Trends for the 1990s

Dennis Wayson
Vice President, Research
INPUT

R. Dennis Wayson
Vice President, Research
INPUT

R. Dennis Wayson is Vice President of Research. He has well over 20 years of experience in many areas of the information services industry. At INPUT he is responsible for all U.S.-based research staff, including user and vendor programs, custom research, and corporate planning. As a senior manager he is a key player in all INPUT plans and activities. He has held positions with Bank of America in the management of user-based systems (worldwide), and was Director of Information Systems and Technology at Sun Company for many years. He is also a popular speaker at industry conferences and consultant to top companies around the world.

Mr. Wayson holds a B.S. degree from Lehigh University and an M.S. in Operations Research and Computer Science from Cornell University. He also has attended the Columbia University program in business management.

Overview

- Fundamental Driving Forces
- IS Organizational Change
- Information Services Industry Trends
- What Does It All Mean?
- Conclusions

INPUT

NOTES:

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Fundamental Driving Forces

Key Business Trends:

Shorter Product Life Cycles

More Customization/Specialization

Narrower Market Segments

Higher Impact of Technology

More Competition

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Fundamental Driving Forces

- *Apply to the Information Services Industry*
- *Are Restructuring the Role of IS*
  - Reactive to Proactive
  - Technology-Driven to User-Driven
  - Centralized To "Federated"
- *And Changing the Formula for Success*

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Information Systems—Major Issues

- Rising Management Expectations
- User Demands for Increasingly Complex Solutions
- Managing the Technology Investment
- Integration of Data/Technology/Applications
- Delivery of "Mission Critical" Systems

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Blocking Factors

- Infrastructure Gridlock
- Lack of Qualified In-House Personnel
- Existing Applications Portfolio
- Organizational Response Time

Create Opportunities for the Information Services Industry

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IS Organization in the 1990s

Not Centralized

Not Decentralized

<u>Federated</u>

Brought together "by agreement of each party to sublimate its power to the central authority in common affairs." - Webster

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Federated IS Organization

Federal Government	Corporate IS
Defense	Competition
Treaties	Partnerships
Regulation	Standards
National Programs	Corporate Systems
National Policies	Corporate Policies

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NOTES:

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Federated IS Organization

State Government	Unit IS
Citizens	Customers
Local Issues	Business Support
Operating Programs	Operating Systems
Policy Implementation	Policy Implementation

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IS Responsibilities—1990s

- Treat "Users" as Customers
- Analyze "Make" or "Buy" Decisions
- Consult on Strategy and Direction
- Support Organizational Units at All Levels in Use of:
  - Information
  - Information Systems and Services
  - Information Technology

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Information Services Industry Trends

INPUT

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Key Trends for the 1990s

- Products & Services Markets Blurring
- Changing Market Structure
- Internationalization
- Standards
- Vendor Reactions

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Products & Services Blurring

Traditional Competitors Are Changing:

- Traditional <u>Product</u> Companies Adding Services
- Traditional <u>Service</u> Companies Adding Products (Arthur Andersen, Peat Marwick)

New Competitors Emerge with "Solution Services"

- McKesson
- AMR

INPUT

NOTES:

JJ88-DW1-13A,B

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"Blurring" of Offerings Reflects
Changing Market Structure/Demand

- Systems Integration Continues to Emerge
- EDI Incorporates Multiple Products/Services
- New Technologies Will Spawn Additional Change
  - Image
  - Integrated Voice/Data
  - High-Performance Digital Communications

INPUT

NOTES:

JJ88-DW1-15A,B

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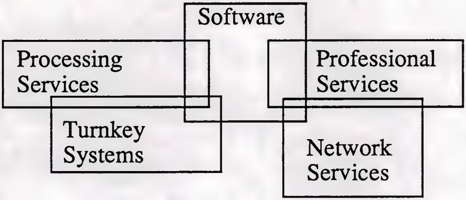
IS Market Structure—1980s

INPUT's View



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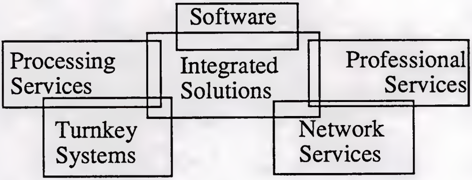
IS Market Structure—1990s

A Different View



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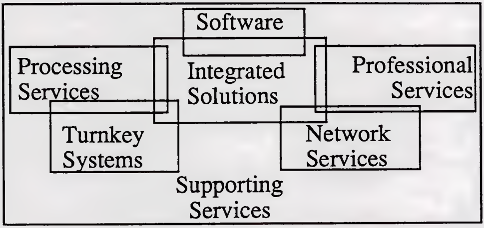
IS Market Structure—1990s

Emphasis on Supporting Services



INPUT

NOTES:

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Internationalization
A Dominant Trend in the '90s

- Collapsing Market Barriers
  - Europe
  - North America
- Growing Market Interest/Participation
  - Pacific Rim
- Internationalization of Buyer Requirements

INPUT

NOTES:

JJ88-DW1-19

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Internationalization

- Computer Manufacturers Ahead Now
- Information Services Companies Falling Behind
- Competition Coming:
  - Cap Gemini
  - Sema - Cap
  - SDL Scicon

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NOTES:

JJ88-DW1-20

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Standards

Driven by:
- Internationalization
- Buyer's Integration Requirements
- Dominant Providers/Coalitions

Focused on:
- Bridging the Technical Interface
- Rationalizing the Human Interface

HUMATICS ™

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NOTES:

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Standards in the 1990s

Rationalization — Not Unification

Software — Not Hardware Driven

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Vendor Reactions

INPUT

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Summing It Up

- Broadening Product Strategies
- Emphasis on "Solution" Niches
- Focus on Quality & Service

Accomplished through:

- Self-Funded Expansion
- Consolidation—Partnering/Acquisitions

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NOTES:

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IBM as an Example

Software Products	ASD SAA AS/400	Application Solutions Programming Systems
Processing Service	INS Product Support	
Systems Integration	SID	
Customer Service	3rd-Party Maintenance	

INPUT

NOTES:

JJ88-DW1-25A,B

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Current Examples Portend 1990s Trends

- IBM
- Oracle
- Arthur Andersen
- Computer Associates
- Digital Equipment

INPUT

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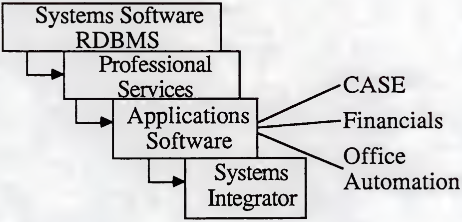
Oracle as an Example



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Arthur Andersen

Management Consulting
Software Development
→ Software Products
- Mac-Pac
- Foundation
- DCS

→ Education
→ Systems Integration

$1.4 Billion
13,000 Professionals

INPUT

NOTES:

JJ88-DW1-27

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Computer Associates

- Largest Software Merger - UCCEL
- Pursued Cullinet
- Made Offer for MSA
- Strategy—Growth by Acquisition
- Porting Products to DEC and Others
- Alliance with UNISYS

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Digital Equipment

Software Products

Professional Services

Systems Integration

Enterprise Services

Alliances (Apple & CIM)
Network Systems
Architecture

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Consolidation in the Industry

A Dominant Industry Phenomenon in the 1990s:

- A Smaller Number of Larger Vendors
- Providing a Broader Range of Integrated Offerings
- Supported by Smaller Niche Vendors
- Targeted at Providing Solutions

INPUT

NOTES:

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Merger/Acquisition

Delivery Mode	Vendors
Processing	TRW/Chilton EDS/MTECH D&B/Interactive Data D&B/IMS International
Software	IBM/Spectrum Informix/Innovative Software Apple/Network Innovations Apple/Orion Network

INPUT

NOTES:

JJ88-DW1-31A,B

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Merger/Acquisition

Delivery Mode	Vendors
Professional Services	Ford Aerospace/BDM Intl
	NYNEX/AGS
	Emhart/Advanced Technology
Turnkey	UNISYS/Convergent

INPUT

NOTES:

JJ88-DW1-32

Alliances

- Digital/Apple
- Ashton-Tate/Microsoft/SYBASE
- Relational Technology/ Computer Task Group
- CAI/UNISYS
- IBM/Metaphor (Equity)
- CASE (Numerous)

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NOTES:

JJ88-DW1-33

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Conclusions

- End-Users Will Control the Major Purchase Decisions
- Systems Integration Expands as Solutions Grow in Complexity
- Internationalism Is Here
- Technology Continues to Create Opportunities

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NOTES:

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Conclusions

- Shorter Lifecycle Calls for Fast Response
- Vendor Versatility a Key to Growth
- Everybody Needs Strategic Partners
- Services (People) Will Be the Key
  - Recruiting
  - Motivation
  - Compensation
  - Training

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Keynote:

Trends for the 1990s

Dennis Wayson
Vice President, Research
INPUT

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OVERVIEW

- Fundamental Driving Forces
- *IS* Organizational Change
- Information Services Industry Trends
- What Does It All Mean?
- Conclusions

FUNDAMENTAL DRIVING FORCES

KEY BUSINESS TRENDS:

- Shorter Product Life Cycles
- More Customization/Specialization
- Narrower Market Segments
- Higher Impact Of Technology
- More Competition

FUNDAMENTAL DRIVING FORCES

Apply To The Information Services Industry

Are Restructuring The Role Of IS

- Reactive To Proactive
- Technology Driven To User Driven
- Centralized To "Federated"

And Changing The Formula For Success

INFORMATION SYSTEMS - MAJOR ISSUES

- Rising Management Expectations
- User Demands For Increasingly Complex Solutions
- Managing The Technology Investment
- Integration of Data/Technology/Applications
- Delivery of "Mission Critical" Systems

5A,B

BLOCKING FACTORS

- Infrastructure Gridlock
- Lack of Qualified In-House Personnel
- Existing Applications Portfolio
- Organizational Response Time

Create Opportunities For The Information Services Industry

<u>IS</u> ORGANIZATION IN THE 1990'S

NOT CENTRALIZED

NOT DECENTRALIZED

<u>FEDERATED</u>!

Brought together *"by agreement of each party to sublimate it's power to the central authority in common affairs."* - Webster

7

FEDERATED IS ORGANIZATION

FEDERAL GOVERNMENT	CORPORATE IS
- Defense - Treaties - Regulation - National Programs - National Policies	- Competition - Partnerships - Standards - Corporate Systems - Corporate Policies

8

FEDERATED IS ORGANIZATION

STATE GOVERNMENT	UNIT IS
- Citizens - Local Issues - Operating Programs - Policy Implementation	- Customers - Business Support - Operating Systems - Policy Implementation

IS RESPONSIBILITIES - 1990'S

- Treat "Users" As Customers
- Analyze "Make" or "Buy" Decisions
- Consult On Strategy And Direction
- Support Organizational Units At All Levels In Use Of
    * Information
    * Information Systems And Services
    * Information Technology

10 A + B

INFORMATION ~~SYSTEMS~~ SERVICES
INDUSTRY TRENDS

KEY TRENDS FOR THE 1990'S

- Products & Services Markets Blurring
- Changing Market Structure
- Internationalization
- Standards
- Vendor Reactions

PRODUCTS & SERVICES BLURRING

TRADITIONAL COMPETITORS ARE CHANG~~ES~~ING:

- Traditional **Product** Companies Adding Services

- Traditional **Service** Companies Adding Products (Arthur Andersen, Peat Marwick)

NEW COMPETITORS EMERGE WITH "SOLUTION SERVICES"

- * McKesson
- * AMR

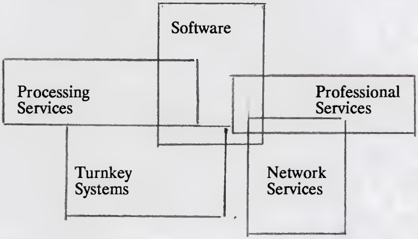
13A,B

"BLURRING" OF OFFERINGS REFLECTS
CHANGING MARKET STRUCTURE/DEMAND

- **SYSTEMS INTEGRATION** Continues To Emerge
- EDI Incorporates Multiple Products/Services
- New Technologies Will Spawn Additional Change
    * Image
    * Integrated Voice/Data
    * High Performance Digital Communications

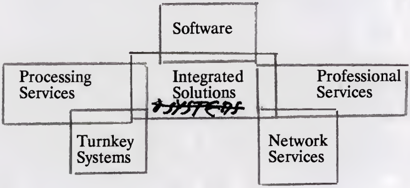
15A 1B

IS MARKET STRUCTURE - 1980'S
INPUT'S VIEW



16

IS MARKET STRUCTURE - 1990'S
A DIFFERENT VIEW



IS MARKET STRUCTURE - 1990'S
EMPHASIS ON SUPPORTING SERVICES

Software

Processing Services

Integrated Solutions

Professional Services

Turnkey Systems

Network Services

Supporting Services

SAME AS PREVIOUS SLIDE WITH BORDER TO SHOW SUPPORTING SERVICES

INTERNATIONALIZATION
A DOMINANT TREND IN THE 90'S

- Collapsing Market Barriers
    * Europe
    * North America
- Growing Market Interest/Participation
    * Pacific Rim
- Interantionalization Of Buyer Requirements

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INTERNATIONALIZATION

- Computer Manufacturers Ahead Now
- Information Services Companies Falling Behind

COMPETITION COMING:

* Cap Gemini
* Sema - Cap
* SDL Scicon

STANDARDS

DRIVEN BY:

- Internationalization
- Buyer's Integration Requirements
- Dominant Provid~~o~~ers/Coalitions

FOCUSED ON:

- Bridging The Technical Interface
- Rationalizing The Human Interface

HUMATICS™

21

STANDARDS IN THE 1990'S

RATIONALIZATION **- NOT -** *UNIFICATION*

SOFTWARE **- NOT -** *HARDWARE DRIVEN*

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VENDOR REACTIONS

[Bob - need several examples]

ORACLE
DEC
AA
Others

SUMMING IT UP

- Broadening Product Strategies
- Emphasis On "Solution" Niches
- Focus On Quality & Service

ACCOMPLISHED THROUGH:

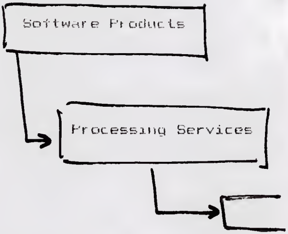
- Self Funded Expansion
- Consolidation - Partnering/Acquisitions

Current Examples Portend 1990's Trends

* IBM
* Oracle
* Arthur Anderson
* Computer Associates
* Digital Equipment

25

IBM As An Example



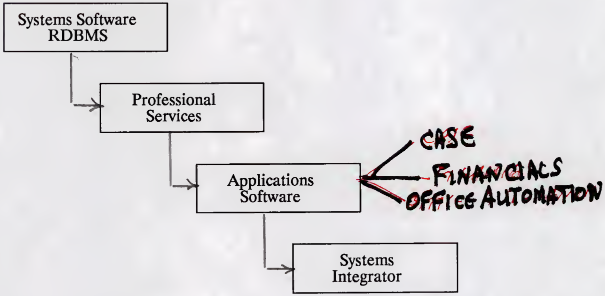
ASD
SAA
AS/400
Application Solutions
Programming Systems

INS
Product Support

IBM As An Example

Systems Integration	SID
Customer Service	3rd party Maintenance

<u>ORACLE</u> AS AN EXAMPLE



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Arthur Anderson

Management Consulting
Software Development

Software Products

- MAC-PAC
- FOUNDATION
- DCS

Education

Systems Integration

$1.4 Billion
13,000 Professionals

27

Computer Associates

* Largest Software Merger - UCCEL
* Pursued Cullinet
* Made Offer for MSA
* Strategy - Growth by Acquisition
* Porting Products to DEC and Others
* Alliance with UNISYS
* ~~Sensitivity to Support Concerns - Merged Products~~

Digital Equipment

Software Products

Professional Services

Systems Integration

Enterprise Services

Alliances (Apple & CIM)
Network Systems
Architecture

29

Consolidation In the Industry

A Dominant Industry Phenomena in the 1990's:

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- Providing A Broader Range of Integrated Offerings
- Supported by Smaller Niche Vendors
- Targeted At Providing Solutions

Merger/Acquisition

Delivery Mode	Vendors
Processing	TRW/Chilton
	EDS/MTECH
	D&B/Interactive Data
	D&B/IMS International
Software	IBM/Spectrum
	Informix/Innovative Software
	Apple/Network Innovations
	Apple/Orion Network

31 A, B

Merger/Acquisition

Delivery Mode	Vendors
Professional Services	Ford Aerospace/BDM Intl NYNEX/AGS Emhart/Advanced Technology
Turnkey	UNISYS/Convergent

32

Alliances

* Digital/Apple
* Ashton-Tate/Microsoft/SYBASE
* Relational Technology/Computer Task Group
* CAI/UNISYS
* IBM/Metaphor (Equity)
* CASE (Numerous)

33

Conclusions

* End-Users will Control the Major Purchase Decisions
* Systems Integration Expands as Solutions Grow in Complexity
* Internationalism is Here
* Technology Continues to Create Opportunities

Conclusions

* Shorter Life Cycle Calls for Fast Response
* Vendor Versatility a Key to Growth
* Everybody Needs Strategic partners
* People(as always) Are the Key
  - Recruiting - Motivation
  - Compensation - Training

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