacher is delivering in the classroom
  - All great teachers are not necessarily greatest of ICT experts
    - Is it must that every teacher who wants to teach in his own way has to be an ICT expert?
    - A teacher who is not an ICT expert may be reluctant in updating the content of courses even when he is aware about the most recent developments in his domain
    - It may slow down the process of learning for students

Gap between Teacher and Learner

- Teachers or Robots?
  - The very presence and talks by great teachers in the classrooms have inspired thousands of learners over centuries. The courses designed with ICT typically reduces such scope of interaction between the teacher and learners.
  - Usage of ICT makes the classes drab
  - Usage of ICT destroys the potential of building an excellent teaching-learning environment for the sake of *standardization*
  - Some teachers feel that they are not meant to be *mindless mummies* controlled by technology

Gap between Teacher and Learner

- There is a need for training related to ICT for all the stakeholders
  - This involves additional cost
  - The training programs often neglect the psychological and social aspects typical to teaching-learning environment
- ICT may affect revision of lesson planning
  - Pedagogically, lesson planning is very important
    - A teacher should revise lesson plans depending on the group of learners and other external factors like available contact hours, number of field visits, etc.
  - Teacher may be reluctant to revise lesson planning to avoid reworking with the ICT material

Other Concerns

- ICT promotes individual learning
  - This may lead to lesser interaction with peers
- ICT increases alienation from the real life and promotes spread of virtual life
  - Associated impact on the learners' social and personal life will be imperative; e.g., lack of social life may lead to loneliness
- Cost of hardware's and software can be high towards setting up and maintenance of ICT infrastructure

Thanks for your kind attention

Questions??