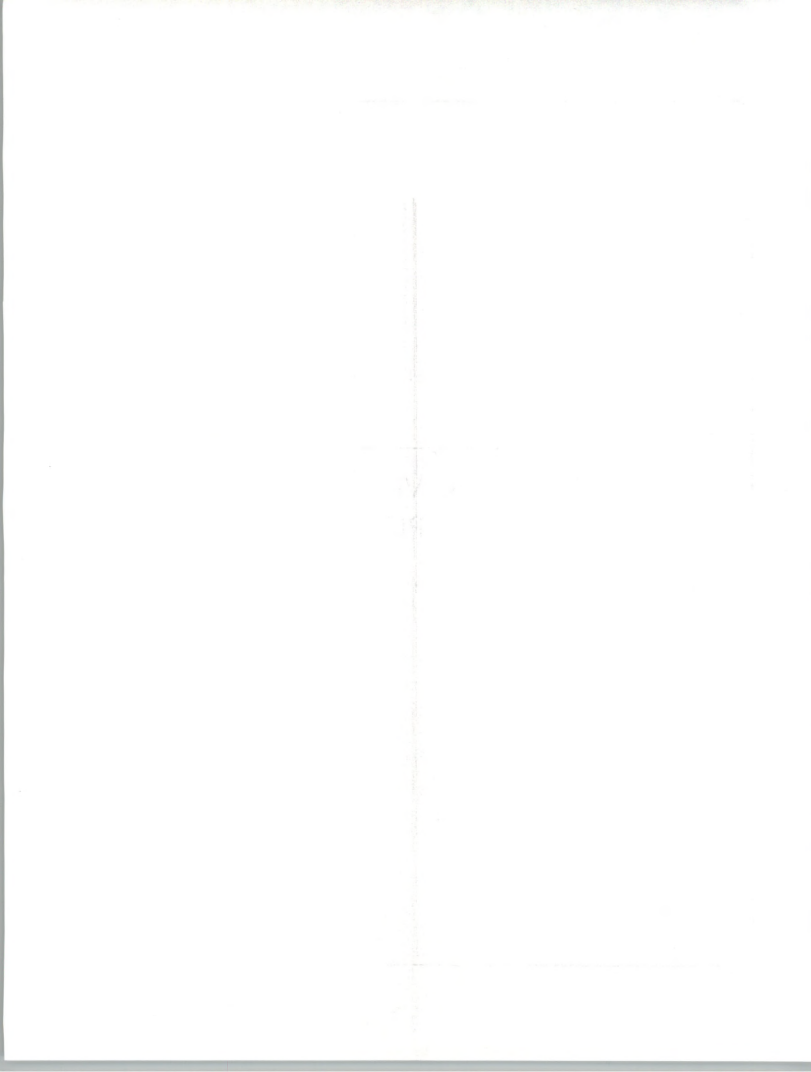


# Systems Integration

---

John Frank, Vice President  
INPUT

INPUT



## SYSTEMS INTEGRATION MARKET Definition for Convenience

### INPUT's Definitions

#### *Original*

“The Provision of a *Total* Solution to a Multidisciplinary Information Systems Requirement.”

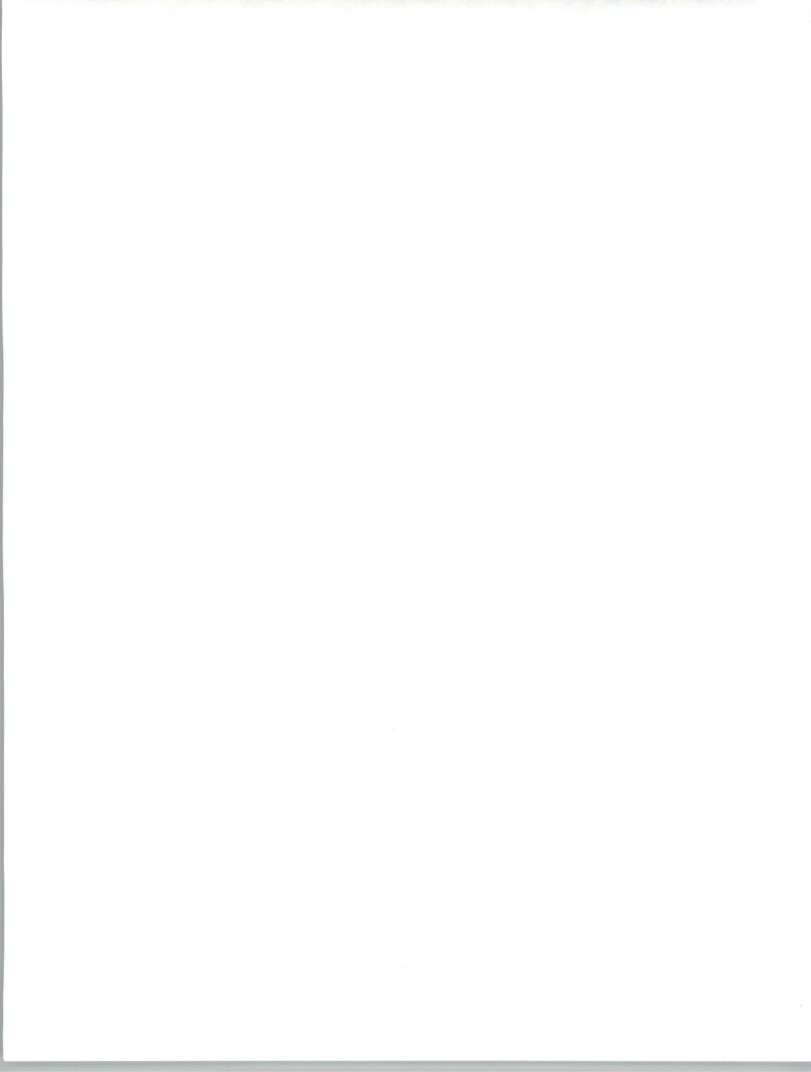
#### *Working*

“The Provision of an *Integrated* Solution to a Multidisciplinary Information Systems Requirement.”

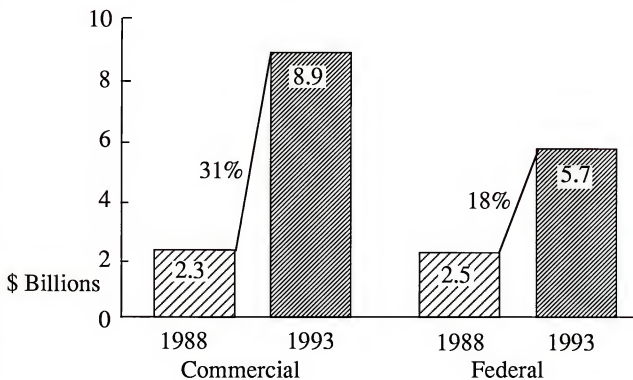
### The Market's Definition

“Assume a **Management Role** in the Provision of an Information Technology-Based Solution to a Critical Business Requirement—Small or Large.”

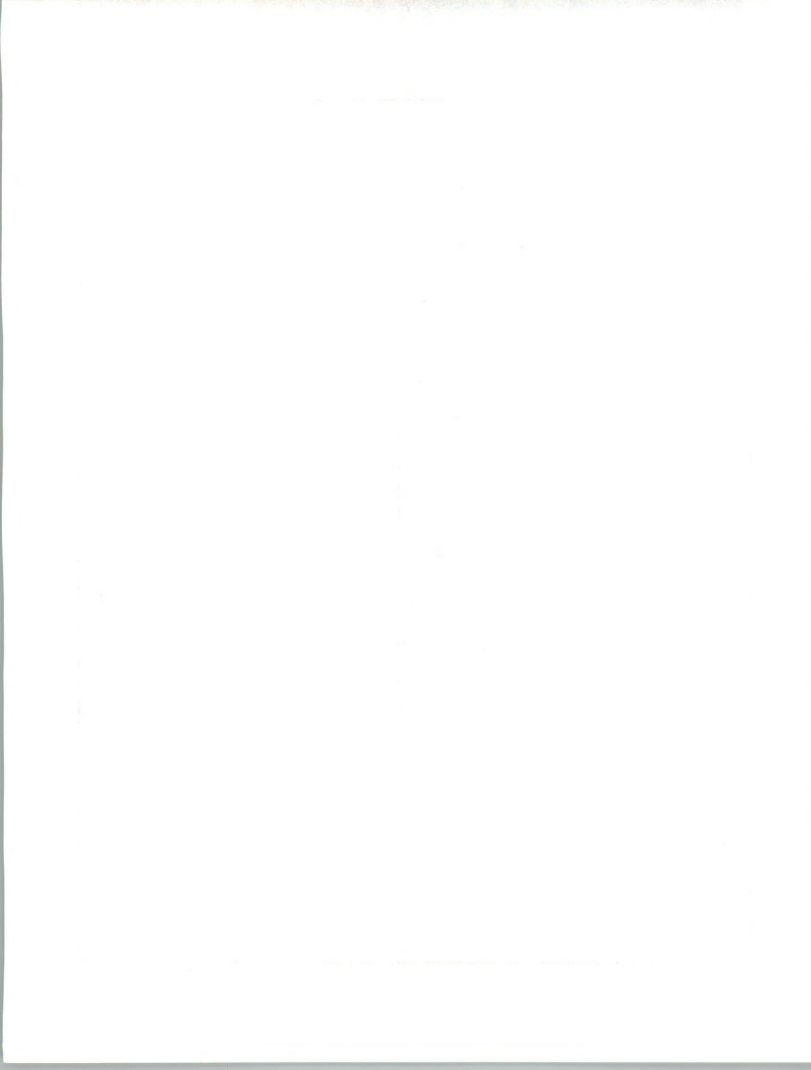
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## SYSTEMS INTEGRATION EXPENDITURES FORECAST



INPUT

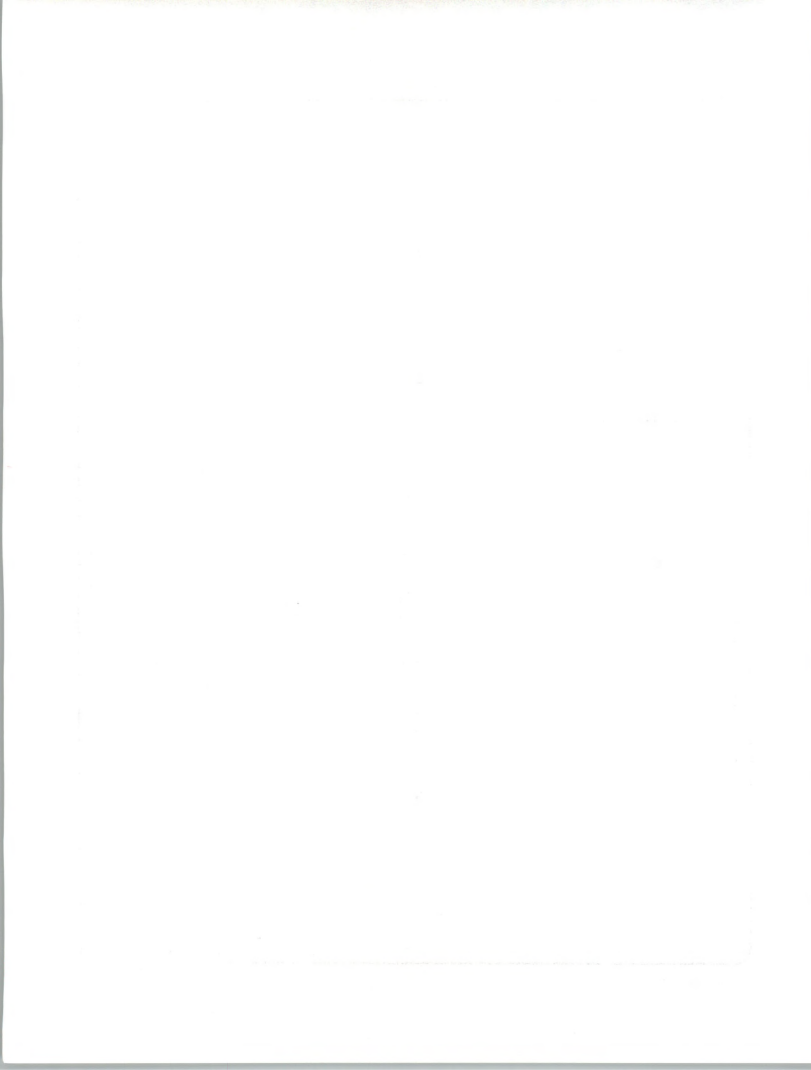


## FORECAST DATA BASE, 1987-1988

	Commercial	Federal
Projects Analyzed Completed	78	47
In Progress	88	36
“Suspects” Resolved and Not Used	102	23
Total	268	106

Revised 8/88

INPUT



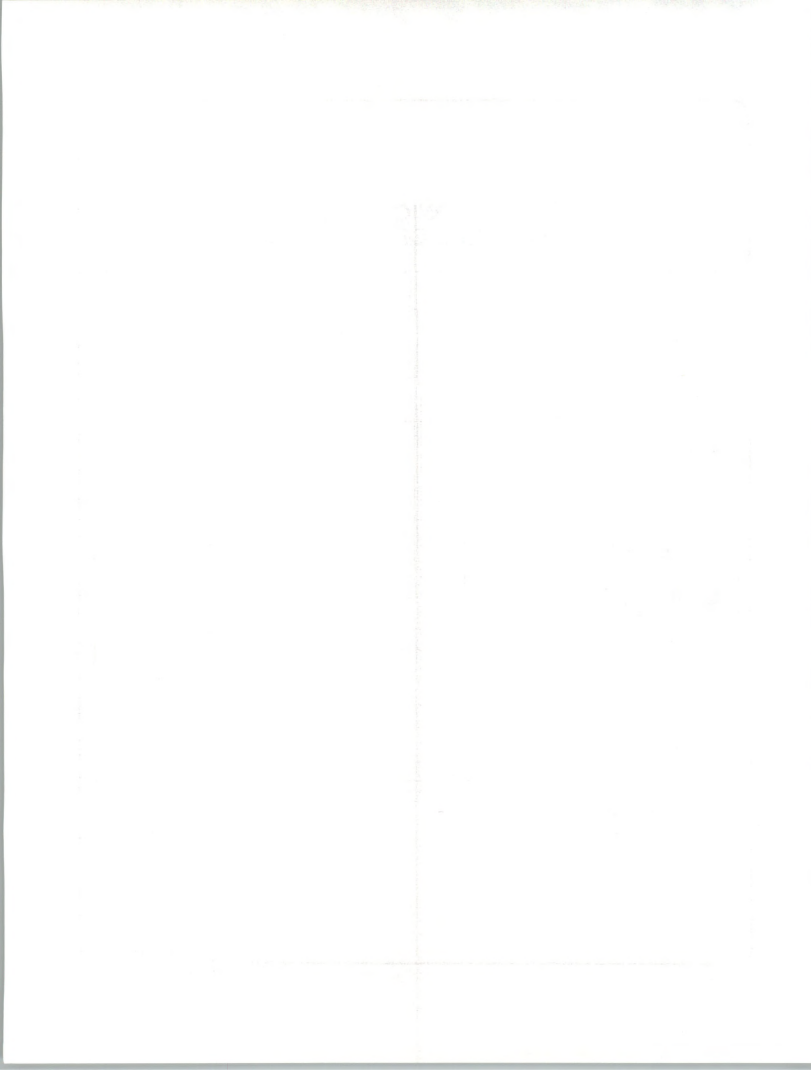


## DISTRIBUTION OF PROJECTS BY VALUE OF INDUSTRY

Industry	No. Projects	Contract Value (\$M)						
		<1	1-5	6-10	11-20	21-50	51-100	>100
		Number of Projects						
Federal	82		15	15	8	21	9	14
State and Local	21	2	7	3	1	7	1	
Transportation	2	1			1			
Utilities	4		1		2	1		
Discrete Mfg.	8	1	2	2		2	1	
Distribution	8		3		2	1		2
Insurance	6	1	1	3		1		

Revised 8/88

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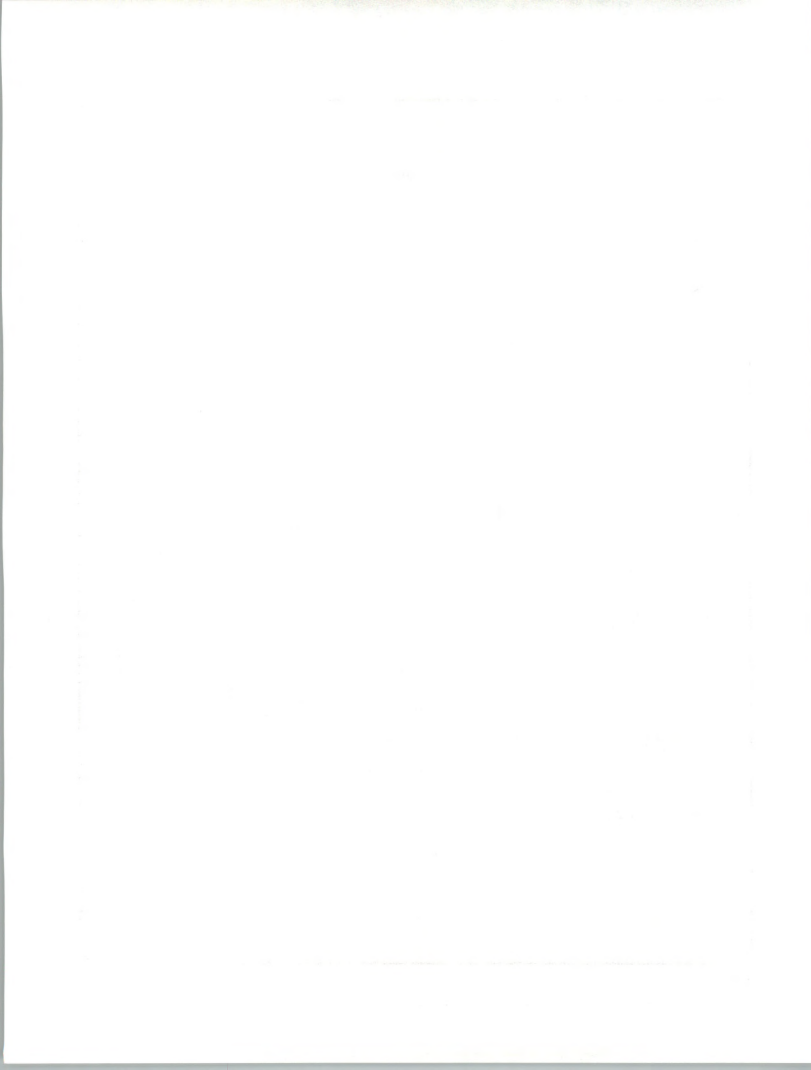


## DISTRIBUTION OF PROJECTS BY VALUE OF INDUSTRY

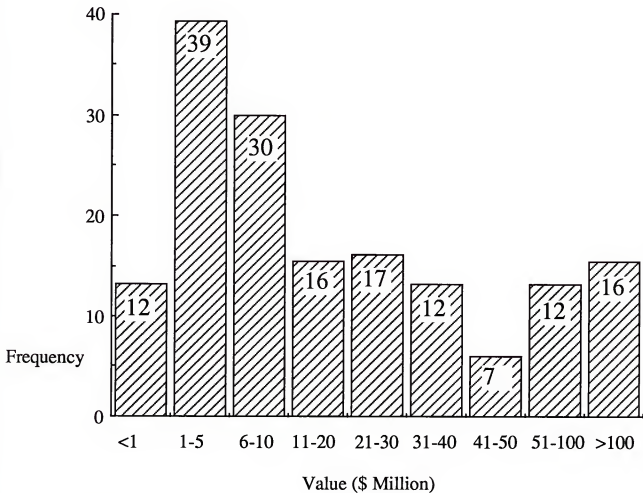
Industry	No. Projects	Contract Value (\$M)						
		<1	1-5	6-10	11-20	21-50	51-100	>100
		Number of Projects						
Banking/Finance	7	2	1	2		2		
Medical	5	4	1					
All Other	4		2	1		0	1	
Telecomm	3		1	1		1		
Process Mfg.	11	1	5	3	2			
Total Commercial	80	12	24	15	8	15	3	2
Total All Projects	162	12	39	30	16	36	12	16

Revised 8/88

INPUT

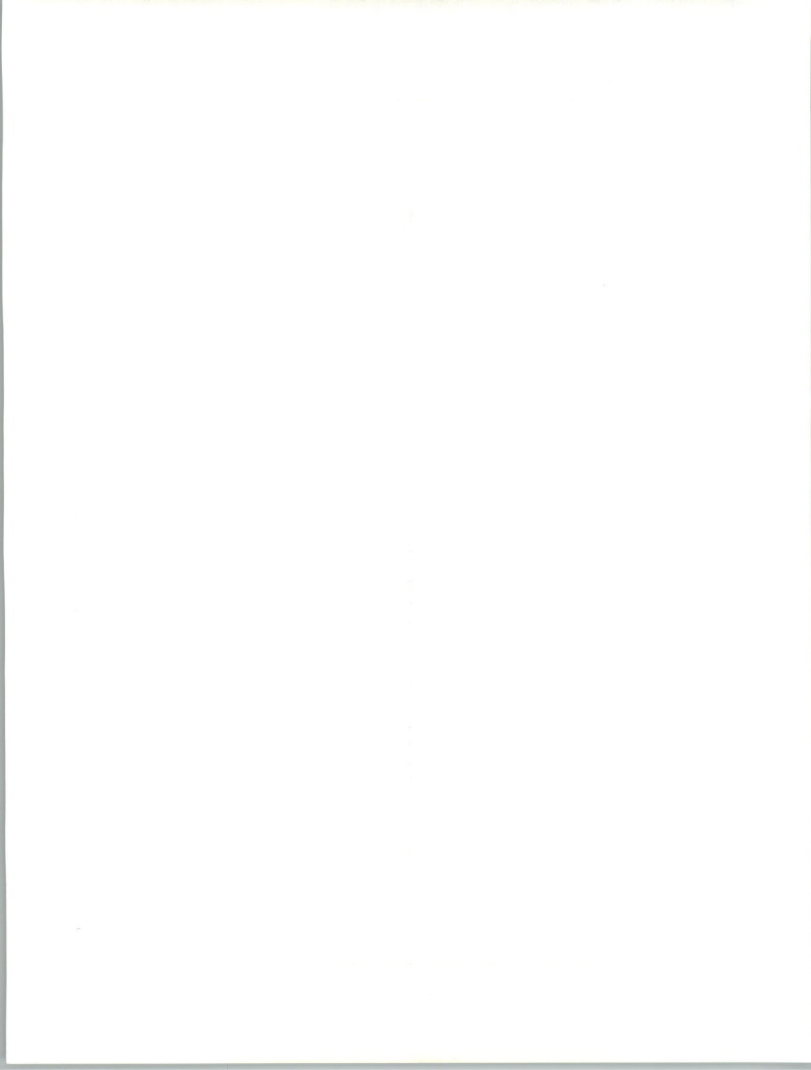


## DISTRIBUTION OF PROJECTS BY VALUE

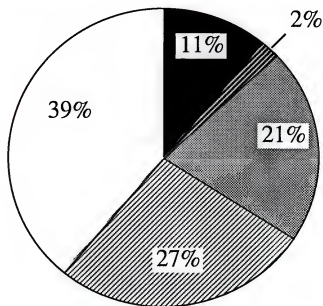


N = 161  
Revised 8/88

INPUT



## COMMERCIAL SI APPLICATIONS



- Finance/Administration
- ▨ Office Systems
- ▩ Operations
- ▧ Network
- Industry-Specific

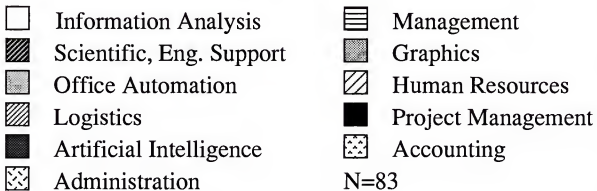
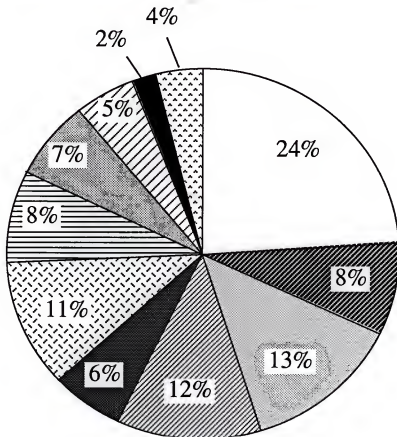
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Revised 8/88

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## FEDERAL SYSTEMS INTEGRATION MARKET BY TYPE OF APPLICATION



N=83

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INPUT



**SYSTEMS INTEGRATION MARKET**  
**The Changing Environment**

INPUT Premise

"Changing Buying Patterns

*Will Dictate*

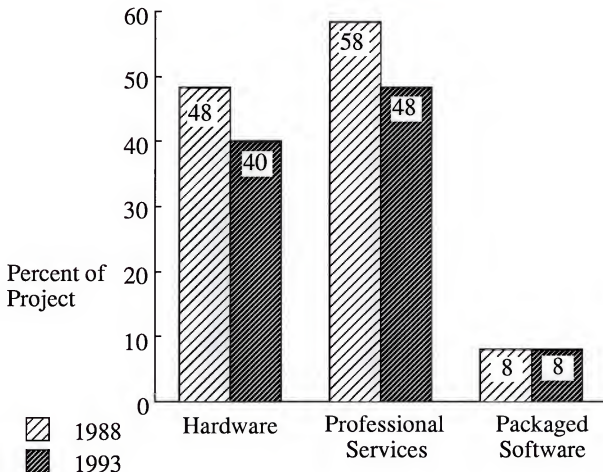
Changing Selling and Service Patterns"

INPUT

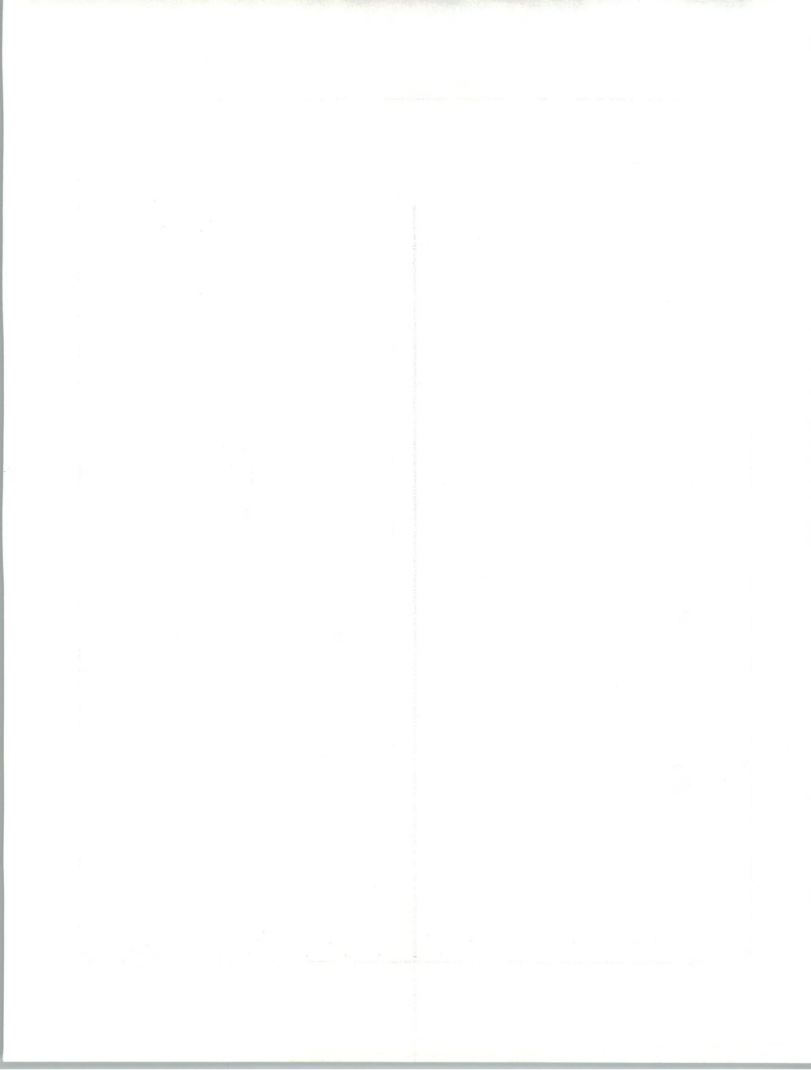


## TRENDS IN SI PROJECT COMPOSITION

Federal & Commercial  
(Based on 1988 Forecast)



INPUT



## SI PROJECT REPORTS (SIPR)

Number of Industry Reports:

Industry	Number	Industry	Number
Banking/Finance	4	Services	1
Wholesale Dist.	1	State & Local	16
Retail Dist.	5	Transportation	1
Insurance	5	Utilities	2
Discrete Mfg.	10	Other	4
Process Mfg.	7	Federal	25
Medical	5		

(September Release)

INPUT





## SCHEDULE OF PROJECT COMPONENTS—A MODEL

Project Component	Year 1 (Percent)	Year 2 (Percent)	Year 3 (Percent)	Year 4 (Percent)	Total Component Expenditures (Percent)
Computer Hardware		100			28
Communications Hardware			100		8
Systems Software Packages		100			2
Applications Software Packages			100		4
Consulting	60	20	20		6
Project Management Fees	40	20	20	20	6
Design/Integration	45	35	20		11
Software Development		50	50		30
Education/Training and Documentation			33	67	2
Operation and Maintenance			33	67	2
Other Expenditures				100	1
<b>Total</b>	<b>13</b>	<b>30</b>	<b>34</b>	<b>23</b>	<b>100</b>

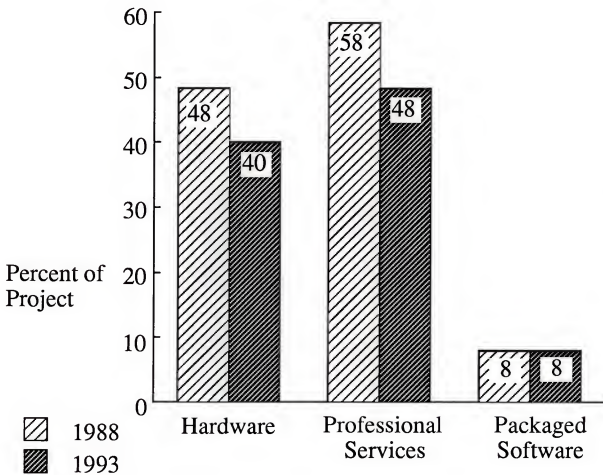
Note: These averages are based on U.S. experience.

**INPUT**

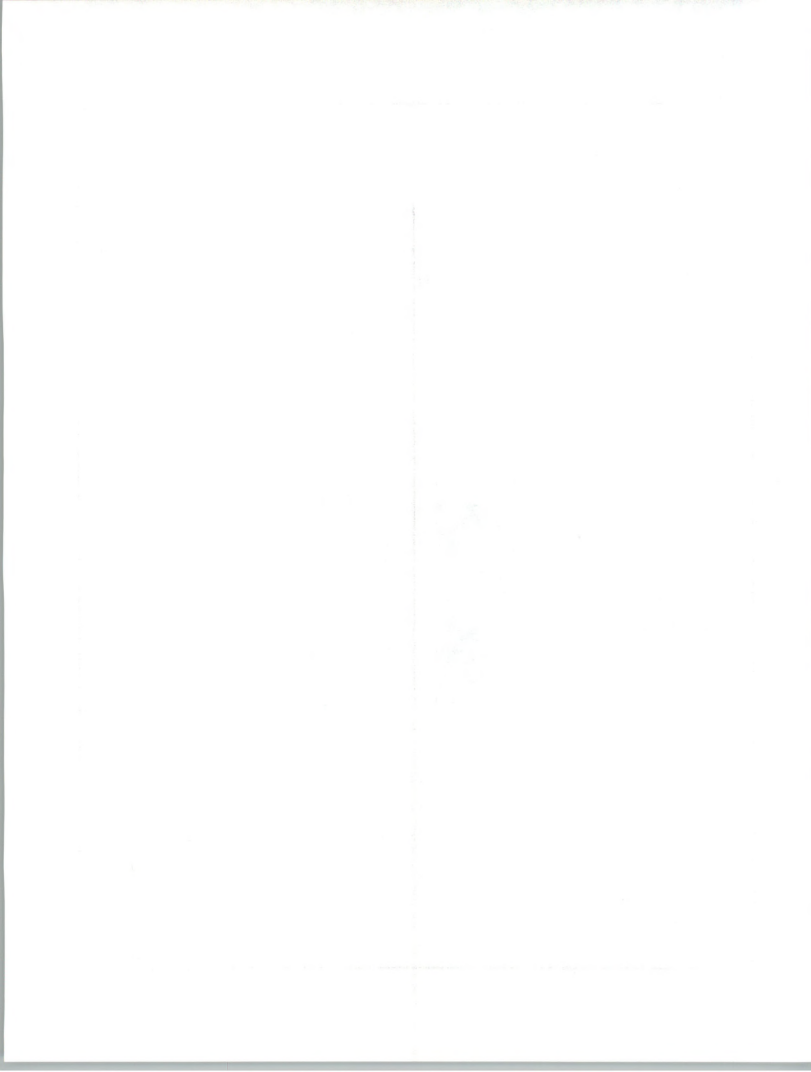


## TRENDS IN SI PROJECT COMPOSITION

Federal & Commercial  
(Based on 1988 Forecast)

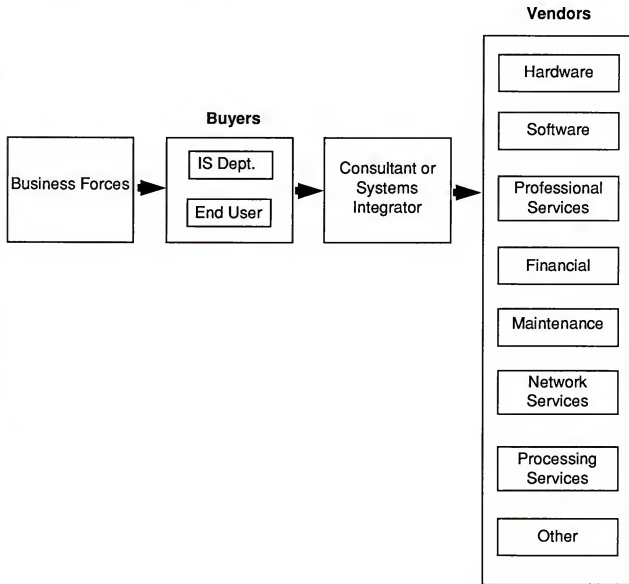


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# SYSTEMS INTEGRATION MARKET

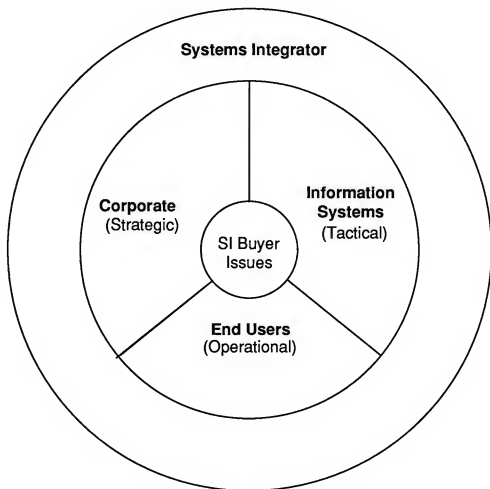
## The Changing Environment



INPUT

1000

## SYSTEMS INTEGRATION— COMMUNITIES INVOLVED



INPUT

The first part of the paper discusses the importance of maintaining accurate records of all transactions. This is particularly crucial for businesses that operate in a highly competitive market. By keeping detailed records, companies can better understand their financial performance and identify areas for improvement.

In addition, the paper highlights the need for transparency in financial reporting. This involves providing clear and concise information to stakeholders, including investors and creditors. Transparency helps to build trust and confidence in the company's financial statements.

Another key aspect of financial management is the use of budgeting and forecasting. These tools allow companies to plan for the future and allocate resources effectively. By setting a budget and monitoring actual performance against it, companies can identify variances and take corrective action as needed.

Finally, the paper emphasizes the importance of risk management. This involves identifying potential risks to the company's financial health and developing strategies to mitigate them. Risk management is a critical component of any successful business strategy.



## **THE CHANGING ENVIRONMENT**

### **Systems Integration—Vendor Opportunity**

- Account Control
- Create a New Market
- Establish a New Distribution Channel
- Create a Business Base - a Backlog
- Sell to More Types of Buyers

**INPUT**

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Figure 1. Percentage of women who have ever been in a dating relationship with a partner who has used physical force against them, by age group and education level.

## SYSTEMS INTEGRATION Vendor Classification

Category	Examples
Hardware Producers	IBM Digital UNISYS CDC
Communication/Network Suppliers	RBOCs AT&T
Professional Services	Arthur Anderson
Custom Software Developers	Systemhouse Computer Task Group
Systems Suppliers	BCS EDS MMDS
Application Software Suppliers	BIS Banking Systems, Inc.
Systems Software Suppliers	Oracle Pansophic
Turnkey Suppliers	CAP Gemini America AGS Computers
Federal Systems Integrators	EDS American Management Systems

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## **SYSTEMS INTEGRATION Vendor Classification**

### **Primary SI Vendors**

- Vendors Organizing to Support the Opportunity  
IBM  
Arthur Andersen
- Major Vendors Evolving Their Business Strategy  
Systemhouse  
Digital
- Established Competitors  
BCS  
CDC  
UNISYS  
EDS

### **Secondary SI Vendors**

- Major Vendors without Clear Strategy  
AT&T  
RBOCS  
Other Major Accounting Firms
- Opportunists  
Turnkey Vendors  
Software Companies  
Small Custom Shops  
Small Professional Services Companies
- Emerging Competitors  
Oracle  
Computer Task Group

**INPUT**

[The page contains extremely faint and illegible text, likely bleed-through from the reverse side of the page. The text is too light to transcribe accurately.]

## **SECONDARY SI VENDORS**

### **Perceptions**

- High Level of Interest in SI - a New Market
- Generally Do Not Want to Be Prime Contractor
- SI is a Growing Part of Their Business
- Know Who Major Players Are
- Want Visibility to Major Players for Specific Capabilities

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## SECONDARY SI VENDORS

### Limitations

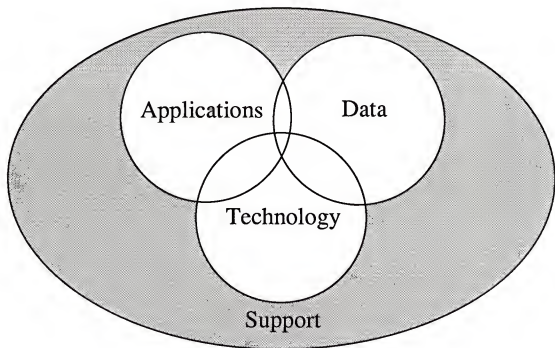
- Experience BaseIs Often Limited
- No Large Project Management Experience
- Narrow Technical Skills
- Lack of Financial Resources
- If Software or Turnkey, Restricted to Own Solution

INPUT

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Published by the  
American Medical Association

## SI PROJECT CLASSIFICATIONS



INPUT



Figure 1. A plot showing the relationship between variables X and Y. The plot is mostly blank, suggesting a very faint or underexposed image.

## SI PROJECT CLASSIFICATIONS

- Applications Level
  - Focused on Specific Business Solutions
  - Driven by Executive/User Management
  - Short-Term Payout with High Visibility

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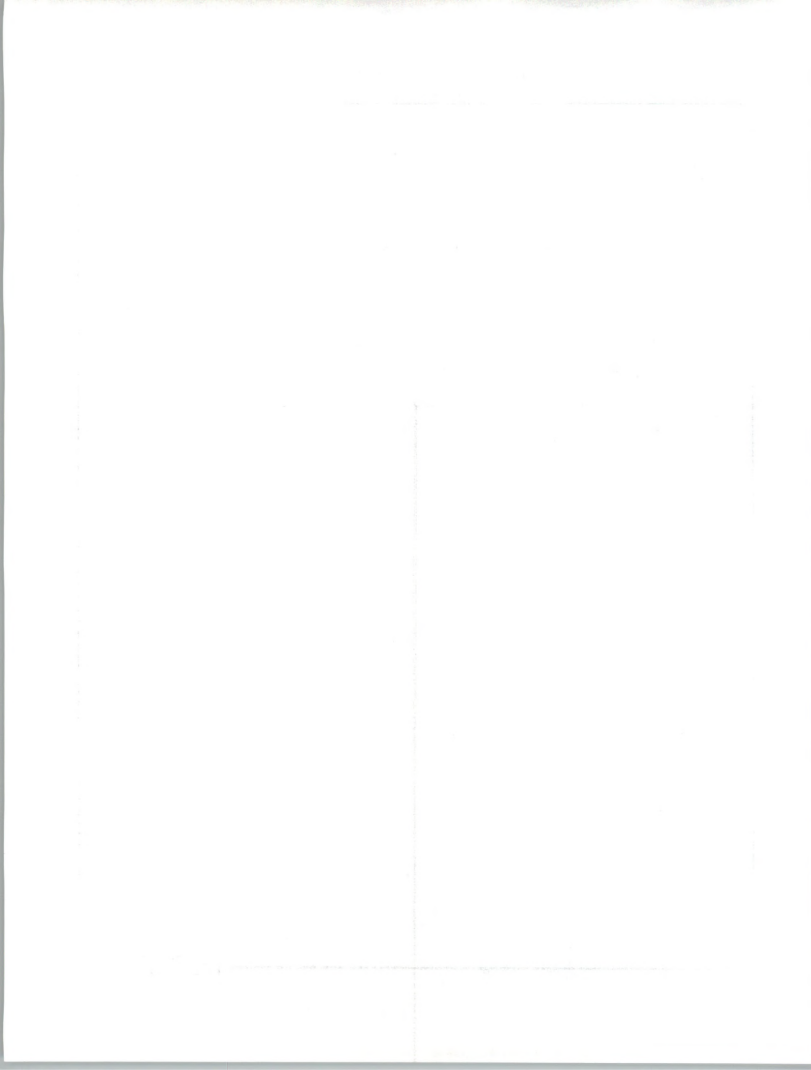
1. The first part of the book is devoted to a general introduction to the subject of the history of the United States.



## SI PROJECT CLASSIFICATIONS

- Data Level
  - Focused on Providing Data Infrastructure
  - Driven by IS or Division Management
  - Provides Platform for “Suites” of Applications

INPUT





## SI PROJECT CLASSIFICATIONS

- Technology Level
  - Focused on Total Delivery Capability
  - Almost Universally IS Driven
  - Provides Standard Environment/Tools

INPUT

... (The following text is extremely faint and largely illegible due to the quality of the scan. It appears to be a list of references or a detailed report, but the specific content cannot be accurately transcribed.)

## APPLICATIONS-FOCUSED SI PROJECTS

*Dominant Vendor Classes :*    57%—Professional Services  
   13%—Turnkey Systems

*Critical Technologies:*        Project Management  
   Methodology

   CASE Tools

   Applications Shells

INPUT



## APPLICATIONS-FOCUSED SI PROJECTS

*Primary Alliances:*

Applications Software  
Companies

Systems Software Companies

*Secondary Alliances:*

Hardware Companies

Telecommunications  
Companies

INPUT



## DATA-FOCUSED SI PROJECTS

*Dominant Vendor Classes:*           **80%**—Professional Services

*Critical Technologies:*           Data Analysis/Design Tools  
Conventional & Relational  
DB Software

*Primary Alliances:*               Applications Software  
Companies

*Secondary Alliances:*           Hardware Companies  
Telecommunications  
Companies

INPUT



TABLE 1  
Summary Statistics



## TECHNOLOGY-FOCUSED SI PROJECTS

*Dominant Vendor Classes:*      **27%**—Communications Providers  
**27%**—Systems Suppliers  
**20%**—Professional Services

*Critical Technologies:*      Network Design Tools  
  
Communications Software & Hardware  
  
Computing

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Main body of the page containing faint, illegible text.

## TECHNOLOGY-FOCUSED SI PROJECTS

*Primary Alliances:*

Communications Companies

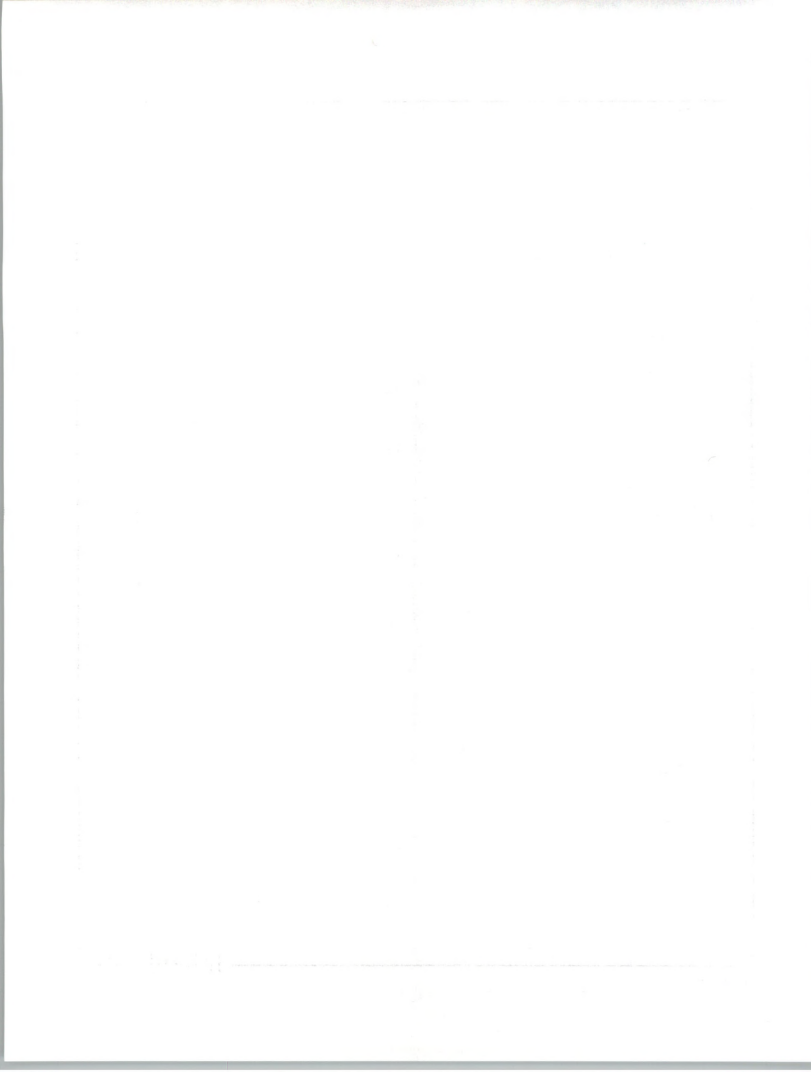
Software Suppliers Co.

Hardware Manufacturers

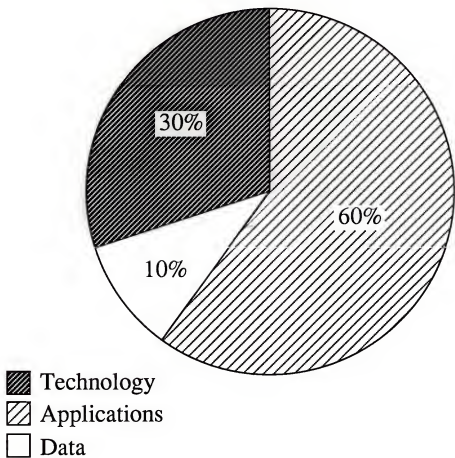
*Secondary Alliances:*

Professional Services  
Companies

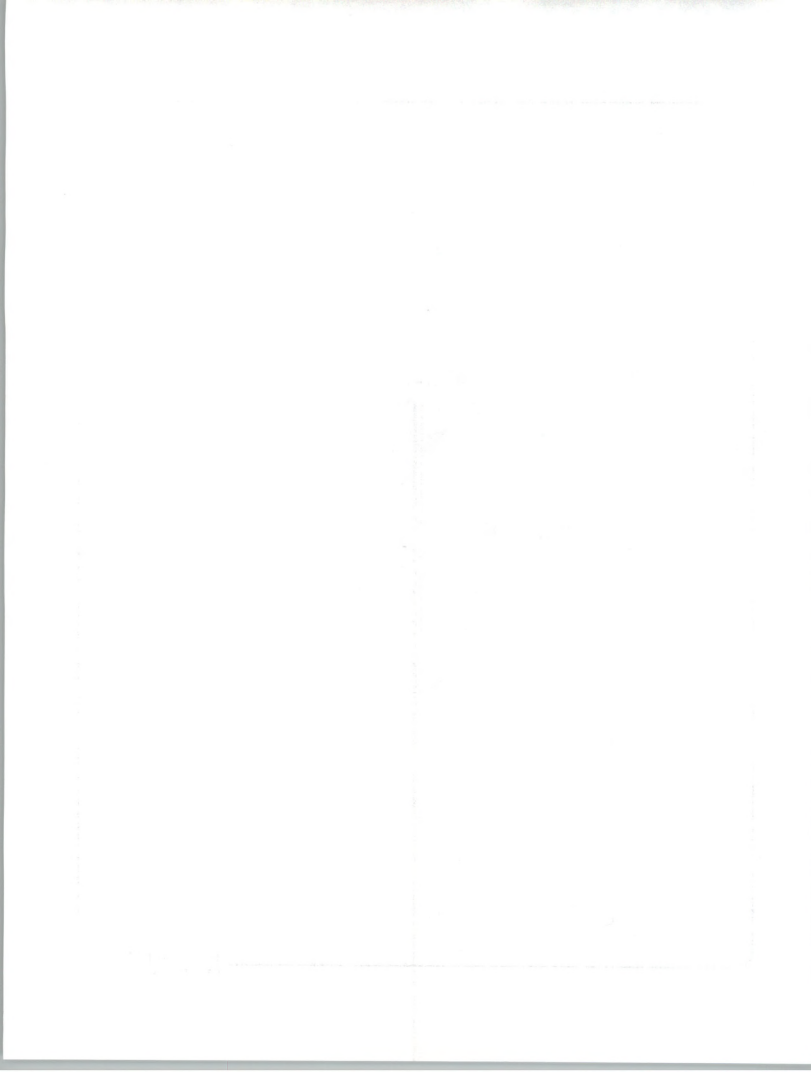
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## DISTRIBUTION OF PROJECTS BY CLASS



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## **BUYER ISSUES—VENDOR SELECTION**

- Selection Criteria/Process
- Environmental/Organizational Impacts
- Project Management Issues
- End-User Perspectives
- Conclusions

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## CHANGING MIX OF AVAILABLE PROJECTS

- INPUT Forecasts over the Next Five Years
  - Decrease in Percentage of *Technology* Projects
  - Continuous Increase in *Applications* SI Projects
  - Rapid Acceleration in *Data-Oriented* Projects

INPUT

## Journal of Interpersonal Violence

Volume 28 Number 1 March 2013

ISSN: 0886-2605

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## **CHANGING MIX OF AVAILABLE PROJECTS**

- Key Factors Influencing the Mix
  - Decreasing Backlog - Hardware Integration
  - Increasing Compliance with Open Standards
  - Increased Dependencies on Relational Data Structures
  - Increasing Focus on Mission-Critical Applications Systems
  - Dominance of User Defined Requirements

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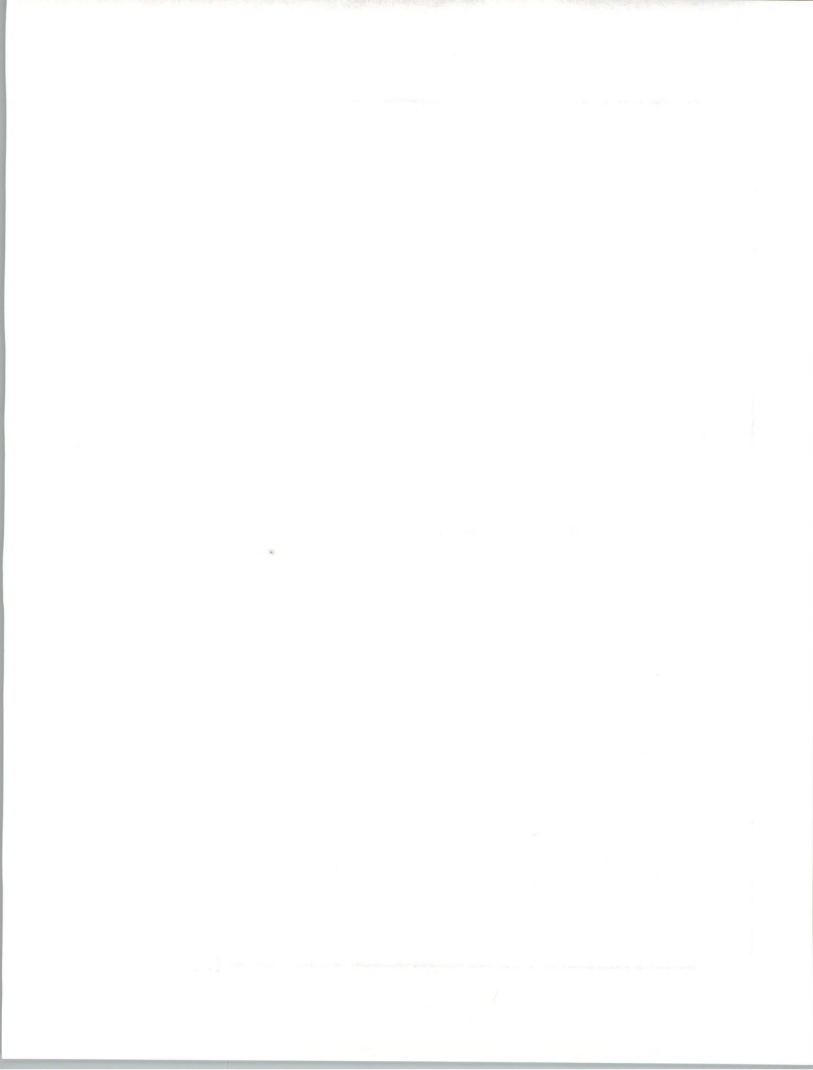
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## VENDOR SELECTION CRITERIA

Type	Percent of Respondents
Industry Experience	86
Application Knowledge	86
Cost/Performance	86
SI Experience	79
Project Management Skills	64

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## VENDOR SELECTION CRITERIA

Type	Percent of Respondents
Support Skills	64
Service Orientation	50
On-Site Visits	43
References	43
Alliances	21

INPUT

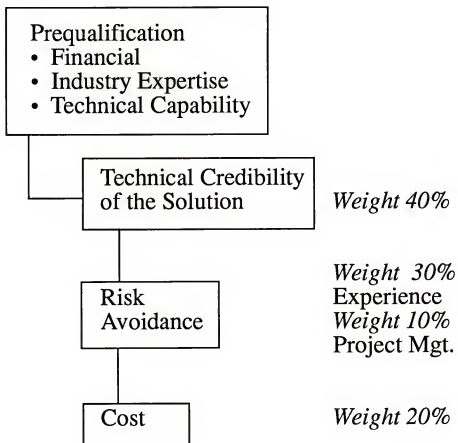
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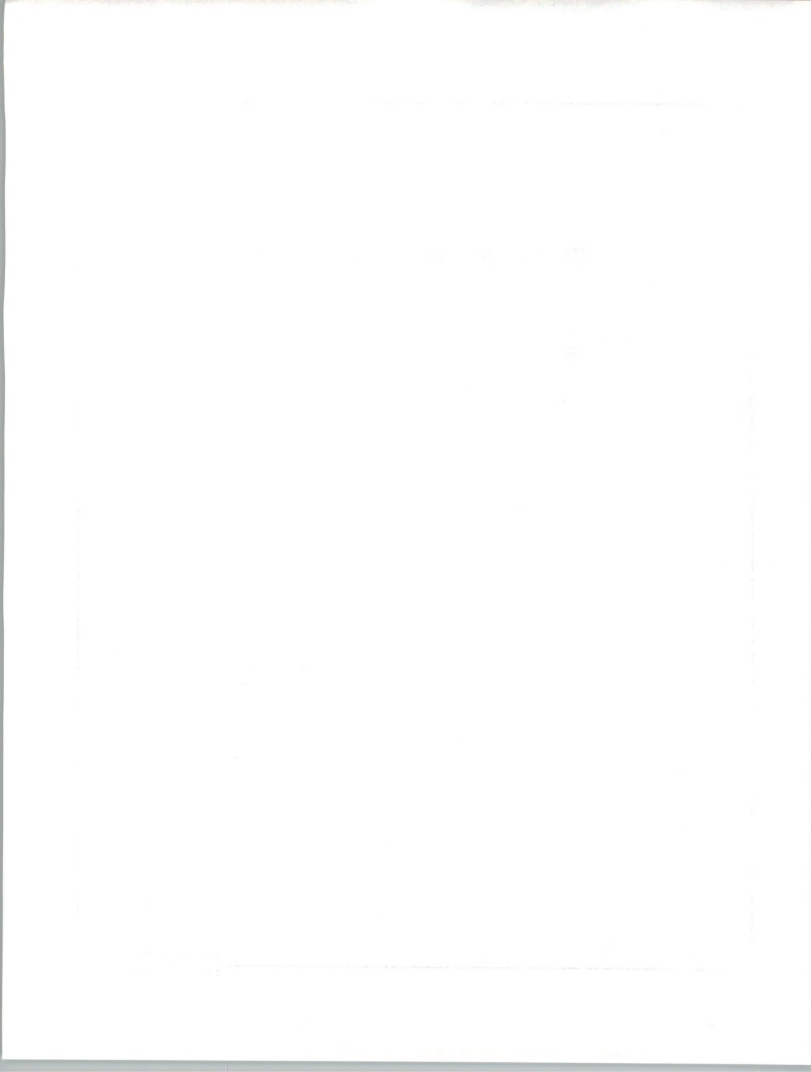
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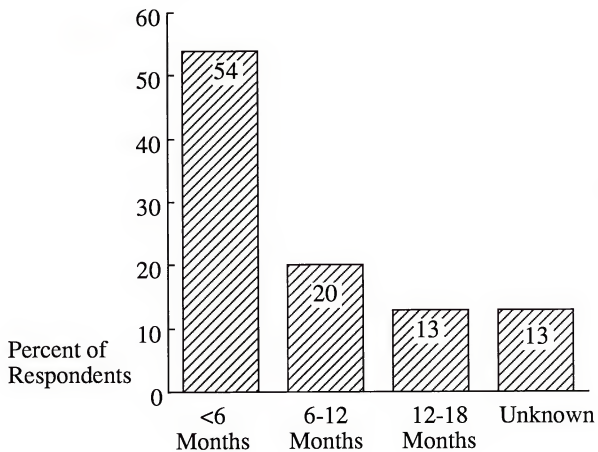
## VENDOR SELECTION PROCESS



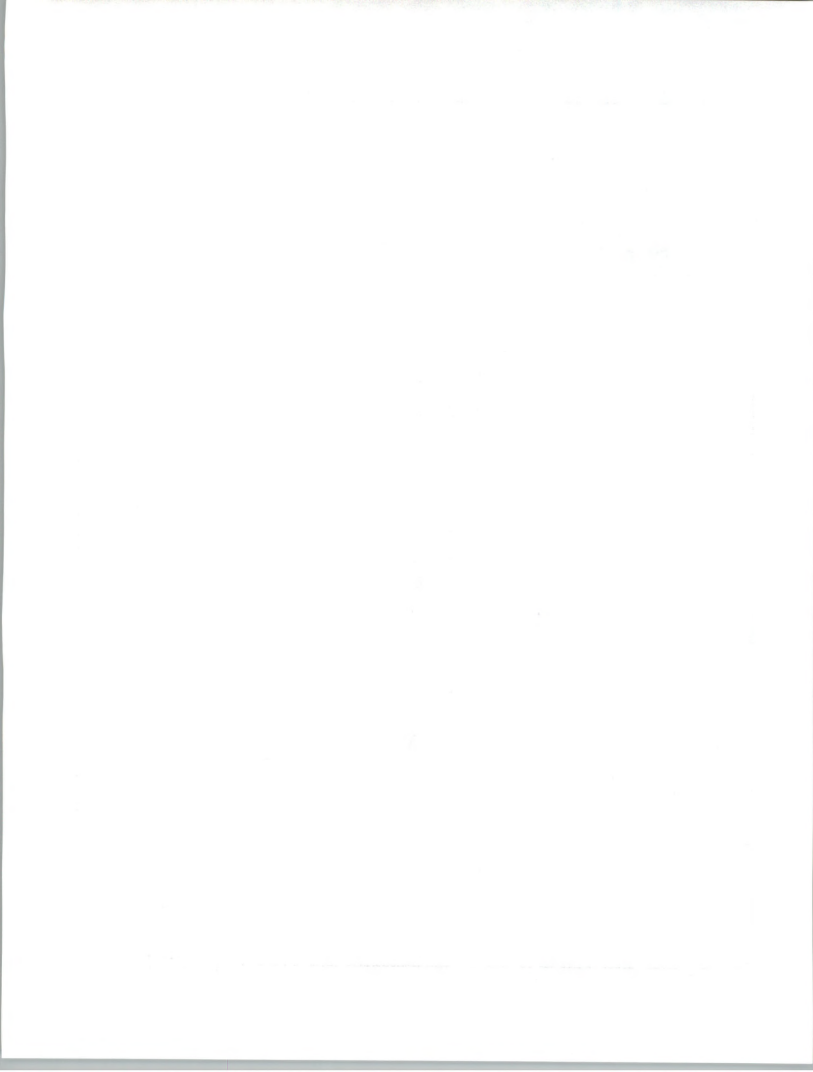
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## DURATION OF VENDOR SELECTION PHASE



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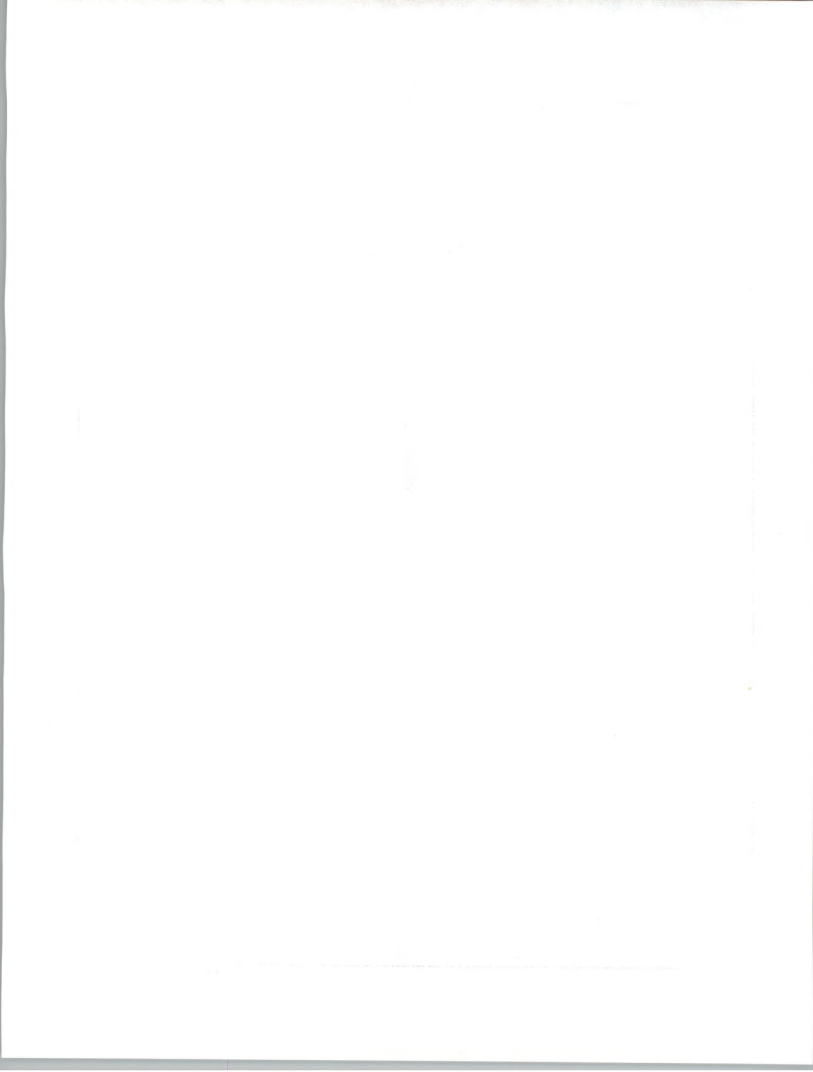
**END-USER PERSPECTIVE—  
INVOLVEMENT**

A "Single" Objective



The User Becomes the "Champion."

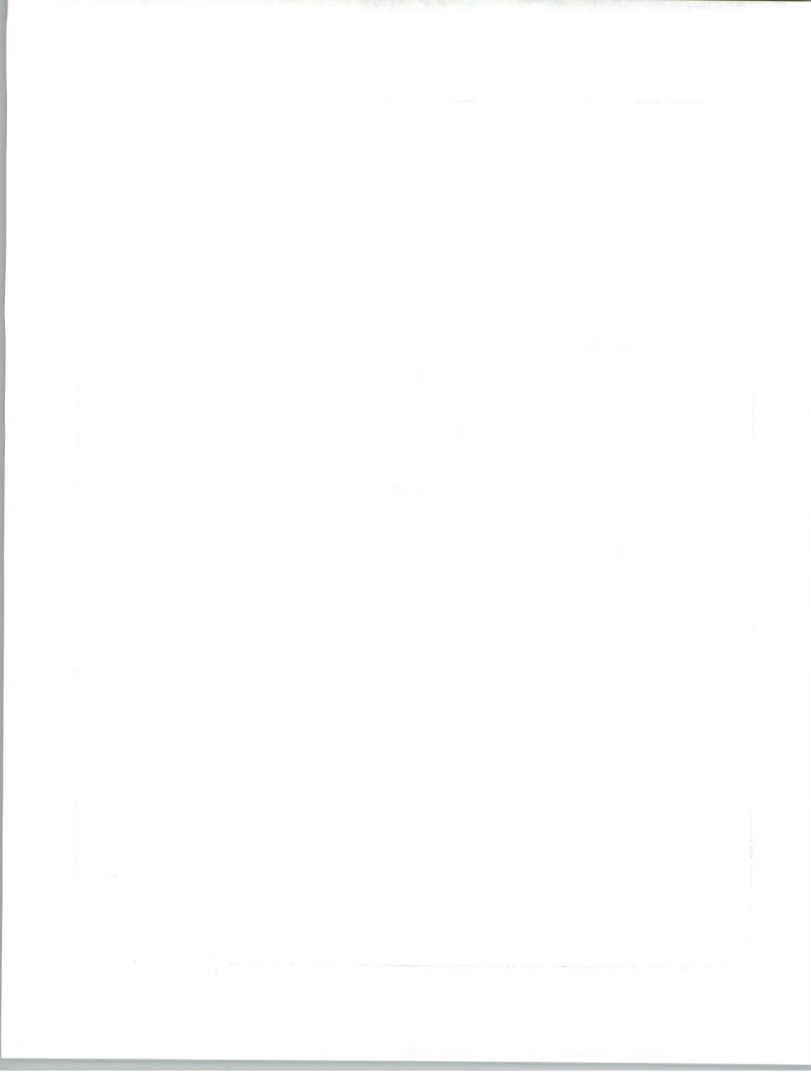
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## FUTURES

- Role of the End User
  - Controlling Strategic Information Systems Decisions
  - Doing the Majority of the Application Development
  - Managing the Processing at Tiers 2 and 3
  - Working from a Broad Base of Computing Experience

INPUT

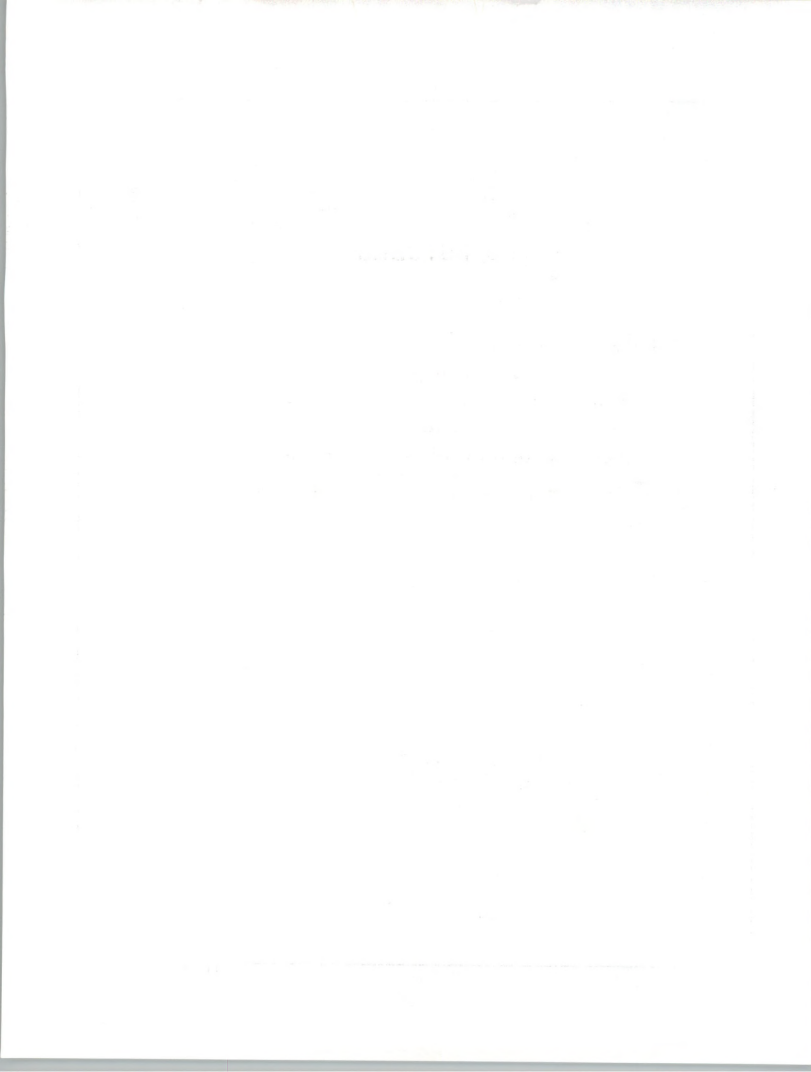




## FUTURES

- Indicators of Major Change
  - Growing Use of Outsiders and Package Solutions
  - Distribution of Development as well as Processing
  - Emphasis on Standards
  - Focus on Top-Level Role and Priorities

INPUT



## IMPLICATIONS FOR VENDORS

Trend	Implication
<b>Buying Trends</b>	
User Becoming the Buyer	Emphasis on the Application
Complexity of Solution Growing	Emphasis on the Development Process
<b>Pricing and Margins</b>	
Competition Is High	Pressure on Margins
Favorable Margin in the Value Added	Develop the Resource Internally

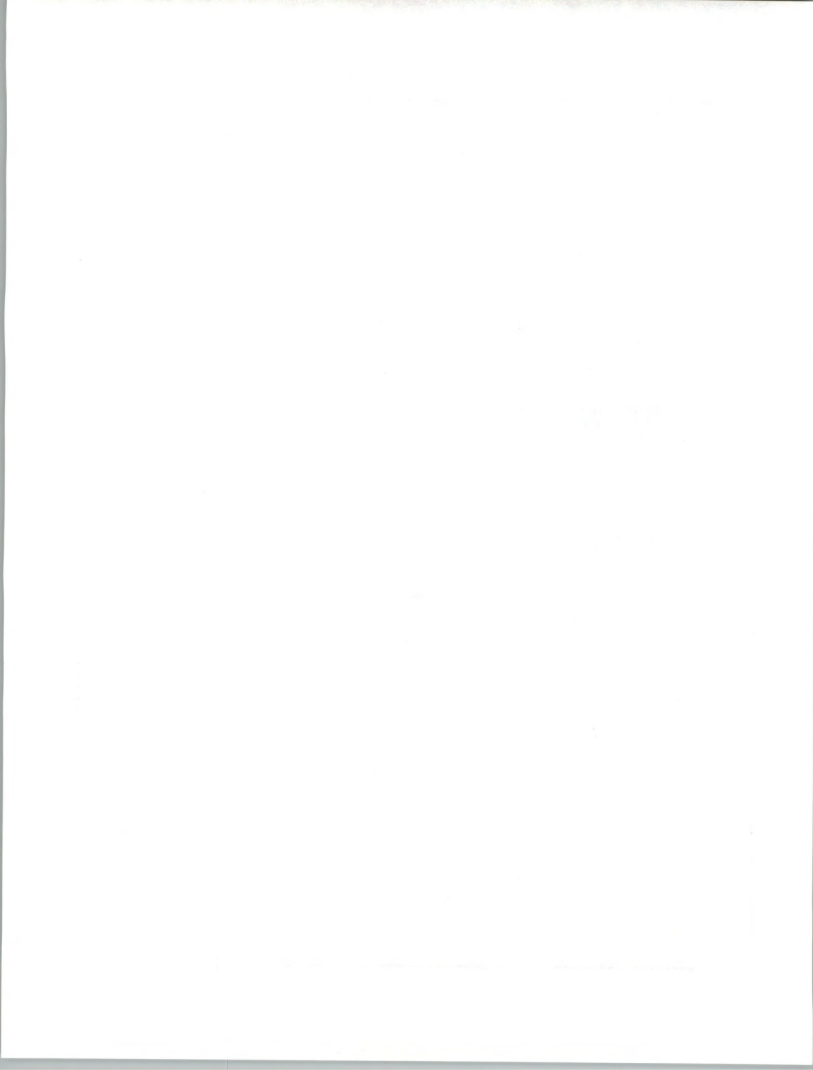
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## IMPLICATIONS FOR VENDORS

Trend	Implication
<b>Competitive Posturing</b>	
Application Knowledge Critical Long Term	Major Alliances May Be Essential
Turnkey Market Weakening	May Want to Protect Key Subcontractors
<b>Strategic Focus</b>	
Current Growth Is in Technology-Based Projects	Not the Long-Term Opportunity
Major SI Competitors Taking Vertical Focus	Further Exposure on Profitability

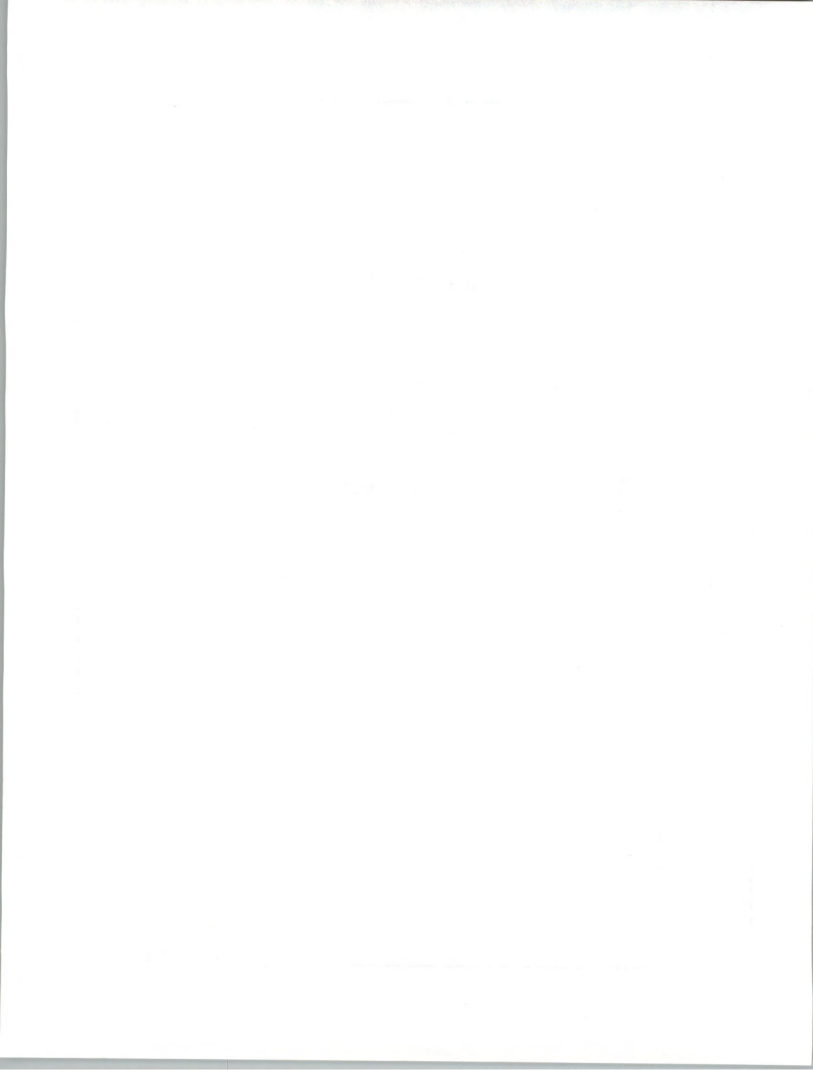
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## **RECOMMENDATIONS FOR SYSTEMS INTEGRATORS**

- Maintain Project Management Continuity
- Create Strong, Vibrant Communication Links
- Make IS Participants Allies, May Be Key

INPUT





## **RECOMMENDATIONS FOR SYSTEMS INTEGRATORS**

- Keep Users Abreast of Continuing Status
- Demonstrate Progress Wherever Possible
- Encourage Suggestions and Always Respond
- Request Written Suggestions Concerning System Effectiveness

INPUT



FOIL?

## Systems Integration

John Frank

Vice President, Federal Programs

Dennis Wayson

Vice President, Research

Dear Mr. [Name]

.

Yours truly

[Signature]

[Text]

[Text]

.

.

# Systems Integration

~~WORKSHOP~~

**John Frank, Vice President,  
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①

ORIGINAL ARTICLES

1. The Effect of the Diet on the Blood Sugar in Diabetes Mellitus  
2. The Effect of the Diet on the Blood Sugar in Diabetes Mellitus

3. The Effect of the Diet on the Blood Sugar in Diabetes Mellitus  
4. The Effect of the Diet on the Blood Sugar in Diabetes Mellitus

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26. The Effect of the Diet on the Blood Sugar in Diabetes Mellitus

27. The Effect of the Diet on the Blood Sugar in Diabetes Mellitus  
28. The Effect of the Diet on the Blood Sugar in Diabetes Mellitus

## SYSTEMS INTEGRATION MARKET Definition for Convenience

### INPUT's Definitions

#### *Original*

"The Provision of a *Total* Solution to a Multi-disciplinary Information Systems Requirement."

#### *Working*

"The Provision of an *Integrated* Solution to a Multi-disciplinary Information Systems Requirement."

### IBM's Definition

"Providing Value Add by Assuming Responsibility for Combining Information Products and Services into a Solution to Meet a Specific Need."

Based on a Historic All Things To IS Approach: Conversions, Migration, Applications, Data Network Projects; and the Prime or Sub for the Hardware Pieces.

### The Market's Definition

"Assume a Management Role in the Provision of an Information Technology-Based Solution to A Critical Business Requirement—Small or Large."

INPUT





**SYSTEMS INTEGRATION MARKET**  
**The Changing Environment**

**INPUT Premise**

**"Changing Buying Patterns**

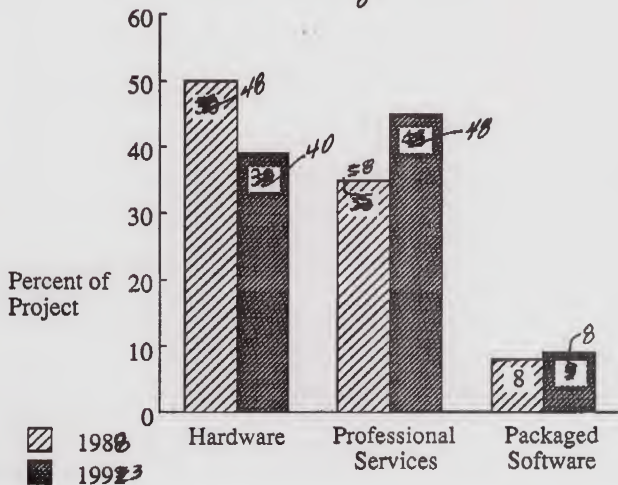
*Will Dictate*

**Changing Selling and Service Patterns"**



## TRENDS IN SI PROJECT COMPOSITION

Federal & Commercial  
(Based on 1988 Forecast)

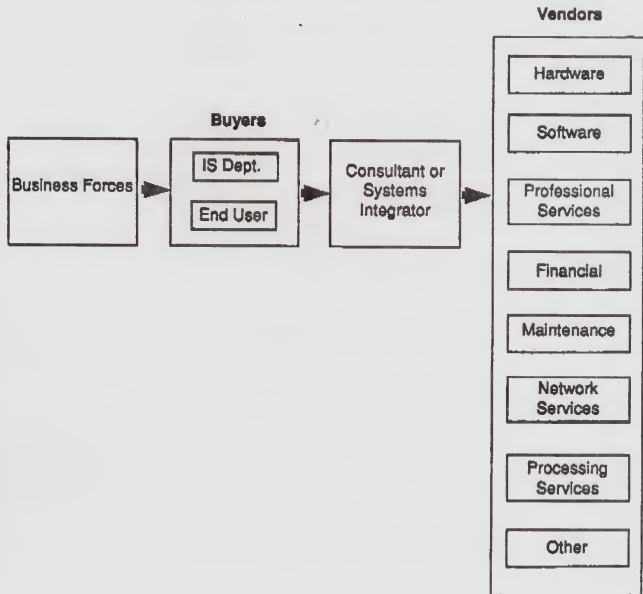


JJJ-JEF-SIW 3A





## SYSTEMS INTEGRATION MARKET The Changing Environment



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*JJJ-JEF-SIW 4*

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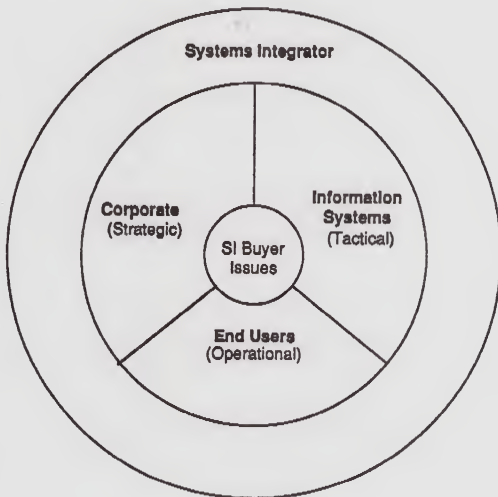
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## SYSTEMS INTEGRATION— COMMUNITIES INVOLVED



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JJJ-JEF-SIW 4A (6)





## THE CHANGING ENVIRONMENT

### Systems Integration—Vendor Opportunity

- Account Control
- Create a New Market
- Establish a New Distribution Channel for ~~“Our”~~  
~~Products and Services~~
- Create a Business Base - a Backlog
- Sell to More Types of Buyers
- ~~Generate Additional Revenue and Earnings~~

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41596039901: #

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## SYSTEMS INTEGRATION Vendor Classification

Category	Examples
Hardware Producers	IBM Digital UNISYS CDC
Communication/Network Suppliers	RBOCs AT&T
Professional Services	Arthur Anderson
Custom Software Developers	Systemhouse Computer Task Group
Systems Suppliers	BCS EDS MMDS
Application Software Suppliers	BIS Banking Systems, Inc.
Systems Software Suppliers	Oracle Pansophic
Turnkey Suppliers	CAP Gemini America AGS Computers
Federal Systems Integrators	EDS American Management Systems





## SYSTEMS INTEGRATION Vendor Classification

### Primary SI Vendors

- Vendors Organizing to Support the Opportunity  
IBM  
Arthur Anderson
- Major Vendors Evolving Their Business Strategy  
Systemhouse  
Digital
- Established Competitors  
BCS  
CDC  
UNISYS  
EDS

### Secondary SI Vendors

- Major Vendors Without Clear Strategy  
AT&T  
RBOCS  
Other Major Accounting Firms
- Opportunists  
Turnkey Vendors  
Software Companies  
Small Custom Shops  
Small Professional Services Companies
- Emerging Competitors  
Oracle  
Computer Task Group

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9



## SECONDARY SI VENDORS ~~Perceptions and Limitations~~

### Perceptions

- High Level of Interest in SI - a New Market
- Generally Do Not Want to be Prime Contractor
- SI is a Growing Part of Their Business
- Know Who Major Players Are
- Want Visibility to Major Players for Specific Capabilities

SIW-8

### Limitations

- Experience Base is Often Limited
- No Large Project Management Experience
- Narrow Technical Skills
- Lack of Financial Resources
- If Software or Turnkey, Restricted to Own Solution

SIW-8A

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JJJ - JEF - SIW-8 & 8A

(10)

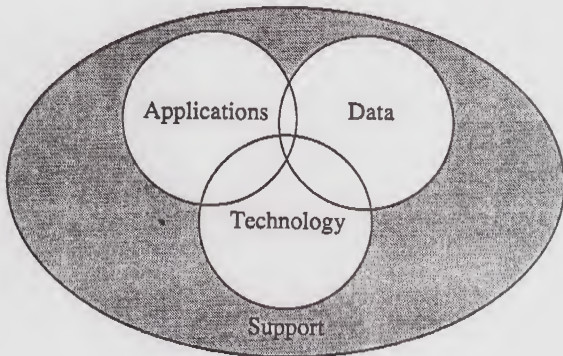
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## SI PROJECT CLASSIFICATIONS



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JEF SIW 9

12

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## SI PROJECT CLASSIFICATIONS

- Applications Level
  - Focused on Specific Business Solutions
  - Driven by Executive/User Management
  - Short-Term Payout with High Visibility 10

- Data Level
  - Focused on Providing Data Infrastructure
  - Driven by IS or Division Management
  - Provides Platform for "Suites" of Applications 10A

- Technology Level
  - Focused on Total Delivery Capability
  - Almost Universally IS Driven
  - Provides Standard Environment/Tools 10B

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## APPLICATIONS-FOCUSED SI PROJECTS

*Dominant Vendor Classes :* 57%—Professional Services  
13%—Turnkey Systems

*Critical Technologies:* Project Management  
Methodology

CASE Tools

Applications Shells //

---

*Primary Alliances:* Applications Software  
Companies

Systems Software Companies

*Secondary Alliances:* Hardware Companies

Telecommunications  
Companies //A

JEF SIW // 16/17

1811

## DATA-FOCUSED SI PROJECTS

*Dominant Vendor Classes:* 80%—Professional Services

*Critical Technologies:* Data Analysis/Design Tools

Conventional & Relational  
DB Software

*Primary Alliances:* Applications Software  
Companies

*Secondary Alliances:* Hardware Companies

Telecommunications  
Companies





## TECHNOLOGY-FOCUSED SI PROJECTS

*Dominant Vendor Classes:*      27%—Communications Providers

   27%—Systems Suppliers

   20%—Professional Services

*Critical Technologies:*      Network Design Tools

   Communications Software & Hardware

   Computing 13

*Primary Alliances:*              Communications Companies

   Software Suppliers Co.

   Hardware Manufacturers

*Secondary Alliances:*          Professional Services Companies

134

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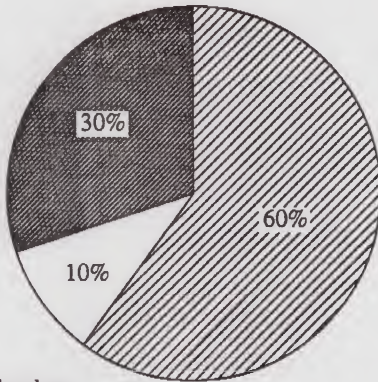
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## DISTRIBUTION OF PROJECTS BY CLASS



-  Technology
-  Applications
-  Data

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JEF-51W14

21

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## BUYER ISSUES—VENDOR SELECTION

- Selection Criteria/Process
- Environmental/Organizational Impacts
- Project Management Issues
- End User Perspectives
- Conclusions



## CHANGING MIX OF AVAILABLE PROJECTS

- INPUT Forecasts Over the Next Five Years
  - Decrease In Percentage Of *Technology* Projects
  - Continuous Increase In *Applications* SI Projects
  - Rapid Acceleration In *Data* Oriented Projects

15

- Key Factors Influencing the Mix
  - Decreasing Backlog - Hardware Integration
  - Increasing Compliance With Open Standards
  - Increased Dependencies On Relational Data Structures
  - Increasing Focus On Mission Critical Applications Systems
  - Dominance Of User Defined Requirements

15A

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JMKT-74

JJJJ - JEF-SIW-15

23/24

1. Introduction

2. Methodology

3. Results

4. Discussion

5. Conclusion



## VENDOR SELECTION CRITERIA

Type	Percent of Respondents	
Industry Experience	86	
Application Knowledge	86	
Cost/Performance	86	
SI Experience	79	
Project Management Skills	64	17
Support Skills	64	
Service Orientation	50	
On-Site Visits	43	
References	43	
Alliances	21	

*And*

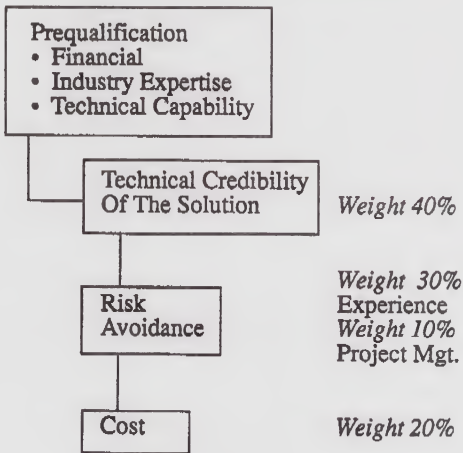
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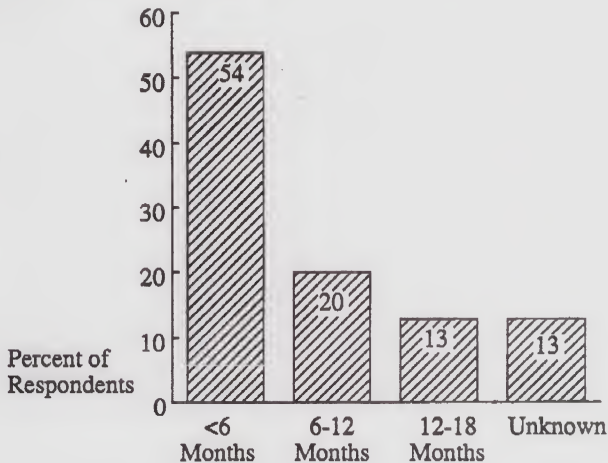


## VENDOR SELECTION PROCESS





### DURATION OF VENDOR SELECTION PHASE





**END-USER PERSPECTIVE—  
INVOLVEMENT**

A "Single" Objective



The User Becomes the "Champion."





## FUTURES

- Role of The End User
  - Controlling Strategic Information Systems Decisions
  - Doing the Majority of the Application Development
  - Managing the Processing at Tiers 2 and 3
  - Working from a Broad Base of Computing Experience

22

- Indicators of Major Change
  - Growing Use of Outsiders and Package Solutions
  - Distribution of Development as well as Processing
  - Emphasis on Standards
  - Focus on Top-Level Role and Priorities

23

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## IMPLICATIONS FOR VENDORS

Trend	Implication
<b>Buying Trends</b>	
User Becoming the Buyer	Emphasis on the Application
Complexity of Solution Growing	Emphasis on the Development Process
<b>Pricing and Margins</b>	
Competition is High	Pressure on Margins
Favorable Margin in the Value Added	Develop the Resource Internally 24
<b>Competitive Posturing</b>	
Application Knowledge Critical Long Term	Major Alliances May be Essential
Turnkey Market Weakening	May Want to Protect Key Subcontractors
<b>Strategic Focus</b>	
Current Growth is in Technology Based Projects	Not the Long Term Opportunity
Major SI Competitors Taking Vertical Focus	Further Exposure on Profitability 25



~~RECOMMENDATIONS FOR SYSTEMS INTEGRATORS~~

## RECOMMENDATIONS FOR SYSTEMS INTEGRATORS

- Maintain Continuity of Project Management
- Create Strong, Vibrant Communication links.
- Make the IS Participants <sup>g</sup> ~~allies~~, <sup>g</sup> ~~They May Be Key to~~ <sup>g</sup> ~~Implementation Success~~ <sub>g</sub> <sup>g</sup> *Ally, maybe Key*
- Expose the Users to the Benefits of the Proposed Technology <sub>g</sub> <sup>g</sup> *26*
- ~~Employ the Users in Reviewing the Various Product~~ <sup>g</sup> ~~Personalities~~ <sub>g</sub>
- Keep the Users Abreast of the Continuing Status.
- Demonstrate Progress Wherever Possible
- Encourage Suggestions and Always Respond
- ~~After the System Is Operational~~, <sup>g</sup> ~~Request Users Submit~~ <sub>g</sub> ~~Written Suggestions Concerning System Effectiveness.~~

27

JEF SJW -26, 27

34, 35



# INPUT, Inc.

8298 C, Old Courthouse Road, Vienna, VA 22180 (703) 847-6870  
FAX (703) 847-6872

## FAX TRANSMITTAL FORM

DESTINATION: INPUT

FAX NUMBER: \_\_\_\_\_

ATTENTION: SHIELA COLLINS

Telephone Number/Location \_\_\_\_\_

NUMBER OF PAGES: 1 OF 0

CONFIDENTIAL CORRESPONDENCE YES  NO

**VERY URGENT**

YES  NO

DESCRIPTION: Remainig slides for JJJJ-JEF-SZ  
please make "Tech Drawings" -- JEF-SZ-17  
and "Secondary Vendors (now #17) to JEF-SI-22" <sup>21a</sup>  
Now includes JEF-SI-14 (not provided earlier)

**THIS COMPLETES FRIDAY AM SLIDESET**

FROM: John Frank

DATE: 9/20/88

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.

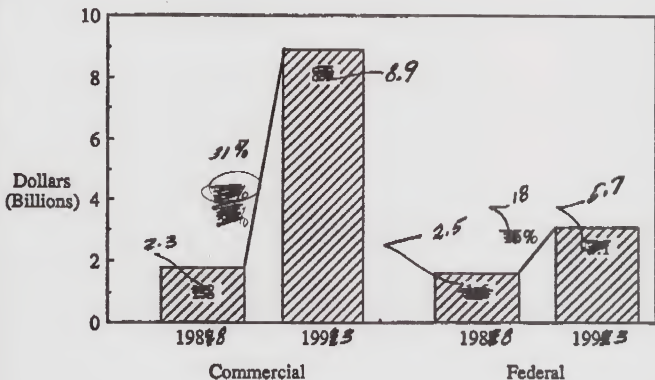
In the second section, the author outlines the various methods used for data collection and analysis. These include surveys, interviews, and focus groups. Each method has its own strengths and limitations, and the choice depends on the specific research objectives.

The third section provides a detailed overview of the results obtained from the study. It highlights the key findings and discusses their implications for the industry. The data shows a clear trend towards digitalization, which is reshaping the way businesses operate.

Finally, the document concludes with a series of recommendations for future research and practice. It suggests that further exploration is needed in the area of digital marketing strategies and their impact on customer behavior.



## SYSTEMS INTEGRATION EXPENDITURES FORECAST



JJJJ-JEF-SIW-2A

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## FORECAST DATA BASE, 1987-1988

	Commercial	Federal
Projects Analyzed		
Completed	72 78	47
In Progress	71 88	36
"Suspects" Resolved and Not Used	<del>117</del> 102	23
Total	<del>260</del> 267	106

*Revised  
 Updated 8/88*



### Distribution of Projects by Value of Industry

Industry	No. Projects	Contract Value (\$M)						
		<1	1-5	6-10	11-20	21-50	51-100	>100
		Number of Projects						
Federal	82		15	15	8	21	9	14
State and Local	<del>18</del> 21	2	7	3	1	7	1	
Transportation	2	1			1			
Utilities	<del>54</del>		1		2	1		
Discrete Mfg.	<del>78</del>	1	2	2		2	1	
Distribution	<del>78</del>		3		2	1		2
Insurance	6	1	1	3		1		

*Revised*  
~~original~~ 8/88

SISE-JF-9

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JEF SIW-20

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### Distribution of Projects by Value of Industry

Industry	No. Projects	Contract Value (\$M)						
		<1	1-5	6-10	11-20	21-50	51-100	>100
		Number of Projects						
Banking/Finance	<del>5</del> 7	2	1	2		2		
Medical	<del>5</del> 5	4	1					
All Other	4		2	1		0	1	
Telecomm	3		1	1		1		
Process Mfg.	<del>11</del> 11	1	5	3	2			
Total Commercial	<del>80</del> 80	<del>8</del> 12	<del>25</del> 24	15	<del>5</del> 8	<del>15</del> 15	3	2
Total All Projects	<del>133</del> 162	<del>12</del> 12	<del>33</del> 34	30	<del>16</del> 16	<del>36</del> 36	<del>12</del> 12	16

Revised 8/88

SISE-JF-10

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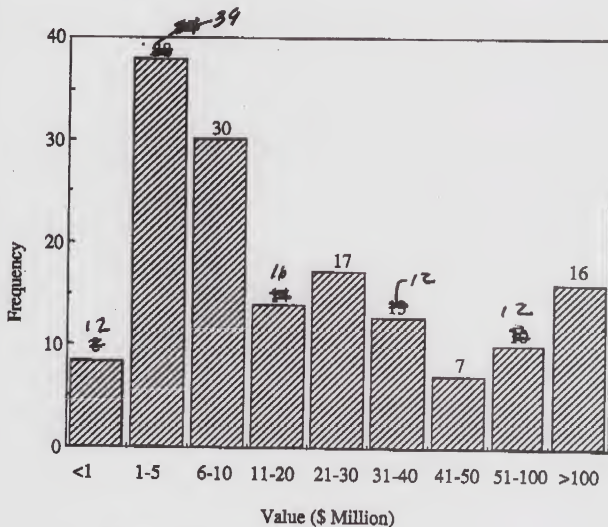
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## DISTRIBUTION OF PROJECTS BY VALUE



N = ~~162~~ 162

Revised 7/88

8/88

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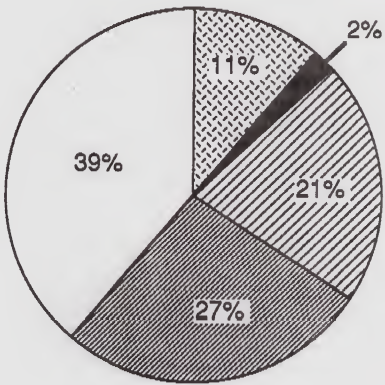
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



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### Commercial SI Applications



-  Finance/Administration
-  Office Systems
-  Operations
-  Network
-  Industry-Specific

N=114  
Revised 8/88

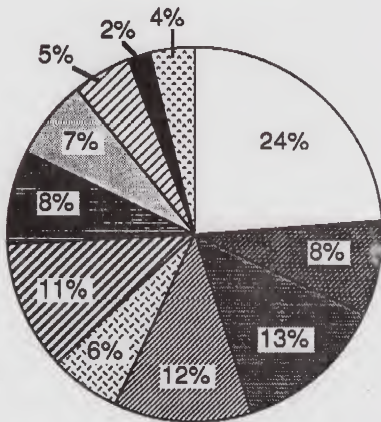
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








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### Federal Systems Integration Market By Type of Application



- |   |                          |   |                    |
|---|--------------------------|---|--------------------|
|    | Information Analysis     |    | Graphics           |
|    | Scientific, Eng. Support |    | Human Resources    |
|   | Office Automation        |  | Project Management |
|  | Logistics                |  | Accounting         |
|  | Artificial Intelligence  |   |                    |
|  | Administration           |   |                    |
|  | Management               |   |                    |
- N=83  
Revised 8/88

SISE-JF-14

JJJJ-JEF-SIW-26

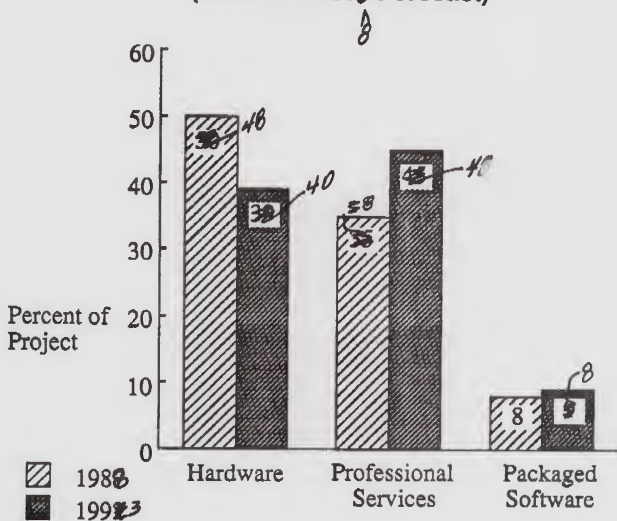
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## TRENDS IN SI PROJECT COMPOSITION

Federal & Commercial  
(Based on 1988 Forecast)



JJJJ-JEF-SIW 3A





## SI Project Reports (SIPR)

### Number of Industry Reports:

Industry	Number	Industry	Number
Banking/Finance	4	State & Local	<del>16</del>
Wholesale Dist.	1	Transportation	1
Retail Distribution	3-5	Utilities	2
Insurance	3-5	Other	<del>4</del>
Discrete Mfg.	<del>10</del>	Federal	<del>25</del>
Process Mfg.	7		
Medical	<del>5</del>		
Services	1		

(July Release)

September Release

SISE-JF-6

JJJJ-JEF-SIW 38

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AA

# MEMORANDUM

TO : [Illegible]

FROM : [Illegible]

SUBJECT : [Illegible]

[Illegible text follows, including what appears to be a list or table of items, but the content is too faint to transcribe accurately.]

EUROPEAN SYSTEMS INTEGRATION TRENDS AND OPPORTUNITIES INPUT

EXHIBIT IV 4

**SCHEDULE OF  
PROJECT COMPONENTS—A MODEL**

PROJECT COMPONENT	Year 1 (Percent)	Year 2 (Percent)	Year 3 (Percent)	Year 4 (Percent)	Total Component Expenditures (Percent)
Computer Hardware		100			28
Communications Hardware			100		8
Systems Software Packages		100			2
Applications Software Packages			100		4
Consulting	60	20	20		6
Project Management Fees	40	20	20	20	6
Design/Integration	45	35	20		11
Software Development		50	50		30
Education/Training and Documentation			33	67	2
Operation and Maintenance			33	67	2
Other Expenditures				100	1
<b>Total</b>	<b>18</b>	<b>30</b>	<b>34</b>	<b>23</b>	<b>100</b>

Note: These averages are based on U.S. experience.

JJJJ-JEF-SIW-30

