

# **Accounting Information Systems: Teaching and Research Agenda**

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## **Agenda**

- Introduction
- AIS history
- AIS education
- AIS research
- Conclusion.

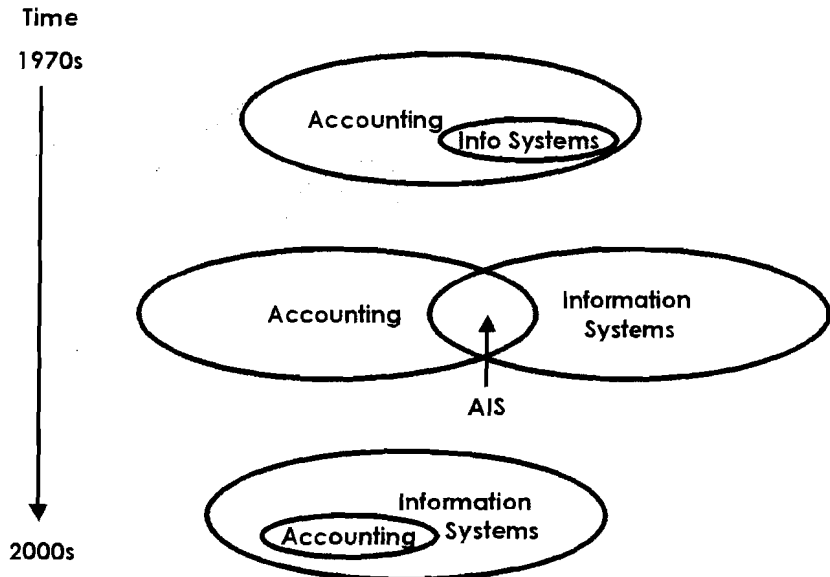
## **Introduction**

- “IT is pervasive in the world of business”
- “IT has become an integral part of the business and is fundamental to support, sustain and grow the business”
- “IT adoptions are becoming more sophisticated and complicated”
- New risks and challenges (opportunities?) for accounting professionals and academics.

## **History**

- 1950s and 1960s – golden era
- 1970s - machine accountants era
- 1980s and early 1990s – technological advancements era (REA), new business practices/models, emergence of IS discipline
- Mid 1990s onwards – new accountants era.

# Evolution of AIS



Source: Arnold and Sutton (2001)

## AIS Education

- “Information Technology for professional accountants” (IFAC, revised 2003)
- Aim: “new accountants that can, in addition to using various types of IT, play important managerial, advisory and evaluative role with the adoption, deployment and use of various technologies by organizations of all types and sizes”
- IFAC requirements = 4 courses?
- AIS education in Malaysia?

## **AIS...Research Perspective**

- Relatively young discipline
- Limited and subject to many weaknesses
- Major weaknesses:
  - Absence of theory
  - Focus on descriptive studies of practice
  - Limited analysis
  - Replicate old MIS studies

## **AIS Research...Issues**

- What is the boundary of AIS research?
- Are we social scientists or computer scientists?

## **AIS Research...Definition**

- Definition either too narrow or too broad
- “the distinguishing feature of AIS is its involvement in transaction processing for accountability purposes in an organization” (McCarthy, 1990)
- “a specialized IS aimed at recognizing, measuring, recording, and reporting economic events affecting business entities” (Hunton, 2002)

## **AIS Research...cont**

- “the logical intersection of the broad fields of accounting and MIS”...but “can also expand beyond the intersection” (Murthy & Wiggins, 1999)
- “while AIS might be usefully perceived as a subset of MIS from a teaching standpoint, identifying an area of IS that is not of import to AIS research is difficult” (Sutton, 1992)
- “accounting scholars need to learn to research accounting as an IS discipline” (Arnold & Sutton, 2002)

## **AIS Research...Category**

- Design science – early AIS research
- Focus on development of improvements in systems concepts, models, design & development techniques, and systems implementation & validation
- E.g. database accounting systems, expert systems, accounting decision support systems
- Suggested reading: David, J.S., Gerard, G.J., and McCarthy, W.E. Design science: Building the future of AIS,  
<http://www.msu.edu/~mccarth4/>

## **Design Science Research**

- Is it a research or development project?
- Design science research is not just about technology, rather it focuses more on the underlying concepts or theories related to design, development, or application of technology
- “Simply building a system does not advance research” (Arnold & Sutton, 2002)

## **Design Science Research...Examples**

- Relational database model, relational languages and normalization (Codd, 1970)
- Database accounting (Colantoni et al., 1971)
- Relational design of traditional accounting constructs (Everest & Weber, 1977)
- Entity-relationship modeling (McCarthy, 1980)
- Resource-Event-Agent model (McCarthy, 1982)
- CASE tool for accounting database design (Rockwell & McCarthy, 1999)

## **AIS Research...cont**

- Social science – fast growing
- Appropriate for establishing and testing theories which relate to the impact of IT on individuals, organizations, and society
- Theories: Information processing theory, contingency theory, agency theory, knowledge-based theory, task-technology fit theory, unified theory of acceptance and use of technology, real options theory, transaction cost economics, resource-based view of the firm, etc.

<http://www.istheory.yorku.ca/>

## Where to focus?

social science or design science?

“I” or “T”?

= depending on accounting academics training (i.e. natural science/design science methods)

## Evolution of IS Research (social science)

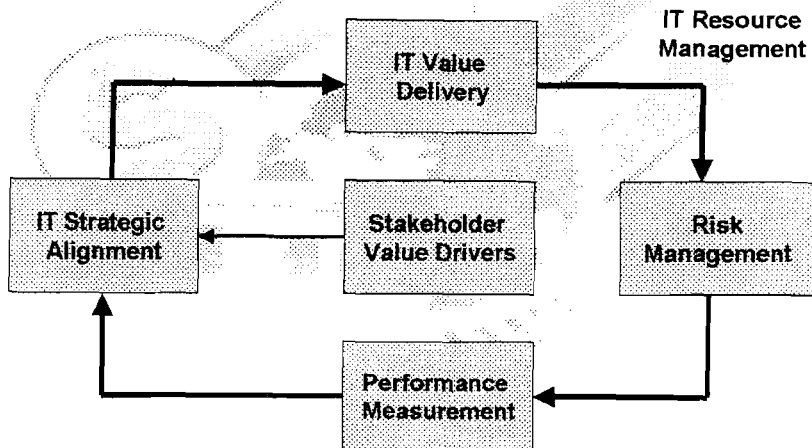
- IT adoption
- IT sophistication
- IT success
  - system perspective
  - organizational perspective
- IT governance



# IT Governance Issues

- Top IT/IS issues have moved from the technology- to the management-related arenas:
  - Strategic alignment, with focus on aligning with the business and collaborative solutions
  - Value delivery, concentrating on optimizing expenses and proving the value of IT
  - Risk management, addressing the safeguarding of IT assets, disaster recovery and continuity of operations
  - Resource management, optimizing knowledge and IT infrastructure
  - Performance measurement, tracking project delivery and monitoring IT services

## Focus Areas of IT Governance



## **AIS-Related Issues**

- **System security and reliability:** physical & cyber security, disaster recovery, trust services, etc.
- **Systems audit & internal controls:** continuous audit, IT systems audit, e-commerce systems, internal controls, etc.
- **Financial accounting:** continuous reporting, e.g. Internet reporting/eXtensible Business Reporting Language (XBRL)
- **Management accounting systems and controls:** ERP/CRM/SCM/E-Business/ABM/BSC
- **Taxation:** E-commerce
- **IT Governance:** enterprise risk management, IT resource management, performance management, IT controls, and IT strategic alignment, etc.
- **Others:** knowledge management/decision support systems

## **Resources**

- ISWorld ([www.isworld.org](http://www.isworld.org))
- Special Interest Group-Accounting Information Systems (SIGASYS) ([www.sigasys.org](http://www.sigasys.org))
- American Accounting Association – Information Systems Section  
([http://aaahq.org/infosys/resources/resources\\_2005.htm](http://aaahq.org/infosys/resources/resources_2005.htm))
- Rutgers Accounting Research Center  
(<http://raw.rutgers.edu/raw/>)
- AICPA (<http://infotech.aicpa.org/Resources/>)

## **Journal and Conference**

- International Journal of Accounting Information Systems
- Journal of Emerging Technologies in Accounting
- Journal of Information Systems
- Asia/Pacific Research Symposium on Accounting Information Systems
- European Conference on Accounting Information Systems
- International Conference on Enterprise Systems and Accounting
- International Research Symposium on Accounting Information Systems.

## **Conclusions**

- AIS researchers need to collaborate with researchers in other areas of accounting and other disciplines to produce high-quality research results that can have notable impact on the accounting profession and business practice.



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