

**HIGHER EDUCATION
MARKET SECTOR**

Presentation to:

**INFORMATION ASSOCIATES, INC.
Rochester, New York**

December 17, 1986

**Peter A. Cunningham
President
INPUT**



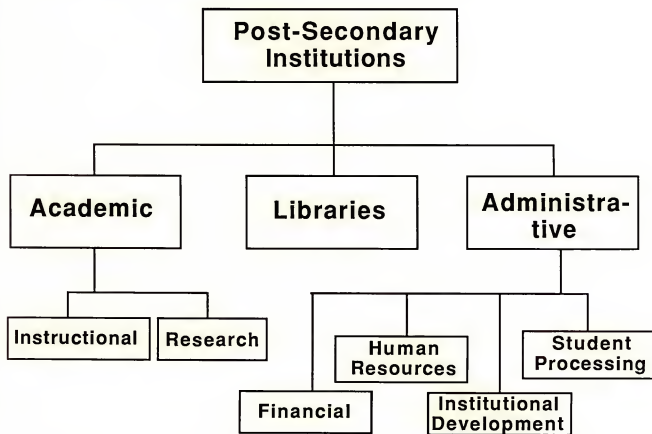
OUTLINE

- Overview
 - Hardware
 - Software
 - System Integration
 - Summary
 - Opportunities
-



INPUT®

OVERVIEW

HIGHER EDUCATION MARKET APPLICATIONS



MARKET CHARACTERISTICS

- **Universities Appointing CIOs**
 - **Computer Center Staff Supports User Departments**
 - **No "Single Vendor" Preference**
 - **Limited Integrated Software**
 - **Lack of Hardware or Software Standards**
-



SALES CHARACTERISTICS

- "Reference" Sell
 - User Committees Involved
 - Long Sales Cycle
 - Long Implementation Cycle
 - Extensive Customer Support
 - Inexpensive Software Modules
 - Combine Modules to Form System
-



ROLE OF COMPUTERS IN HIGHER EDUCATION

- **Demand Drivers**
 - **Attract Quality Faculty**
 - **Attract the Best Students**
 - **Provide Marketing Information**
 - **Offer Improved Service**
 - **Demand Brakes**
 - **Budget Fluctuations**
 - **Low Perceived Importance of Computers**
 - **Prognosis: Good**
-



TECHNOLOGY TRENDS IN THE HIGHER EDUCATION MARKET

- **From In-House to Vendor-Developed Software**
 - **OA/E-Mail**
 - **Increasing in Administrative Offices**
 - **Requires Top Management Involvement**
 - **"PCs = Pocket Calculator"**
 - **More PC-Based Application Software Needed**
 - **Progressive (Large?) Institutions**
 - **PCs Beyond Business and Engineering**
 - **Plan Extensive Networks**
 - **Consider RDBMS**
 - **Own Voice/Data Comm Facilities**
-



CHANGING ROLE OF MIS DIRECTOR

- From "Techie" to CIO
 - 1986: Manage Decentralization
of Information
 - 1988-1990: Manage Recentralization
of Information
-



TRENDS IN ACADEMIC COMPUTING (I)

- **DEC to Still Control**
 - **Increased Third Party Software**
 - **Favorable Marketing Agreements**
 - **Networks**
 - **"Next Generation Buyer" Exposure**
 - **DEC Preferred to IBM**
-



TRENDS IN ACADEMIC COMPUTING (II)

- **IBM Inroads Expected**
 - **9370 Minicomputer**
 - **Improved Networking**
 - **Improved OS Migration**
-



TRENDS IN ADMINISTRATIVE COMPUTING

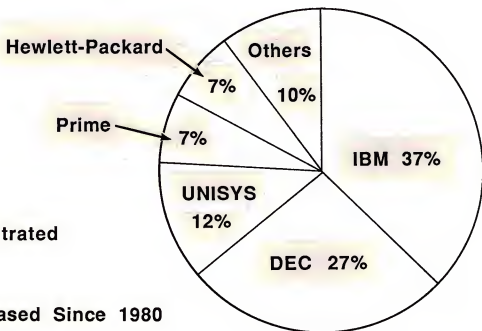
- Continued Control by IBM
 - IBM Vulnerabilities
 - Lack of OS Upgrade Path
 - Limited New Third Party Software
 - Recentralization of Computing
 - MIS Director/CIO in Control
 - IBM Invented MIS/CIO Sell
-



INPUT®

HARDWARE



**COMPUTER HARDWARE IN
HIGHER EDUCATION MARKET SEGMENT****COMPUTER SYSTEMS
SHIPPED, 1985**

- Highly Concentrated

- DEC

- Share Increased Since 1980
- 1986: "Hot" Company

Source: CI



DEC HARDWARE INSTALLATIONS

- **Total U.S. VAX Installations = 41,500**
 - **U.S. Education Sector VAX Installations = 5,800**
 - **Percent Installed in Administrative Computing = 30-35%**
 - **VAX Is Strong in Scientific/Technical Markets**
 - **DEC Donated Numerous VAXes for Academic Computing**
-

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

Published weekly, except for two combined issues in December

Subscription rates: \$12.00 per copy, \$72.00 per year (in advance)

Single copies: \$12.00 per copy

Advertising rates: \$100.00 per line per week

Copyright © 1998 by American Medical Association

Printed in the United States of America

Postmaster: Please send address changes to JAMA, 535 North Dearborn Street, Chicago, IL 60610

**IBM AND DEC ACCOUNT BASES IN THE
HIGHER EDUCATION MARKET SEGMENT**

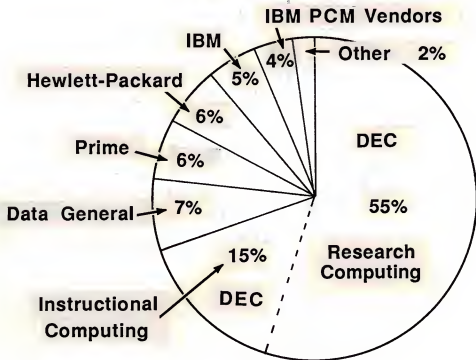
VENDOR	OWNERSHIP OF INSTITUTION		TYPE OF INSTITUTION			SIZE OF INSTITUTION		
	Public	Private	4-Year College	2-Year College	Univer- sity	Large	Medium	Small
IBM	X		X	X	X	X	X	
DEC		X	X	X			X	X

- **OVERLAP: Medium-Size Colleges**



**1985 VENDOR MARKET SHARE
ACADEMIC COMPUTING**

**HIGHER EDUCATION ACADEMIC COMPUTING
MARKET SHARE, 1985**



Source: CI



INPUT®

SOFTWARE



**SOFTWARE FOR HIGHER
EDUCATION ADMINISTRATION (I)**

- **2 Classes**
 - **Mainframe/Minicomputer**
 - **Microcomputer**
 - **Administrative Software**
 - **>90% Is Mainframe/Mini Based**
 - **1991: \$101 Million**
 - **AAGR: 13%**
-

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

100

SOFTWARE FOR HIGHER EDUCATION ADMINISTRATION (II)

- **Users:**
 - "Mix and Match" Approach
 - Little Integrated Software
 - Lack of Standards at Each School
 - **Demand Drivers:**
 - Replacement of Non-Integrated Software
 - Upgrades
 - Improved Asset Management
 - Market and Demographic Data
 - **5 Administrative Applications (Follow)**
-



HUMAN RESOURCES

- Demand Drivers
 - Human Resources as Profit Center
 - "Cafeteria Style" Benefits Administration
 - Government Reporting Requirements
 - Employee Training and Education Administration
 - Tax Law Changes
 - Prognosis: Good
-



STUDENT LOAN ADMINISTRATION

- Demand Drivers
 - Stringent Regulatory Requirements
 - Paperwork Intensive Applications
 - Growth of Government-Backed Student Loans
 - Timely Loan Processing and Followup
 - Up-to-the-Minute Reports
 - Demand Brakes
 - Gramm-Rudman-Hollings Effect on Financial Aid
 - Prognosis: Good
-



INSTITUTIONAL DEVELOPMENT

- **Demand Drivers**
 - **Tuition has Never Covered Expenses**
 - **Expand Funding Sources**
 - **Track and Followup Funding Sources**
 - **Measureable Results (\$)**
 - **Integrate with Accounting Software**
 - **Demand Brakes**
 - **Lower Priority**
 - **Limited Integrated Software Available**
 - **Prognosis: Fair**
-



STUDENT REGISTRATION

- **Demand Drivers**
 - **Service Differentiator**
 - **Improved Utilization of Facilities, Professors, and Teaching Assistants**
 - **Requires RDBMS**
 - **Dearth of Integrated Software**
 - **Prognosis: Very Good**
-



ACCOUNTING/FINANCIAL SYSTEMS

- Demand Drivers
 - Heart of Administrative Computing
 - Key User Applications
 - Purchasing
 - Job Tracking
 - Vehicle Management/Maintenance
 - Property Control
 - Accounts Receivable
 - Prognosis: Good
-

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations.

In the second section, the author provides a detailed breakdown of the company's revenue streams. This includes sales from various product lines and services. The data shows a steady increase in revenue over the past year, which is attributed to strategic marketing efforts and product diversification.

The third section focuses on the company's operational costs. It details the expenses related to manufacturing, distribution, and administrative functions. The analysis reveals that while some costs have increased due to inflation, others have been managed effectively through cost-cutting measures.

Finally, the document concludes with a summary of the overall financial performance. It highlights the company's strong financial health and its ability to generate consistent profits. The author expresses confidence in the company's future growth and success.

RELATIONAL DBMS SOFTWARE IN HIGHER EDUCATION

- Large Schools Interested
 - Installed DBMS Software
 - IMS/IDMS in 12% of Large Schools
 - Strong Competition by Independents
 - Must Rewrite to RDBMS
 - RDBMS Administrative Applications
 - Human Resources
 - Loan Administration
 - Development
 - Registration
 - Accounting/Financial
-

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities.

2. It then outlines the various methods and techniques used to collect and analyze data, including surveys, interviews, and focus groups.

3. The document also describes the process of identifying and measuring key performance indicators (KPIs) and how they are used to track progress and performance.

4. Finally, it discusses the importance of regular reporting and communication of results to stakeholders and how this helps to inform decision-making and improve performance.

5. The document concludes by emphasizing the need for a continuous and iterative process of monitoring and evaluation to ensure long-term success and sustainability.

6. Overall, the document provides a comprehensive overview of the monitoring and evaluation process and highlights the key challenges and opportunities involved.

7. It also offers practical advice and guidance on how to design and implement an effective monitoring and evaluation system that meets the needs of the organization and its stakeholders.

8. The document is intended for a wide range of audiences, including managers, practitioners, and researchers, and is designed to be both informative and actionable.

9. It is a valuable resource for anyone interested in understanding the importance of monitoring and evaluation and how to do it effectively.

10. The document is a key component of the organization's strategic planning and implementation process and is essential for ensuring that the organization is on track to achieve its goals and objectives.

11. It is a testament to the organization's commitment to transparency, accountability, and continuous improvement and is a key factor in its success and sustainability.

12. The document is a clear and concise guide to the monitoring and evaluation process and is a valuable tool for anyone looking to improve their organization's performance and achieve its goals.

13. It is a must-read for anyone involved in the management and implementation of any project or program and is a key resource for anyone looking to make a positive impact in the world.

14. The document is a testament to the power of monitoring and evaluation to drive change and improve performance and is a key component of any successful organization's strategy.

15. It is a clear and concise guide to the monitoring and evaluation process and is a valuable tool for anyone looking to improve their organization's performance and achieve its goals.

16. The document is a key component of the organization's strategic planning and implementation process and is essential for ensuring that the organization is on track to achieve its goals and objectives.

17. It is a testament to the organization's commitment to transparency, accountability, and continuous improvement and is a key factor in its success and sustainability.

18. The document is a clear and concise guide to the monitoring and evaluation process and is a valuable tool for anyone looking to improve their organization's performance and achieve its goals.

INPUT®

**SYSTEM
INTEGRATION**



SYSTEM INTEGRATION (I)

- **Demand Drivers**
 - **Hardware Integration**
 - **Software Integration**
 - **Demand Brakes**
 - **Limited Communications Requirements**
 - **Best Cases: Multiple Campus or Statewide Integration**
 - **Worst Case: Single LAN**
 - **Most Likely Case: Multiple LANs**
 - **Unanswered Questions**
 - **"Ownership" of Data in Shared Data Processing Environment**
 - **Data Security**
-



SYSTEM INTEGRATION (II)

- **Market Realities**
 - **Need: Software, Not Hardware, Integration**
 - **Limited Number of Target Establishments (Approximately 1,000)**
 - **Belief by Larger Schools of Greater In-House Capability**
 - **Heavily Discounted/Donated Equipment Leads to Expectation of Low-Cost**

 - **Prognosis: Fair**
-



SUMMARY

- **Technology's Role: Help Attract Quality**
 - **Long, Tough Sell**
 - **Requires Extensive Support**
 - **Administration Software**
 - **13% AAGR**
 - **\$100 Million in 1991**
 - **DEC Dominates Academic Computing; IBM Leads in Administrative Computing**
-



SPECIALIZED INTEGRATION OPPORTUNITIES

- **University Hospitals**
 - **Affiliated Research Institutions**
 - **Supercomputer Centers**
 - **"Media Integration" at Libraries**
 - **Newspaper**
 - **Magazines**
 - **Microfiche**
 - **CD-ROM**
 - **Books**
 - **Pamphlets**
 - **Diskettes**
-



OTHER OPPORTUNITIES

- **Good**
 - **Administrative Software**
 - **Relational DBMS**
 - **Software Integration**
 - **Limited**
 - **Hardware/Communication Integration**
-

