

***Logistics and Transportation
11th Annual Survey of
Issues and Trends***

2002 Survey Results

***Georgia Southern University
University of Tennessee***

&

Cap Gemini Ernst & Young U.S. LLC

Introduction

We are pleased to present the findings of the 2002 Logistics and Transportation Annual Survey of Issues and Trends. Our hope is that this data will provide useful information regarding current trends, and assist you in better managing your organization.

A few comments regarding the data and methodology are worth noting here:

- The mail survey was conducted in the Spring of 2002.
- There were 366 participants in this year's study.
- This year's respondents controlled approximately \$25.1 billion in transportation expenditures.
- Since some questions have more than one response, not all percentages will add to one hundred.
- Not all respondents answered all of the questions.
- Where appropriate the mean, the median and the mode are provided in the report. The mean is the average of all of the responses, while the median is the midpoint (50% above and 50% below) for a specific response to a question. The mode is the single most frequent response.
- This report is divided into five sections: Strategy and Priorities, Managing in the Supply Chain, Managing Technology in the Supply Chain, Transportation Management, and Demographics

To those of you who participated in this research, we would like to again thank you for taking time out of your busy schedule and assisting us in this effort. We hope you find this information helpful in managing and improving your supply chains.

Sincerely,



Karl B. Manrodt, Ph.D.
Assistant Professor
Director, Southern Center for Logistics
and Intermodal Transportation
Georgia Southern University



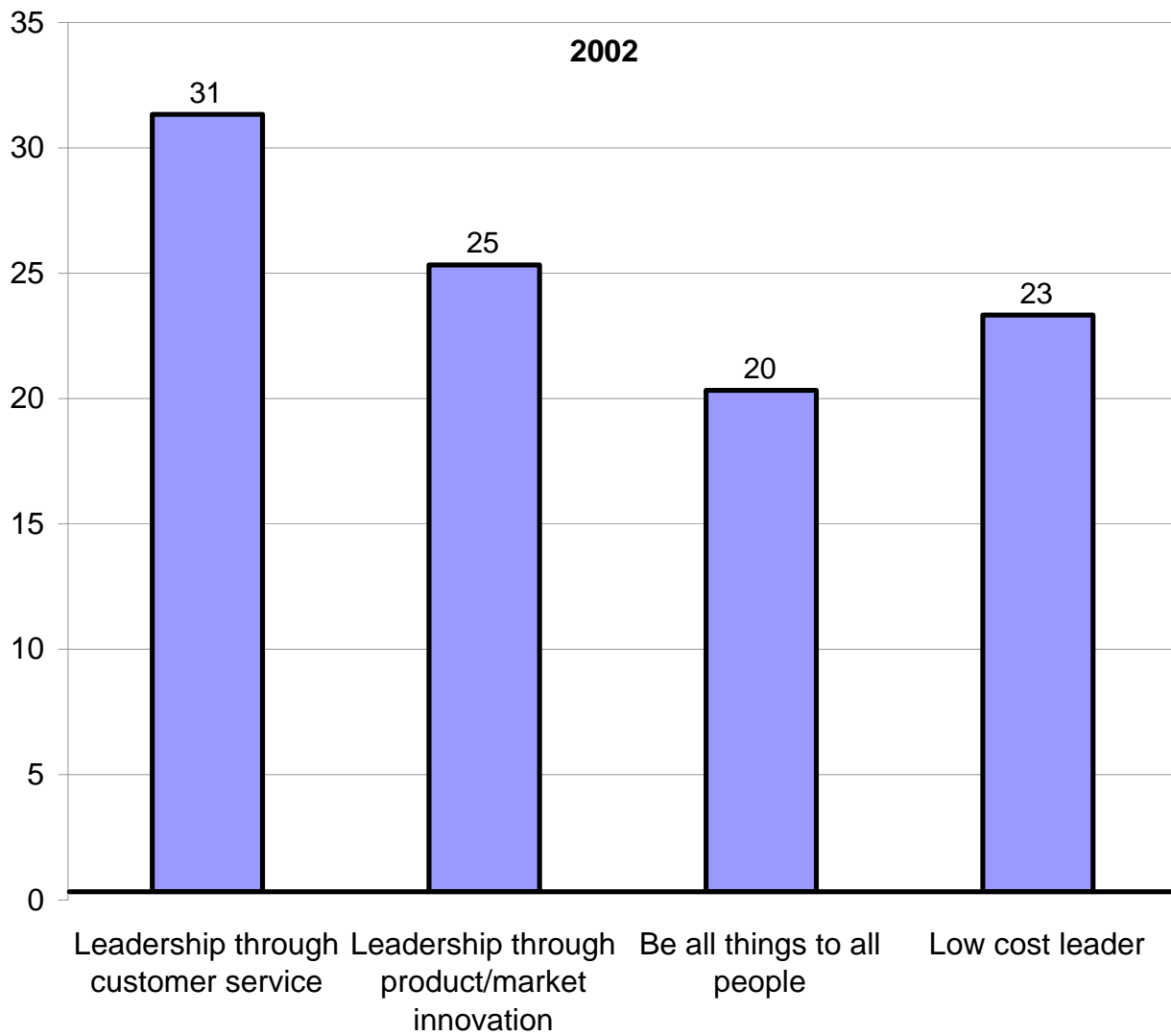
Mary Collins Holcomb, Ph.D.
Associate Professor
University of Tennessee

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Best Description of Overall Strategy of Division

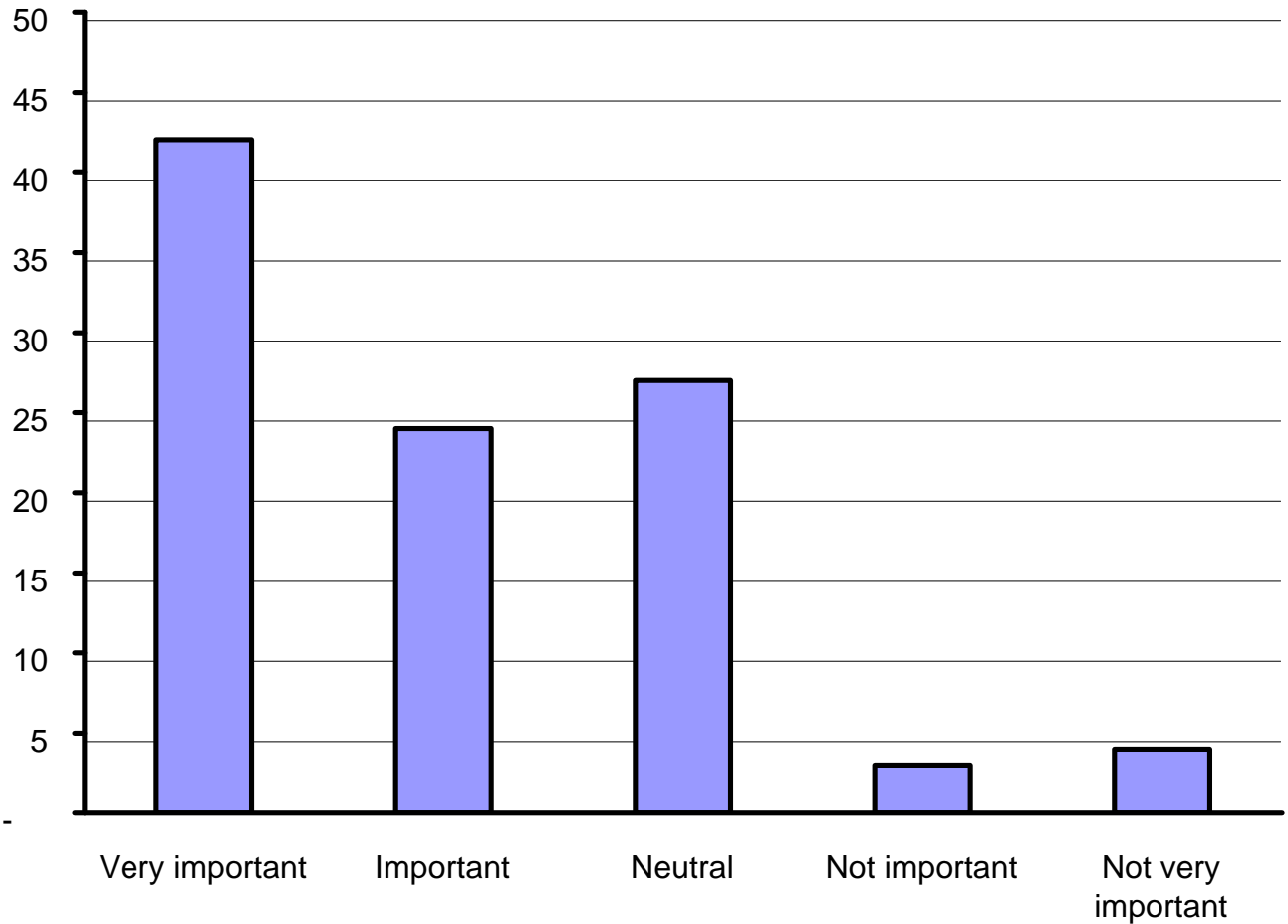
	<u>2002</u>
Leadership through customer service	31
Leadership through product/market innovation	25
Be all things to all people	20
Low cost leader	23
Total	<u>100%</u>



How important is the integration of transportation and distribution to the overall strategy of the firm?

	2002	2001
Very important	42	46
Important	24	37
Neutral	27	10
Not important	3	4
Not very important	4	2
Total	100.0%	100.0%

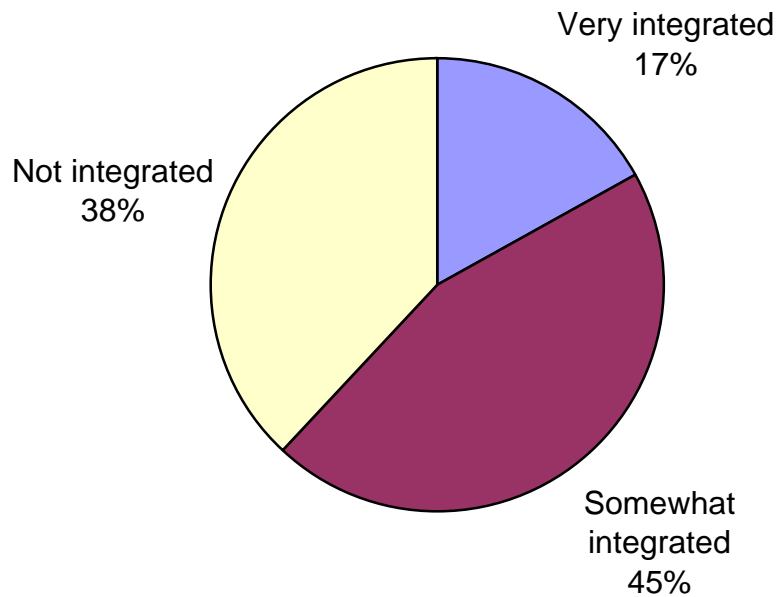
2002



How integrated are transportation and distribution in this division?

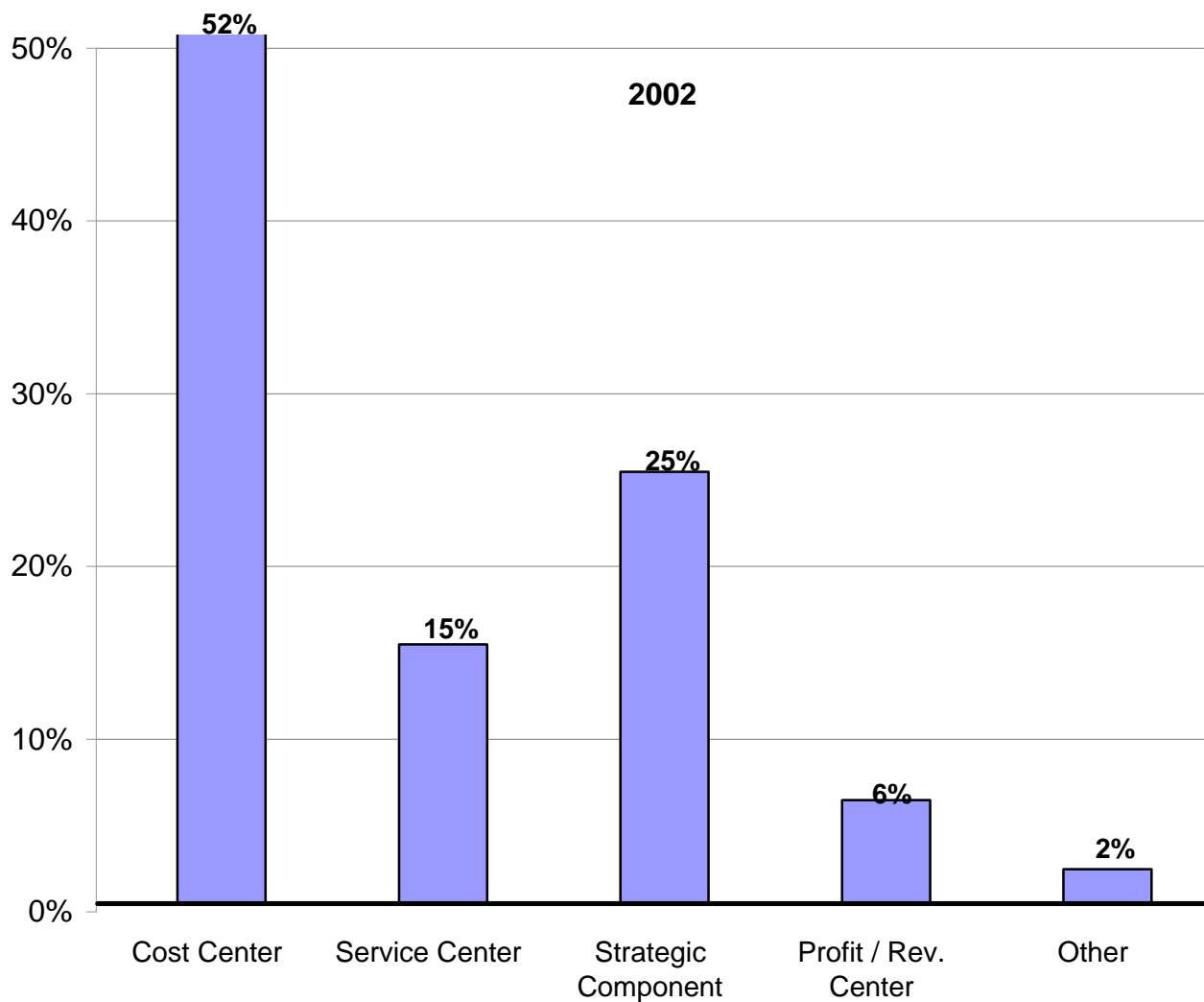
	2002
Very integrated	17
Somewhat integrated	45
Not integrated	38
Total	100.0%

2002



Organizational View of Logistics / Supply Chain Management

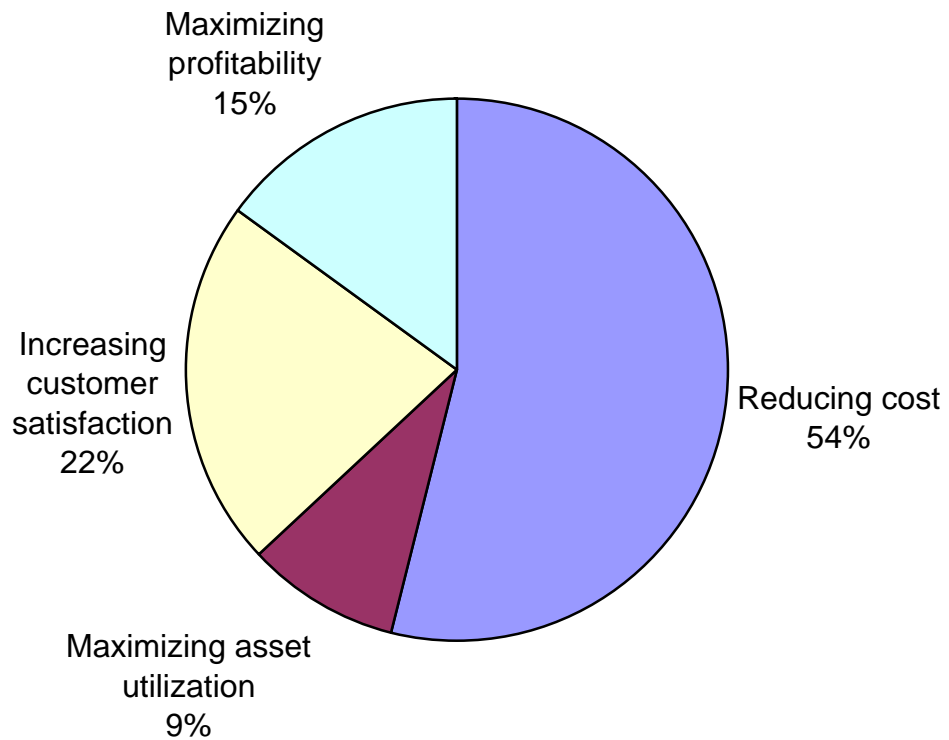
	2002	2001
Cost Center	52%	42%
Service Center	15%	26%
Strategic Component	25%	20%
Profit / Rev. Center	6%	10%
Other	2%	2%
Total	100%	100%



Primary goals and objectives for the past year

	2002
Reducing cost	54
Maximizing asset utilization	9
Increasing customer satisfaction	22
Maximizing profitability	15
Total	100%

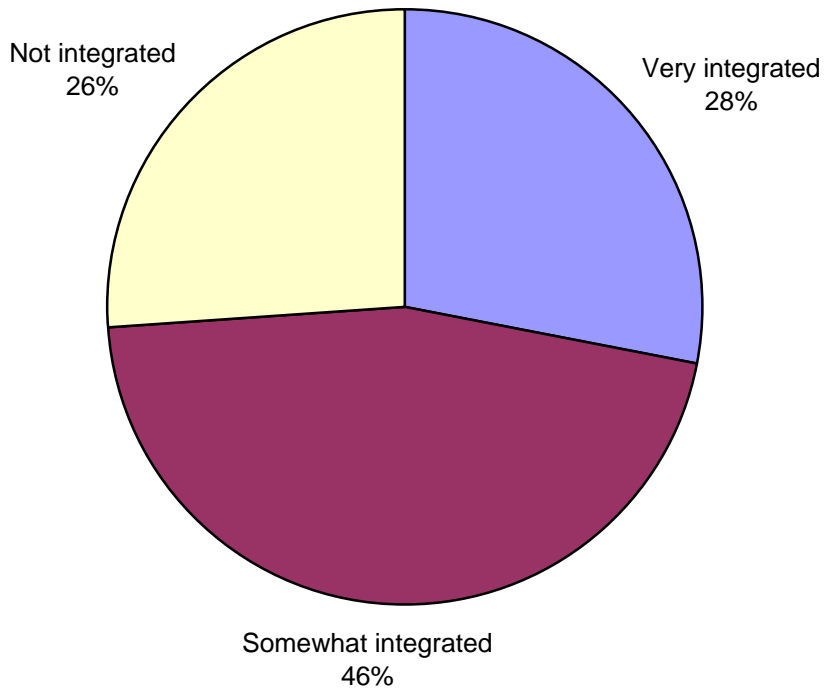
2002



How well integrated are transportation and distribution performance measures to supply chain performance?

	2002
Very integrated	28
Somewhat integrated	46
Not integrated	26
Total	100.0%

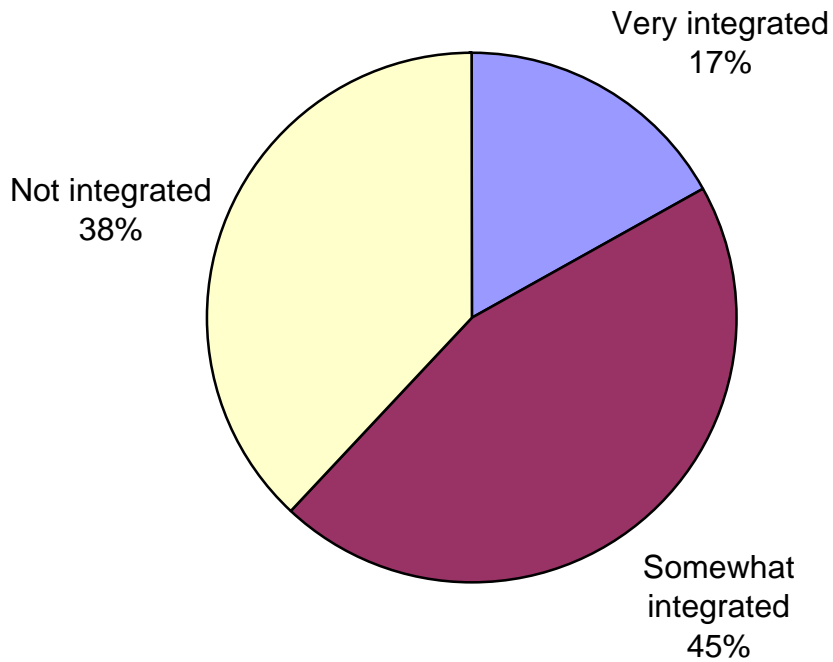
2002



How well integrated are transportation and distribution performance measures to employee compensation?

	<u>2002</u>
Very integrated	17.0%
Somewhat integrated	45.0%
Not integrated	38.0%
Total	100.0%

2002

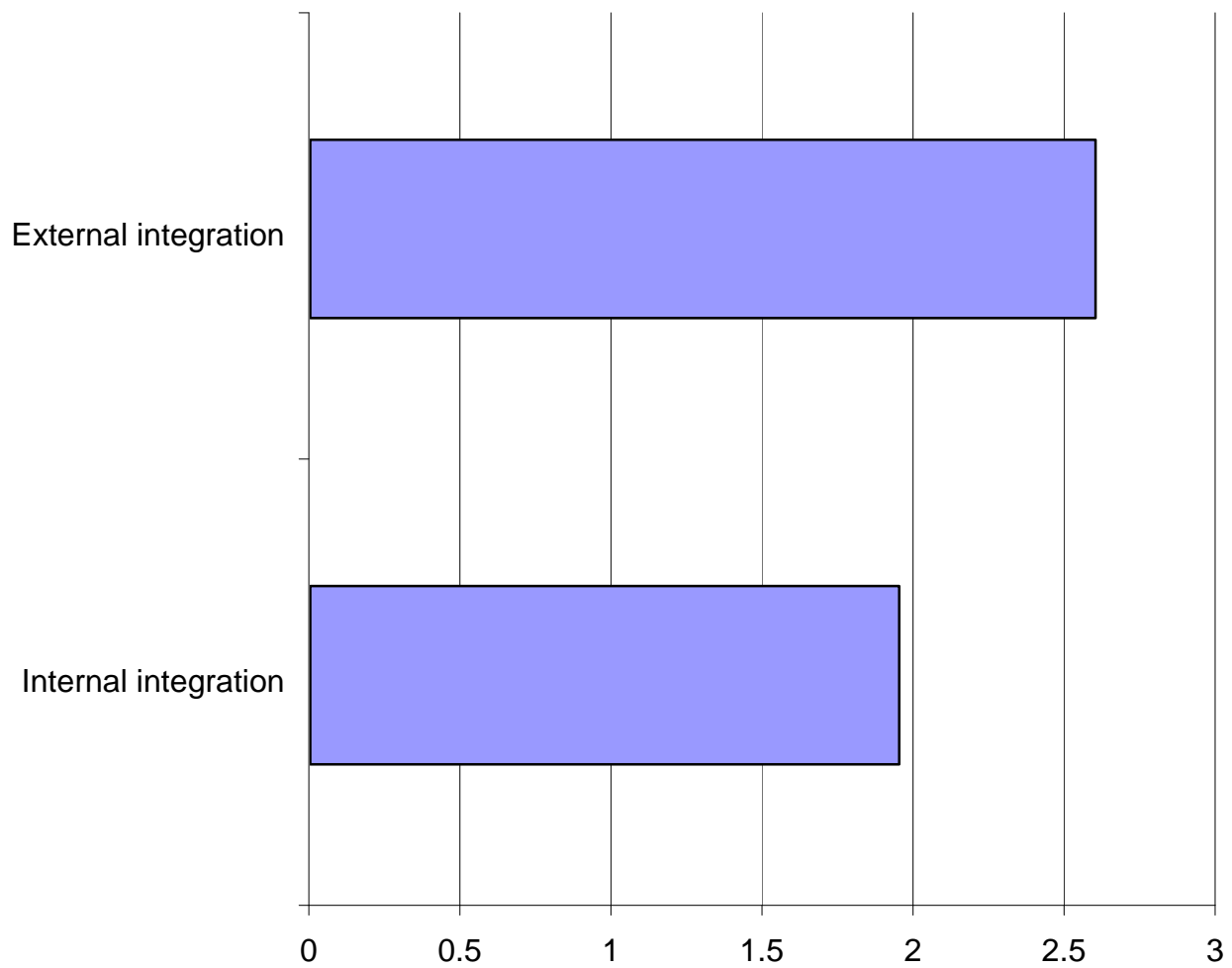


How important are integrated internal and external partner applications?

	<u>Mean</u>
Internal integration	1.95
External integration	2.6

1= Very important, 7= Not important

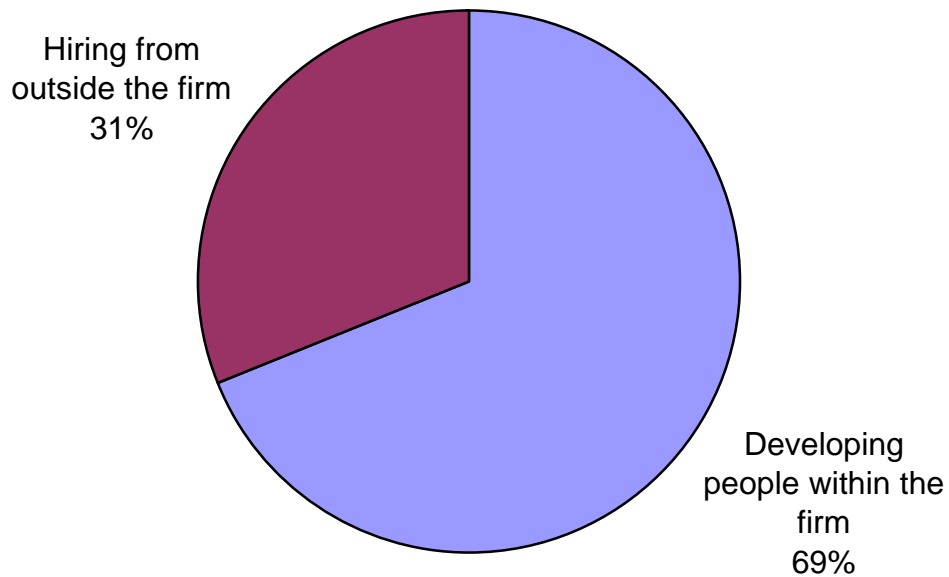
2002



**Primary ways of developing logistical
and transportational capabilities**

	2002
Developing people within the firm	69%
Hiring from outside the firm	31%
	100%

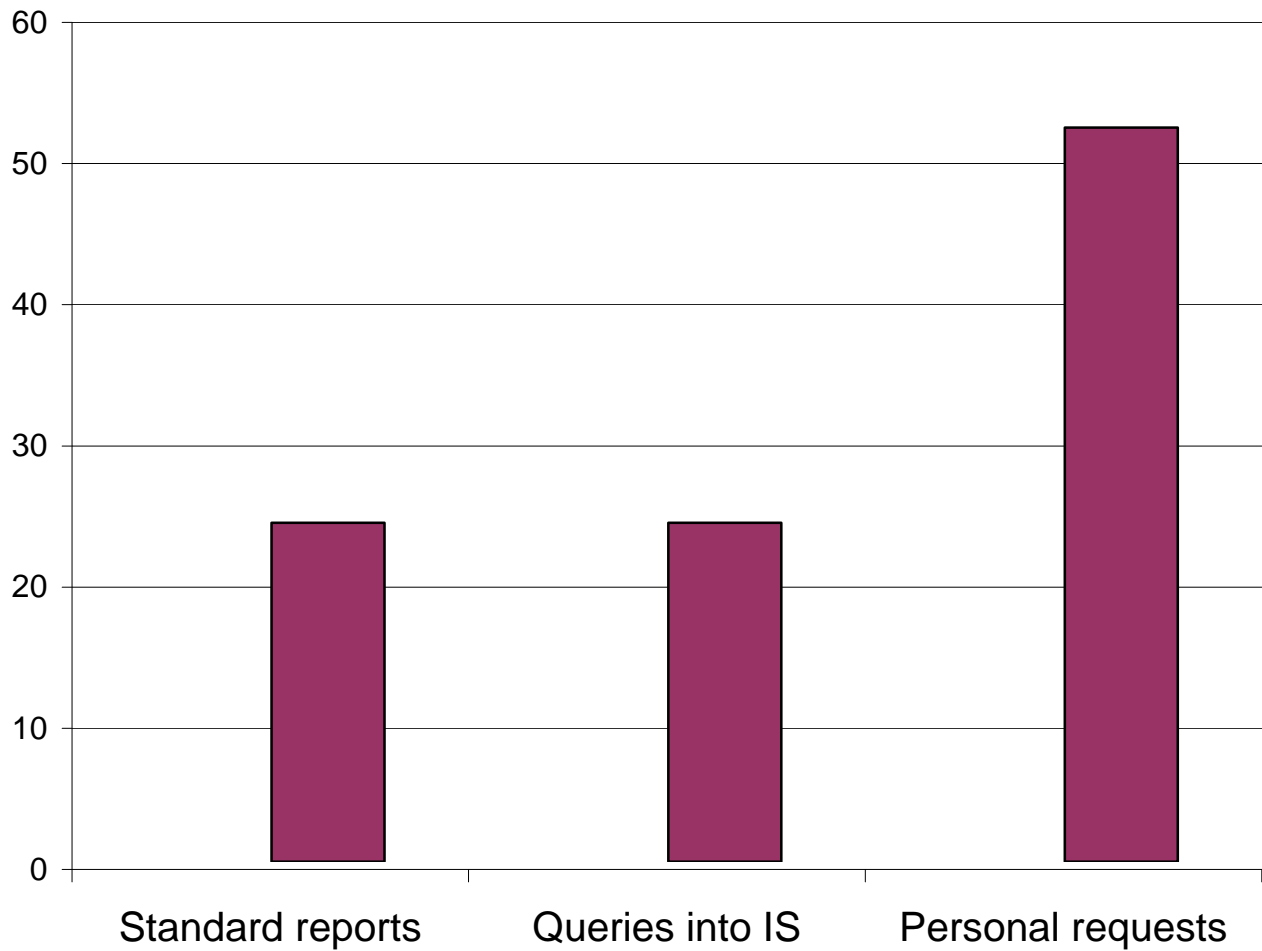
2002



Primary method internal customers use to gain access to logistics / transportation information

	<u>2002</u>
Standard reports	24
Queries into IS	24
Personal requests	52
Total	100.0%

2002



Which groups regularly receive or request information on the following metrics?

Percent of respondents

Metric	Top Management	Logistics	Manufacturing	External customers	Product Management	External suppliers
Cost variability	90.4	6.4			3.2	
Service variability	62.2	31.9	3.4	2.5		
Inventory turns: finished goods	83.5	9.9	5.0			1.7
Inventory turns: raw materials	72.2	15.7	10.4		1.7	
On time delivery	64.2	32.5		3.3		
Lost sales	88.8	5.6			5.6	
Fill rate	73.6	21.5	1.7	1.7	1.7	
Perfect order	69.4	26.9	1.9		1.9	
Customer satisfaction	86.3	12.0			1.7	

Which groups regularly receive or request information on the following attributes?

Percent of Respondents

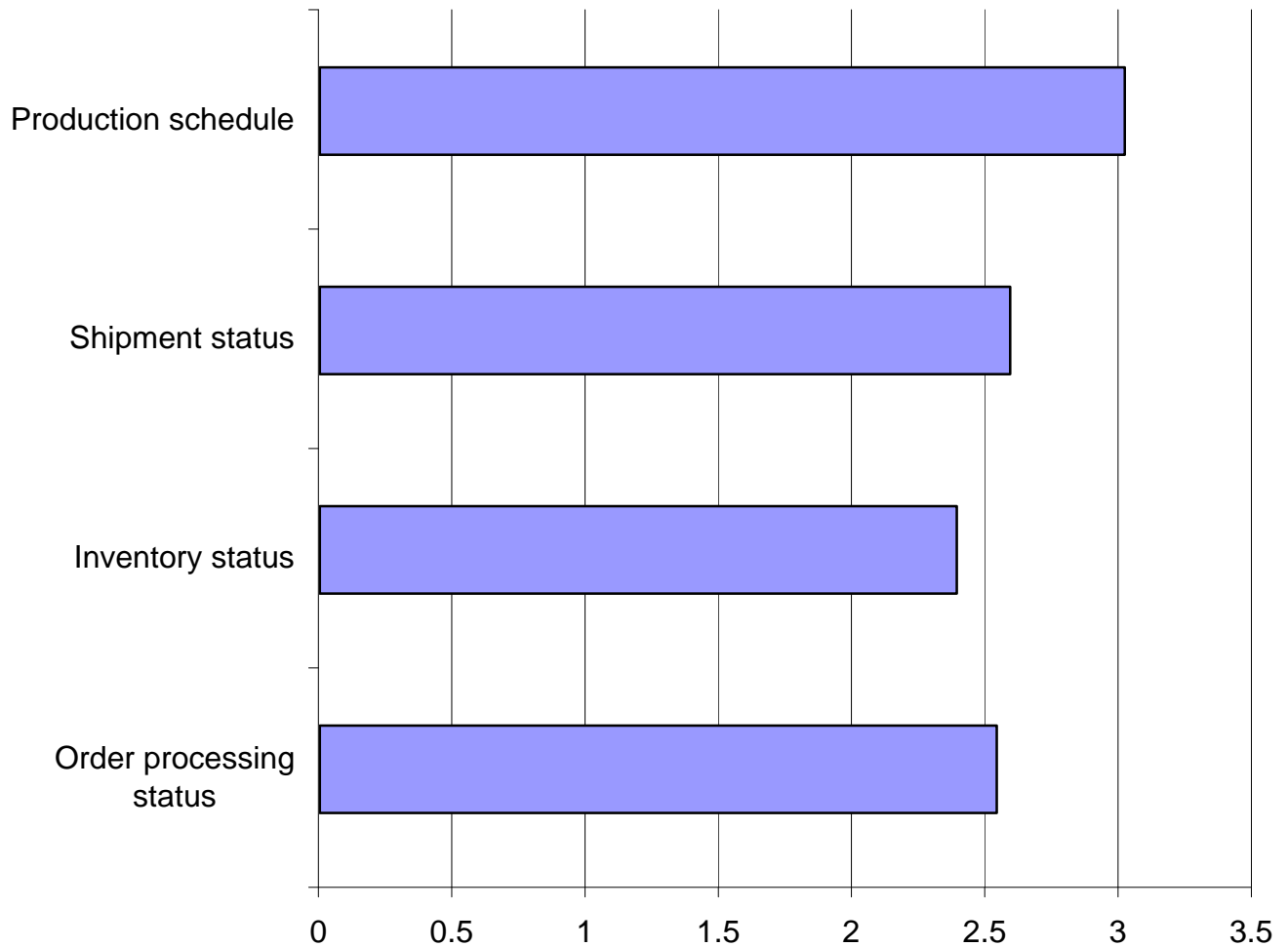
Attribute	Purchasing	Manu- facturing	Sales / Marketing	Finance / Accounting	External customers	External suppliers
Consolidation of orders	54.5	15.4	13.8	1.6	11.4	3.3
Domestic visibility of orders	46.4	17.6	23.2	1.6	11.2	
Alerts on order delays	46.1	21.8	21.1		9.4	1.6
Continuous moves	36.0	36.0	7.0	2.3	9.3	9.3
Carrier transit times	58.7	9.9	19.8		5.0	6.6
Tracking inbound shipments	61.9	19.0	6.3	3.2	7.9	1.6
Appointment scheduling	37.4	31.3	12.2		14.8	4.3
Carrier selection	61.1	14.2	10.6	3.5	8.8	1.8
Alerts on transportation delayed shipments	58.2	16.4	15.6		9.8	
Divergence of shipments	52.6	21.5	17.2	2.2	6.5	
In-transit merges	52.5	21.1	13.2	2.6	5.3	5.3
Tracking outbound shipments	17.6	21.0	42.9	2.5	14.3	1.7
Vendor compliance	90.2		4.9	3.3	1.6	
Electronic settlement	44.0	1.8	2.8	49.5		1.8
Order status	62.3	14.8	13.1	1.6	8.2	
Product availability	61.6	16.0	14.4		8.0	
Inter-facility inventory status	55.8	23.3	11.7	5.0	4.2	

How visible is the information in the following areas?

	<u>Mean</u>
Order processing status	2.54
Inventory status	2.39
Shipment status	2.59
Production schedule	3.02

1= Very visible, 7= Not visible

2002

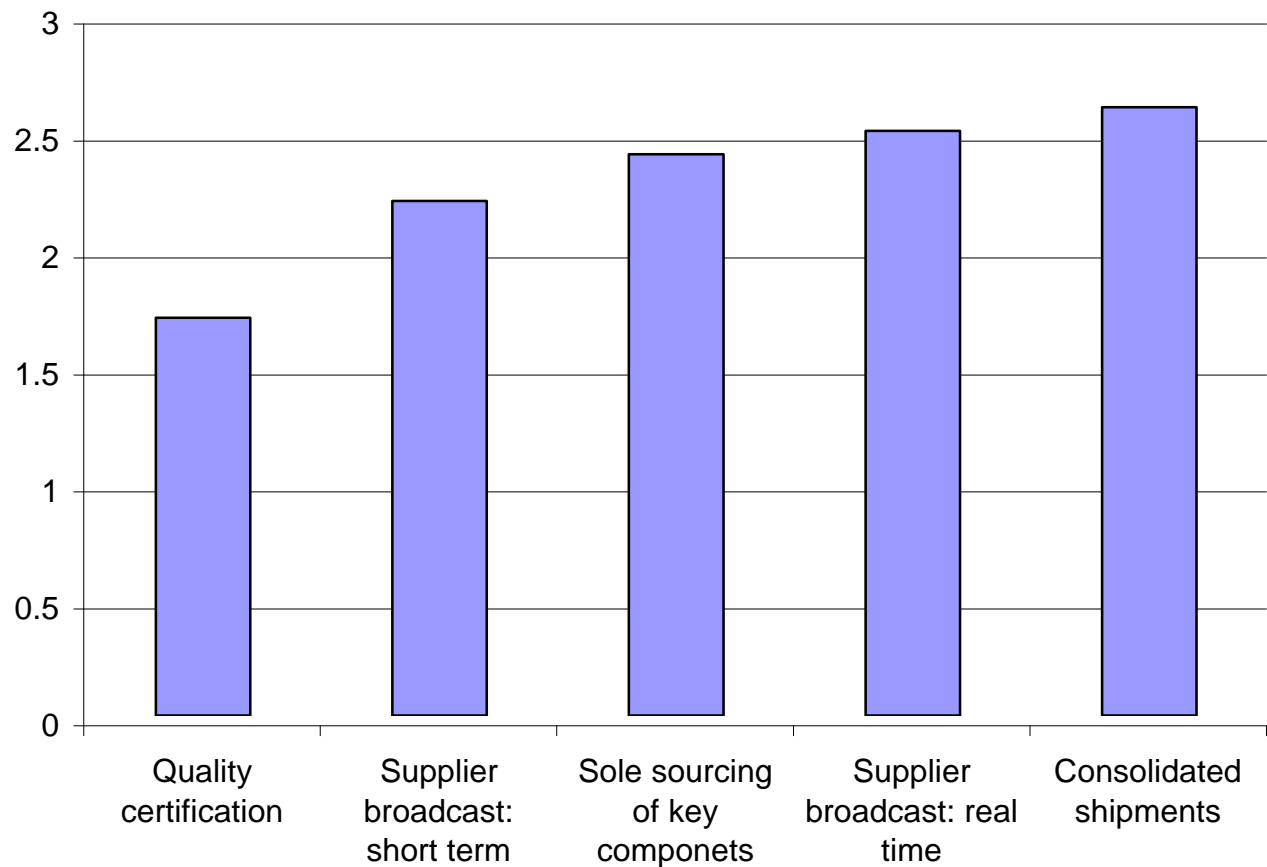


Emphasis placed on each as it relates to suppliers

Supplier integration	Mean
Quality certification	1.7
Supplier broadcast: short term	2.2
Sole sourcing of key componets	2.4
Supplier broadcast: real time	2.5
Consolidated shipments	2.6
Point of use material delivery	2.7
Rate-based planning	3.3
Kanban replenishment	4

1=Very Important, 7= Not Important

2002

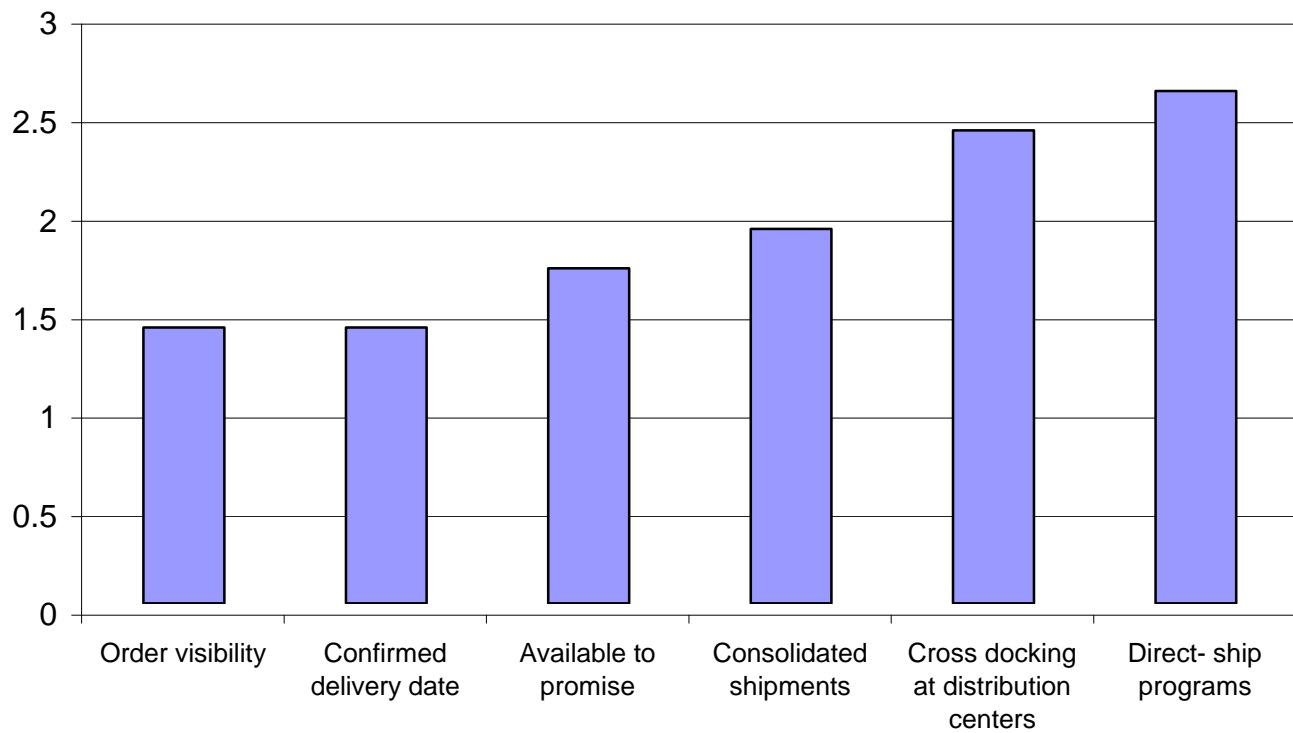


Emphasis placed on each as it relates to distributors

Distribution integration	Mean
Order visibility	1.4
Confirmed delivery date	1.4
Available to promise	1.7
Consolidated shipments	1.9
Cross docking at distribution centers	2.4
Direct- ship programs	2.6
Point of use material delivery	2.6
VMI	2.8
Product rationalization	3.1
Kanban replenishment	3.8
Merge-in-transit shipments	4.4

1=Very Important, 7= Not Important

2002

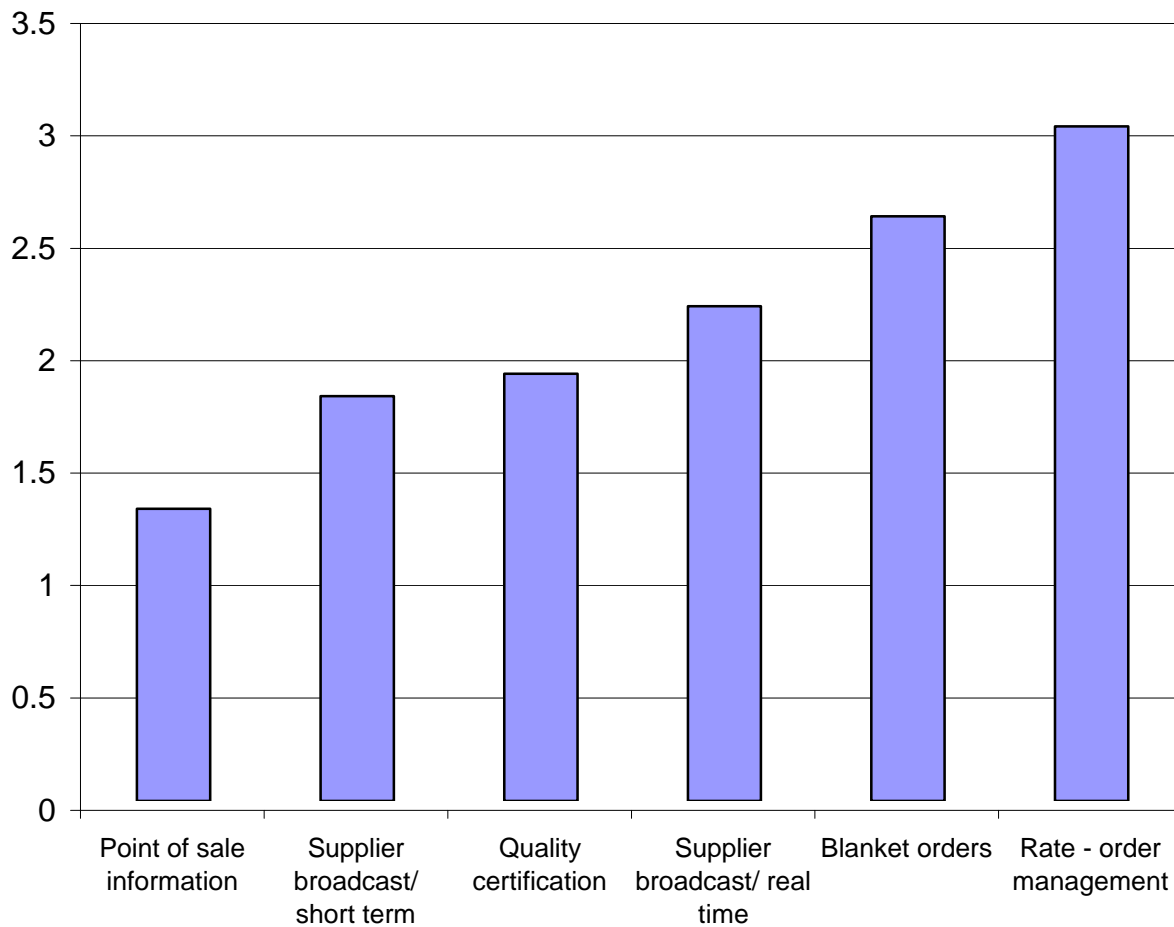


Emphasis placed on each as it relates to customers

Customer integration	Mean
Point of sale information	1.3
Supplier broadcast/ short term	1.8
Quality certification	1.9
Supplier broadcast/ real time	2.2
Blanket orders	2.6
Rate - order management	3

1= Very important; 7= Not important

2002

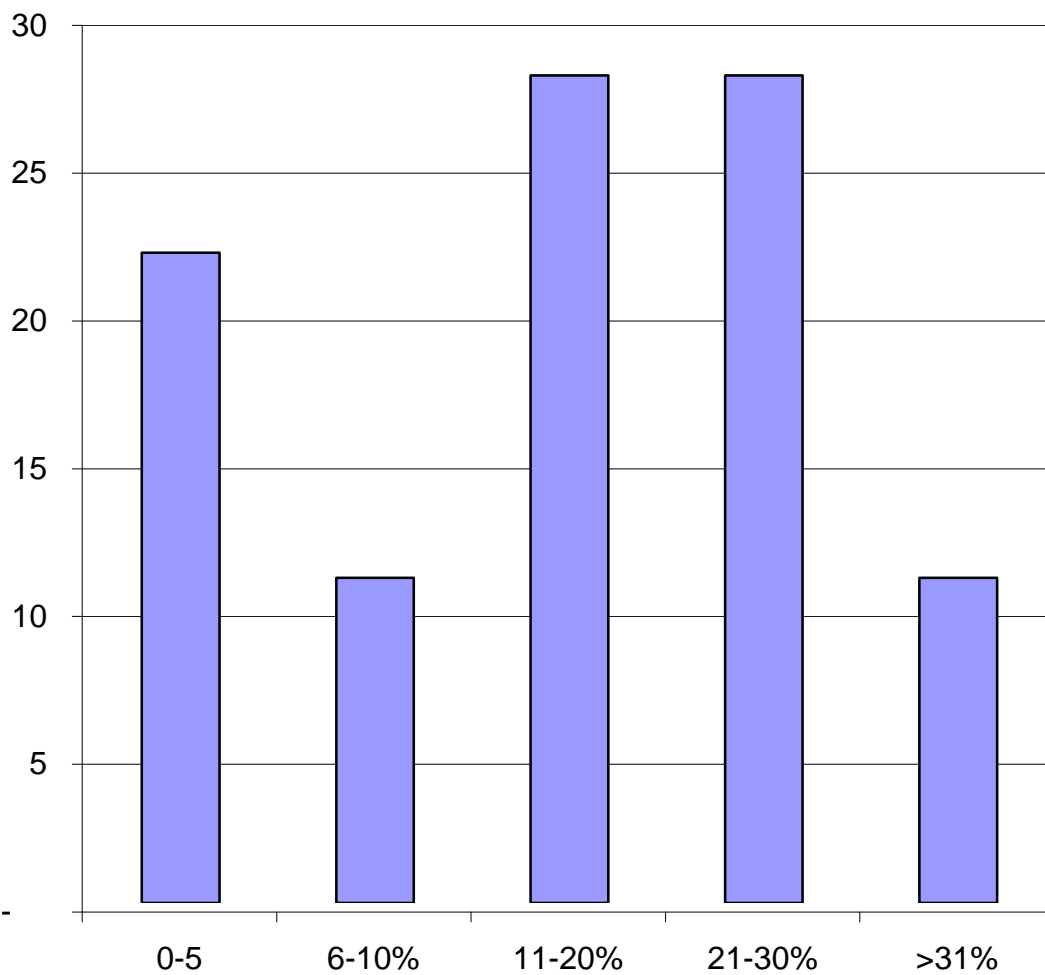


Percent of time respondents spend on:

Strategic planning

Percent of time	2002
0-5	22
6-10%	11
11-20%	28
21-30%	28
>31%	11
Total	100%

2002

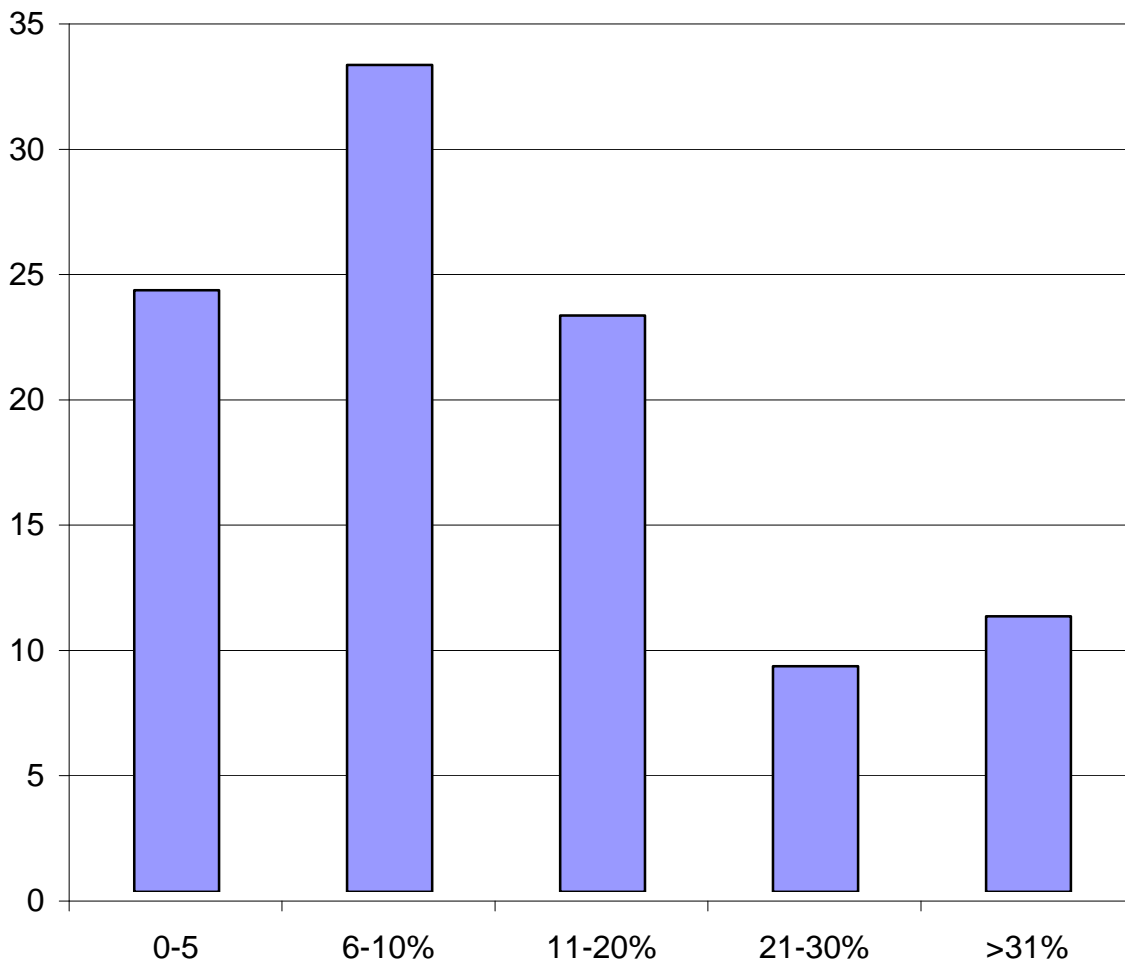


Percent of time respondents spend on:

Collaboration with suppliers

Percent of time	2002
0-5	24
6-10%	33
11-20%	23
21-30%	9
>31%	11
Total	100%

2002

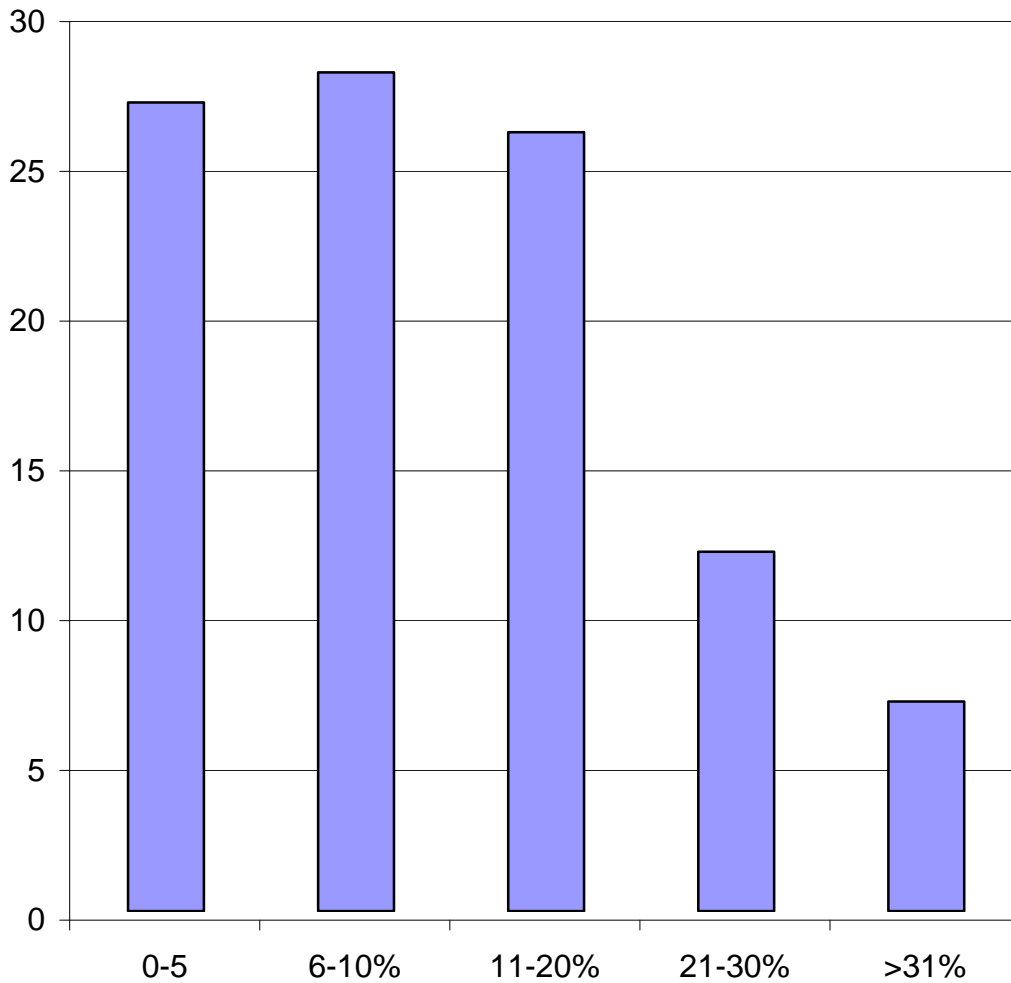


Percent of time respondents spend on:

Collaboration with customers

Percent of time	2002
0-5	27
6-10%	28
11-20%	26
21-30%	12
>31%	7
Total	100%

2002

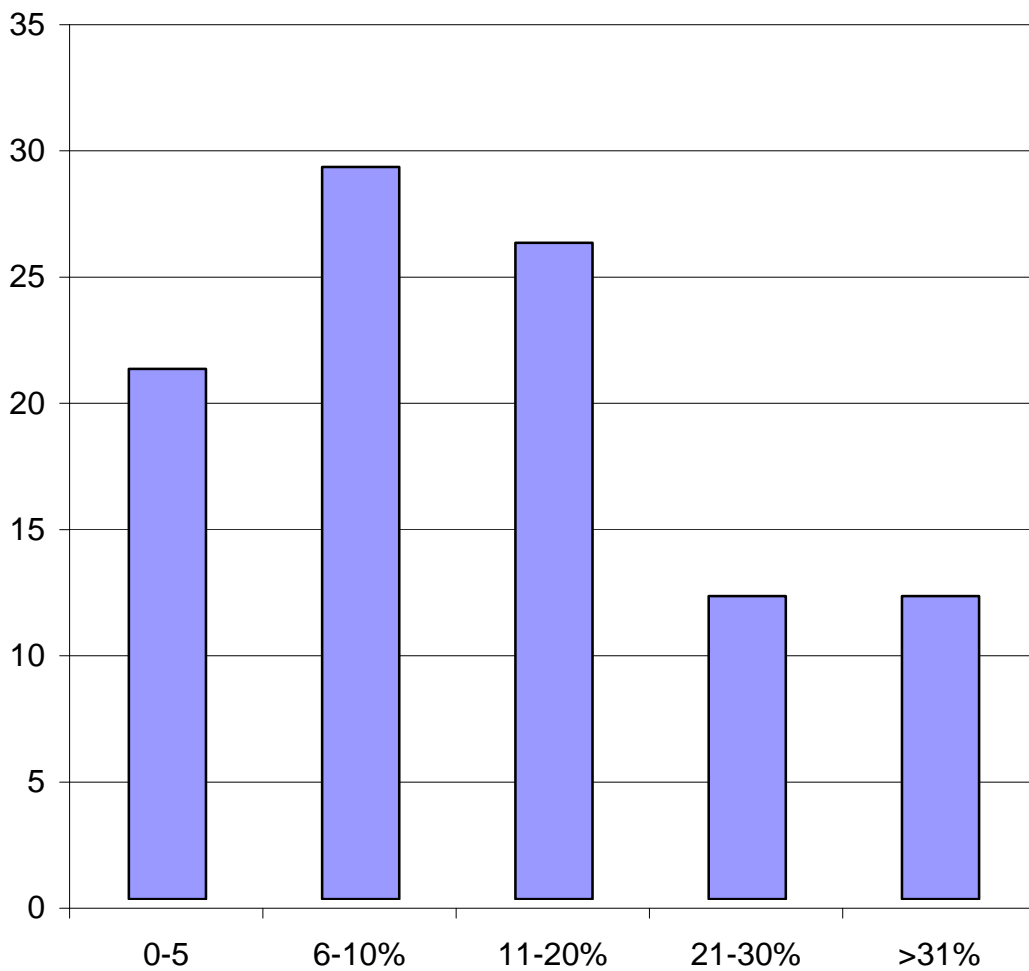


Percent of time respondents spend on:

Strategic planning for transportation

Percent of time	2002
0-5	21
6-10%	29
11-20%	26
21-30%	12
>31%	12
Total	100%

2002

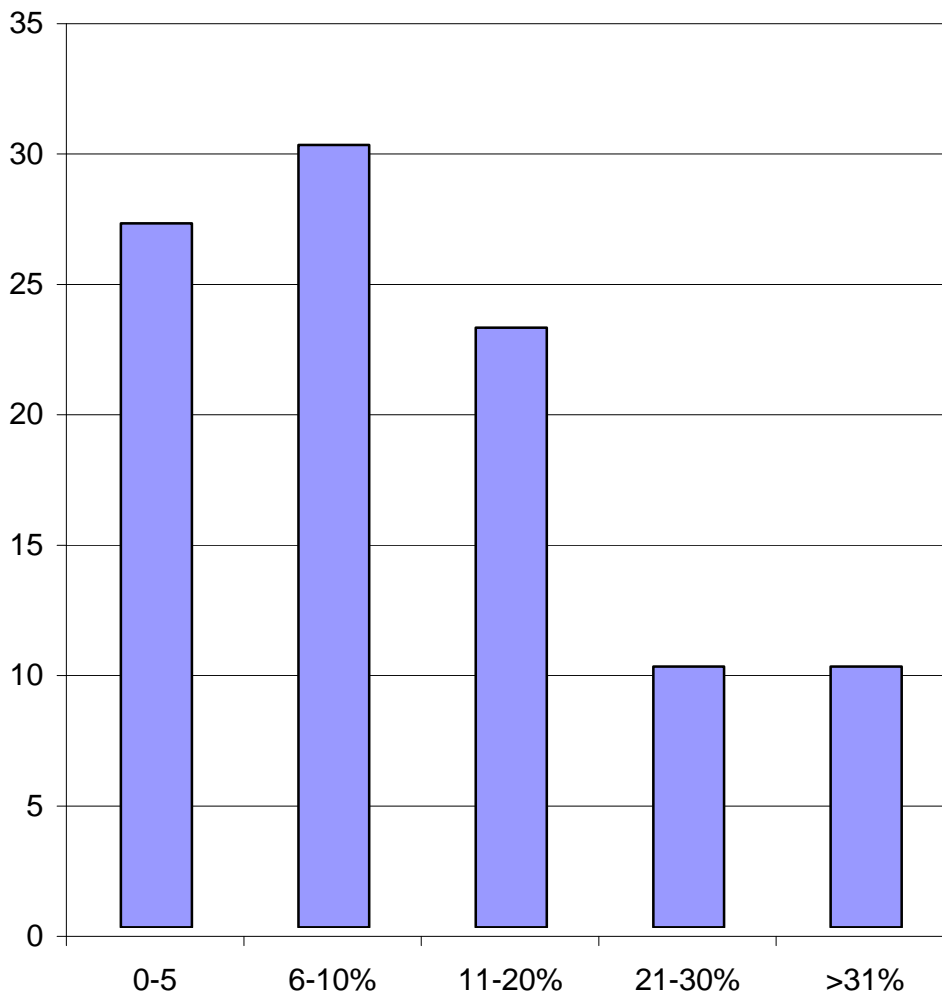


Percent of time respondents spend on:

Strategic planning warehousing

Percent of time	2002
0-5	27
6-10%	30
11-20%	23
21-30%	10
>31%	10
Total	100

2002

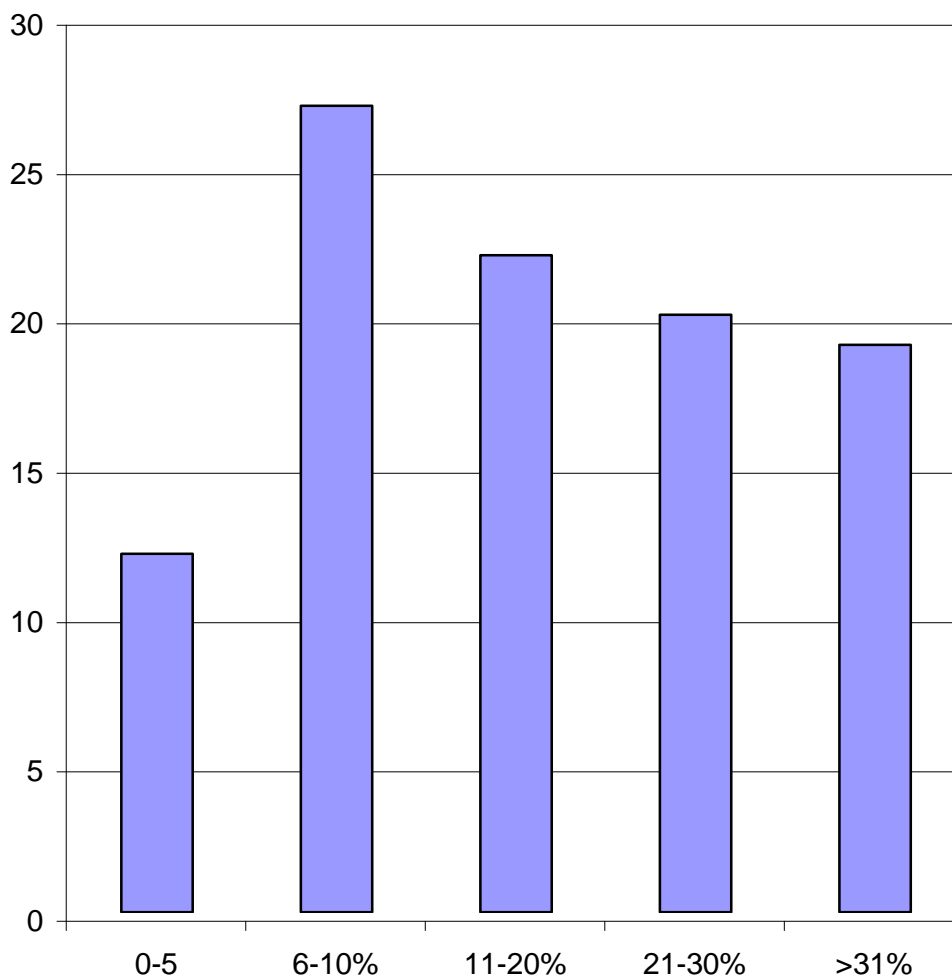


Percent of time respondents spend on:

Tactical operating issues

Percent of time	2002
0-5	12
6-10%	27
11-20%	22
21-30%	20
>31%	19
Total	100%

2002

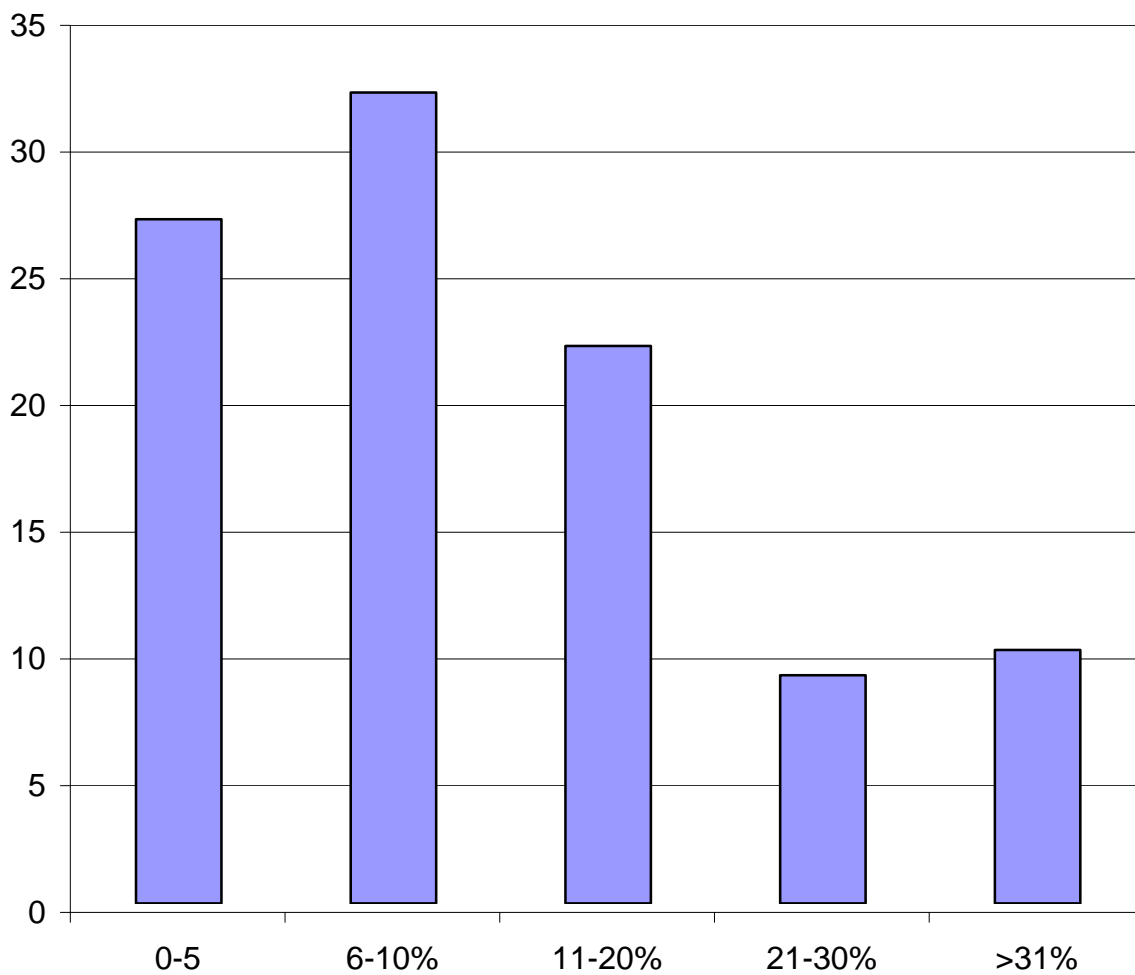


Percent of time respondents spend on:

Software issues

Percent of time	2002
0-5	27
6-10%	32
11-20%	22
21-30%	9
>31%	10
Total	100%

2002

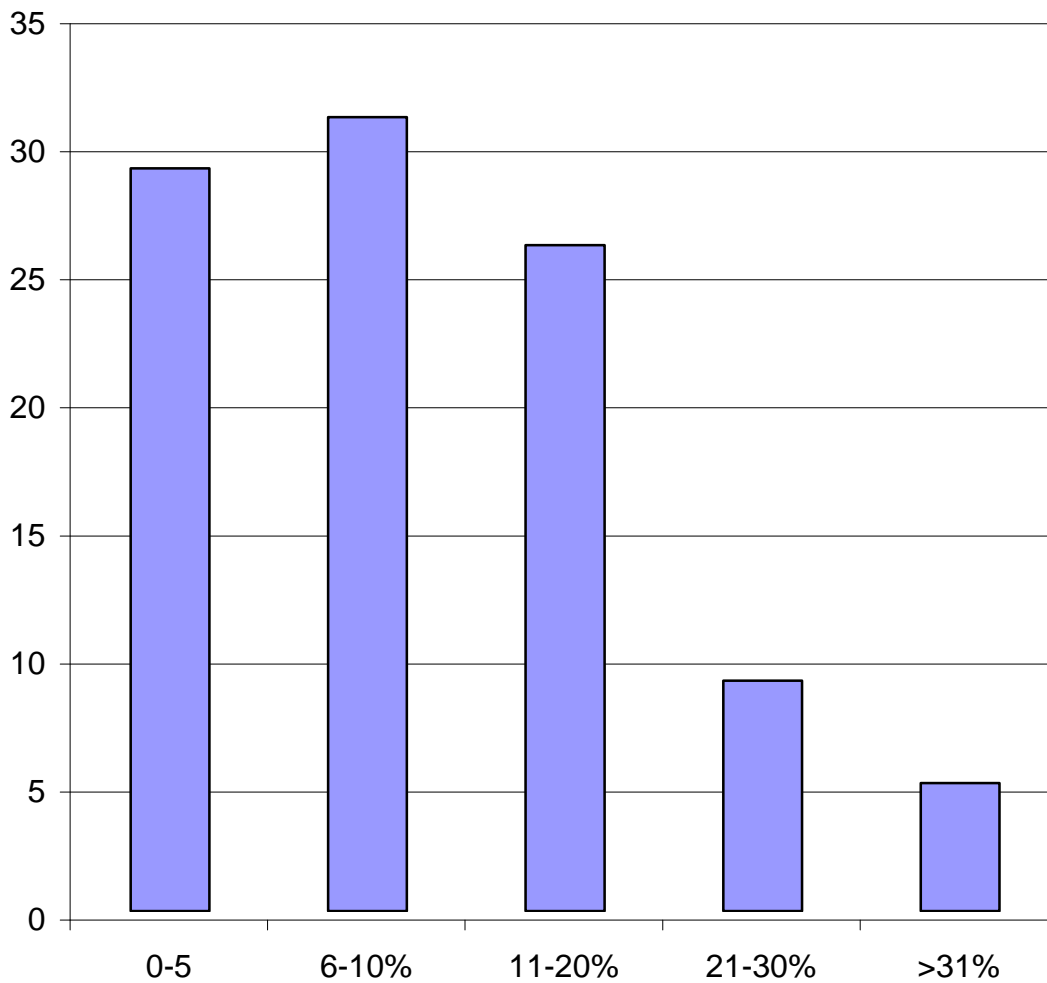


Percent of time respondents spend on:

Network optimization

Percent of time	2002
0-5	29
6-10%	31
11-20%	26
21-30%	9
>31%	5
Total	100%

2002

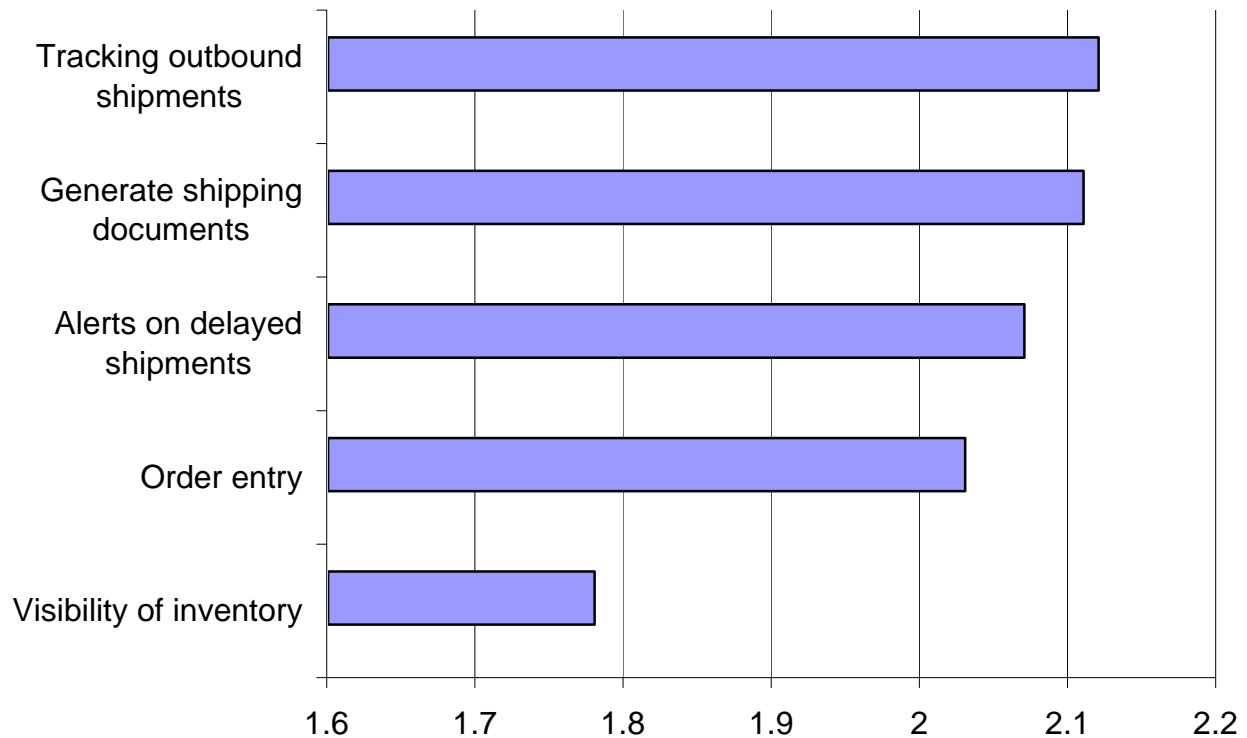


Supply chain execution management process importance

	Mean		Mean
Visibility of inventory	1.78	Rating/contract management	2.69
Order entry	2.03	Acknowledge orders	2.76
Alerts on delayed shipments	2.07	Consolidation of orders	2.93
Generate shipping documents	2.11	Product retruns	3.01
Tracking outbound shipments	2.12	Appointment scheduling	3.24
Vendor compliance	2.27	Electronic tendering of shipments	3.28
Alerts on order delays	2.35	Electronic settlement	3.48
Carrier selection	2.36	Continuous moves	3.52
Tracking inbound shipments	2.5	Divergence of shipments	3.67
Domestic visibility of orders	2.55	In-transit merges	4.23
Backorder status	2.6		
ASN	2.63		
Routing and scheduling optimization	2.69		

1= Very important; 7= Not very important

2002

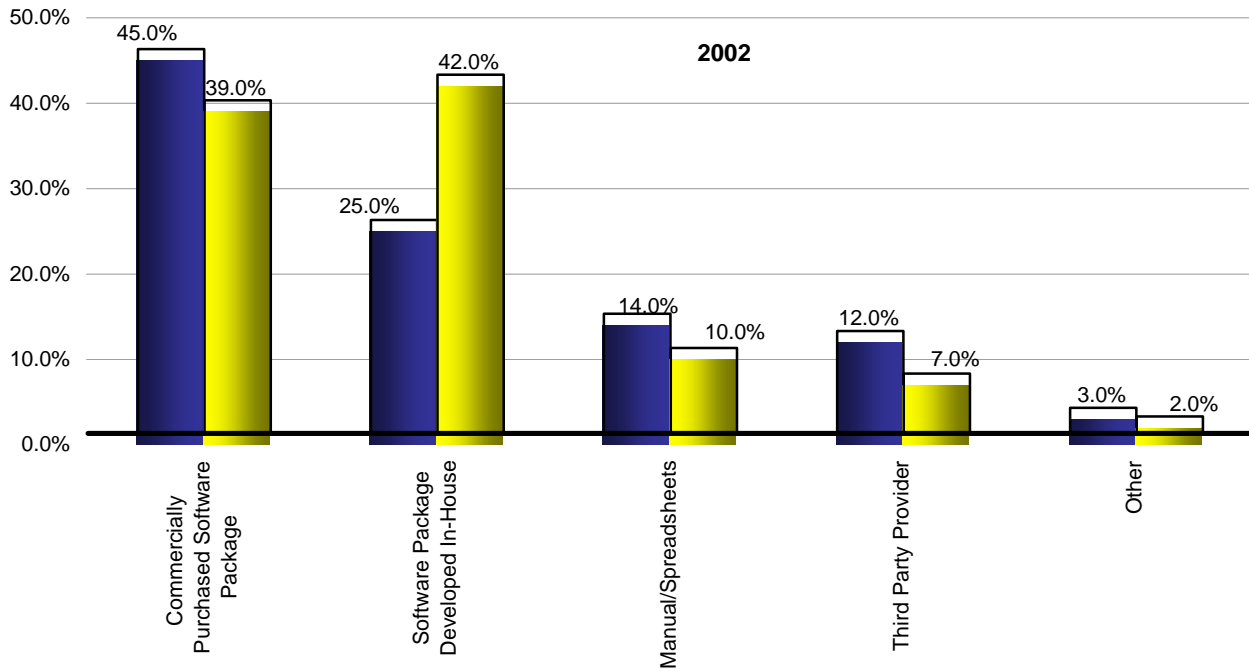


Primary Tools Used to Manage Transportation

Tool	2002	
	Transportation	Distribution
Commercially Purchased Software Package	45.0%	39.0%
Software Package Developed In-House	25.0%	42.0%
Manual/Spreadsheets	14.0%	10.0%
Third Party Provider	12.0%	7.0%
Other	3.0%	2.0%
Total	100.0%	100.0%

Tool	2001	
	Transportation	Distribution
Commercially Purchased Software Package	36.5%	40.7%
Software Package Developed In-House	32.1%	35.0%
Manual/Spreadsheets	18.6%	14.3%
Third Party Provider	11.5%	8.6%
Other	1.3%	1.4%
Total	100.0%	100.0%

■ Transportation ■ Distribution

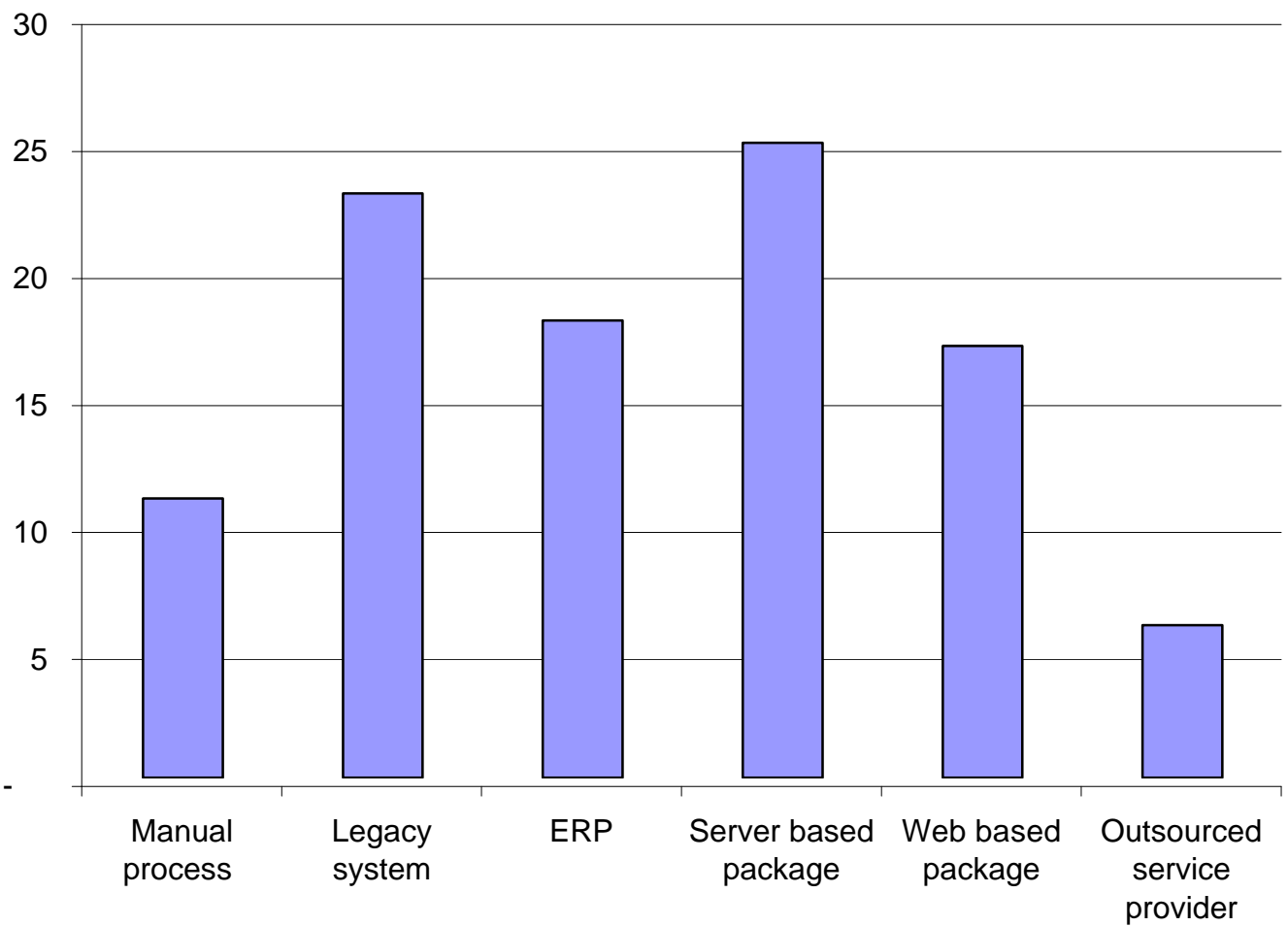


What method do you currently use to manage:

Order tracking

	2002
Manual process	11
Legacy system	23
ERP	18
Server based package	25
Web based package	17
Outsourced service provider	6
Total	100%

2002

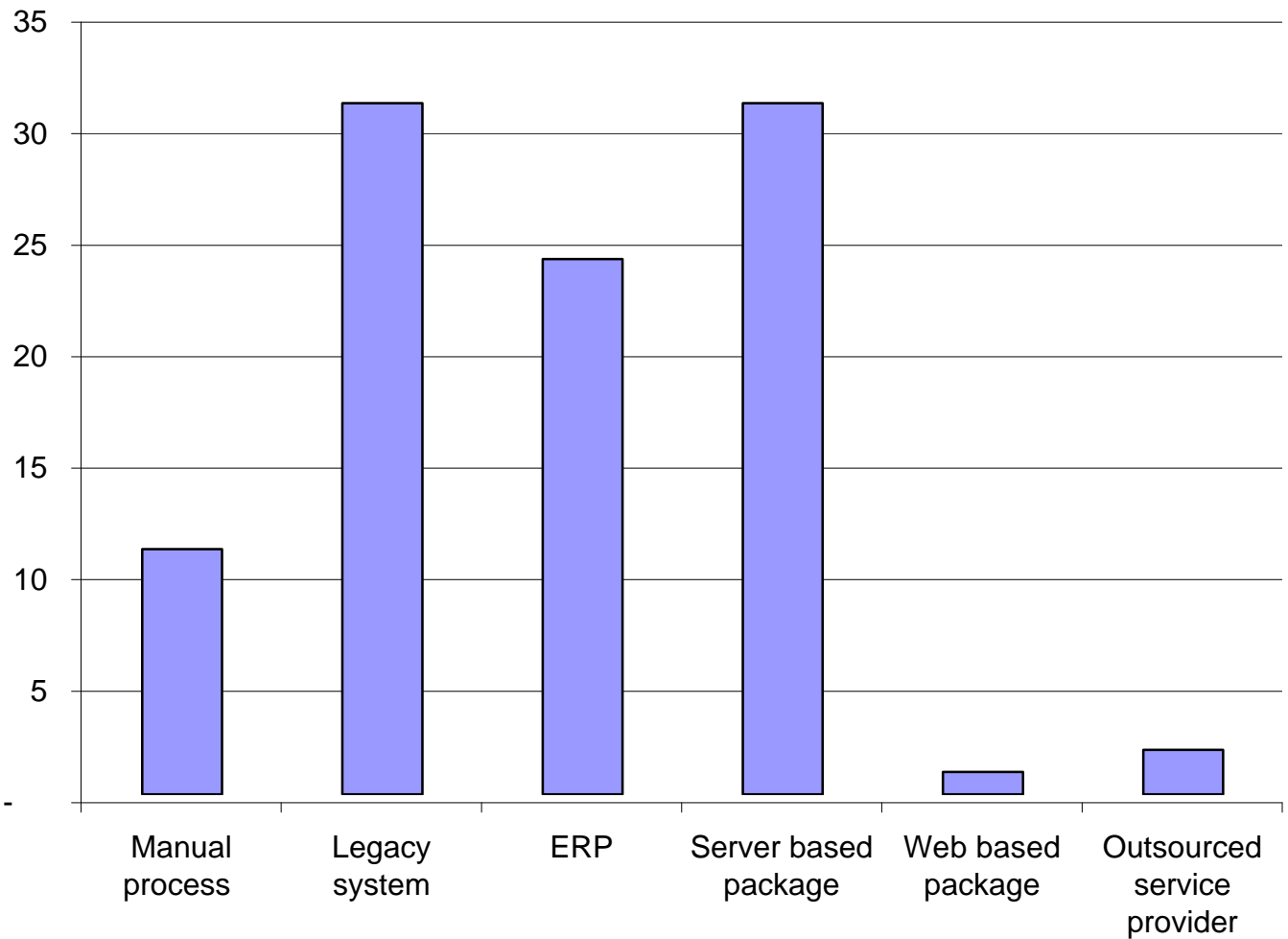


What method do you currently use to manage:

Order fulfillment

	2002
Manual process	11
Legacy system	31
ERP	24
Server based package	31
Web based package	1
Outsourced service provider	2
Total	100%

2002

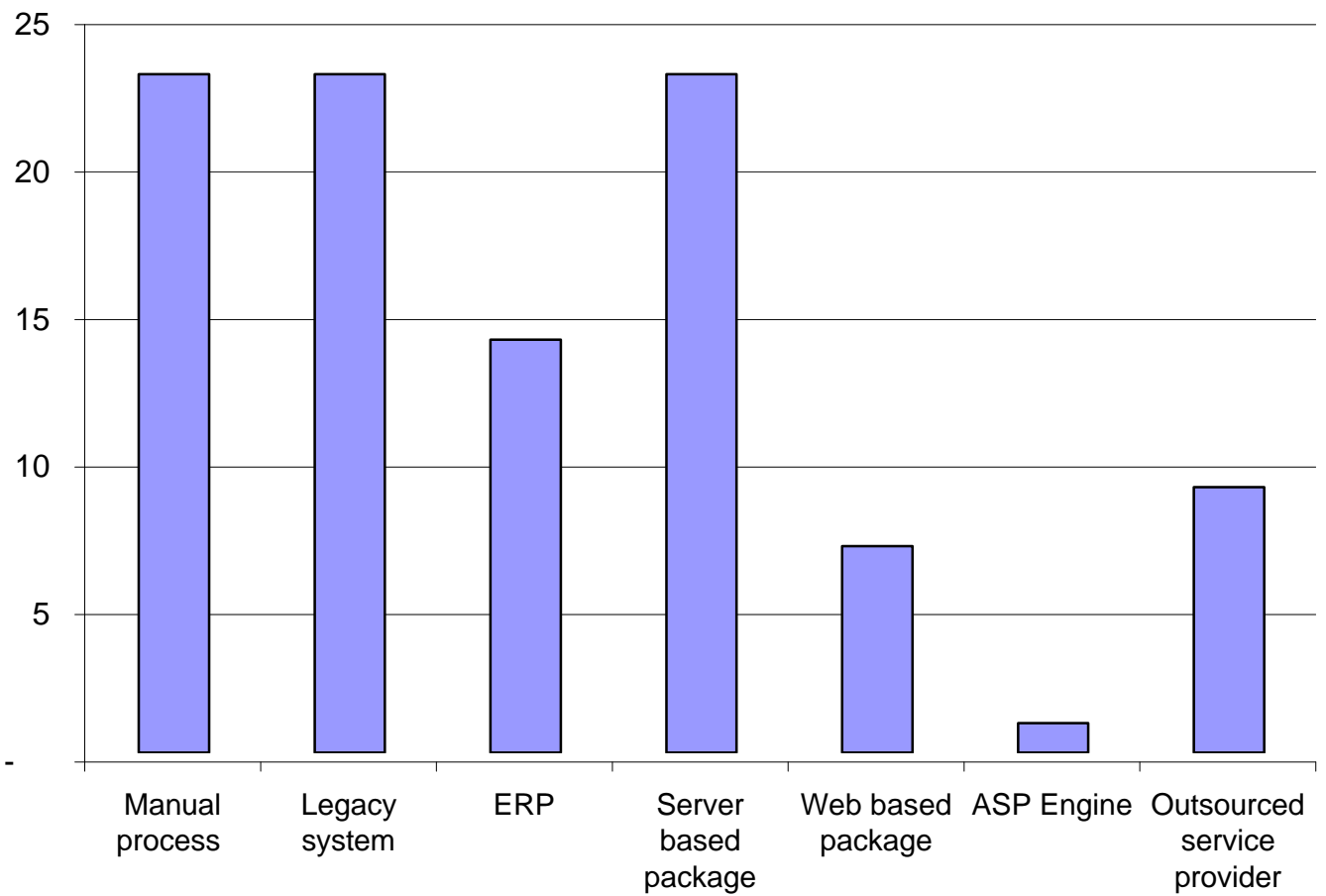


What method do you currently use to manage:

CPFR

	2002
Manual process	23
Legacy system	23
ERP	14
Server based package	23
Web based package	7
ASP Engine	1
Outsourced service provider	9
Total	100%

2002

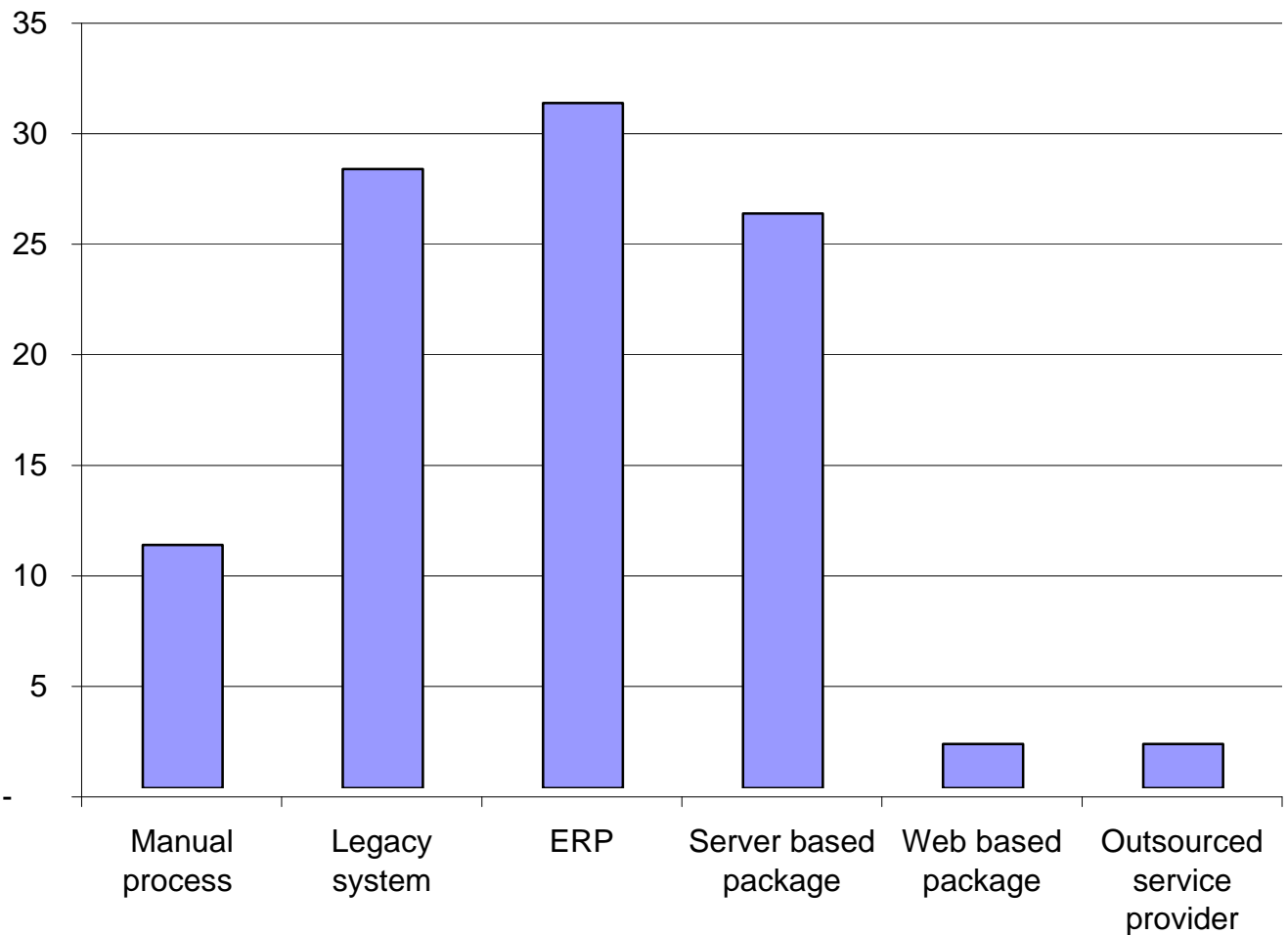


What method do you currently use to manage:

Order management

	<u>2002</u>
Manual process	11
Legacy system	28
ERP	31
Server based package	26
Web based package	2
Outsourced service provider	<u>2</u>
Total	100%

2002

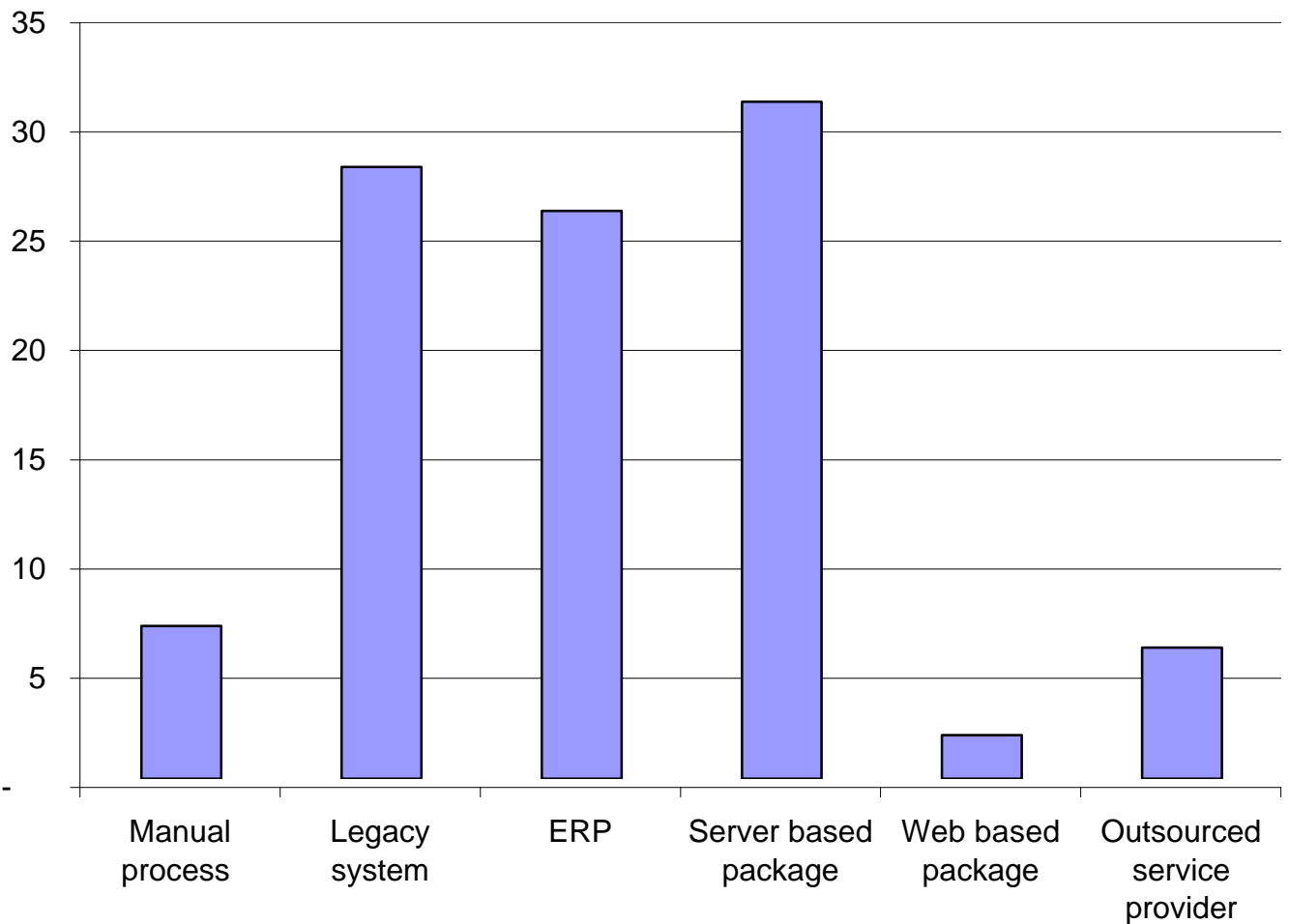


What method do you currently use to manage:

Inventory management

	2002
Manual process	7
Legacy system	28
ERP	26
Server based package	31
Web based package	2
Outsourced service provider	6
Total	100%

2002

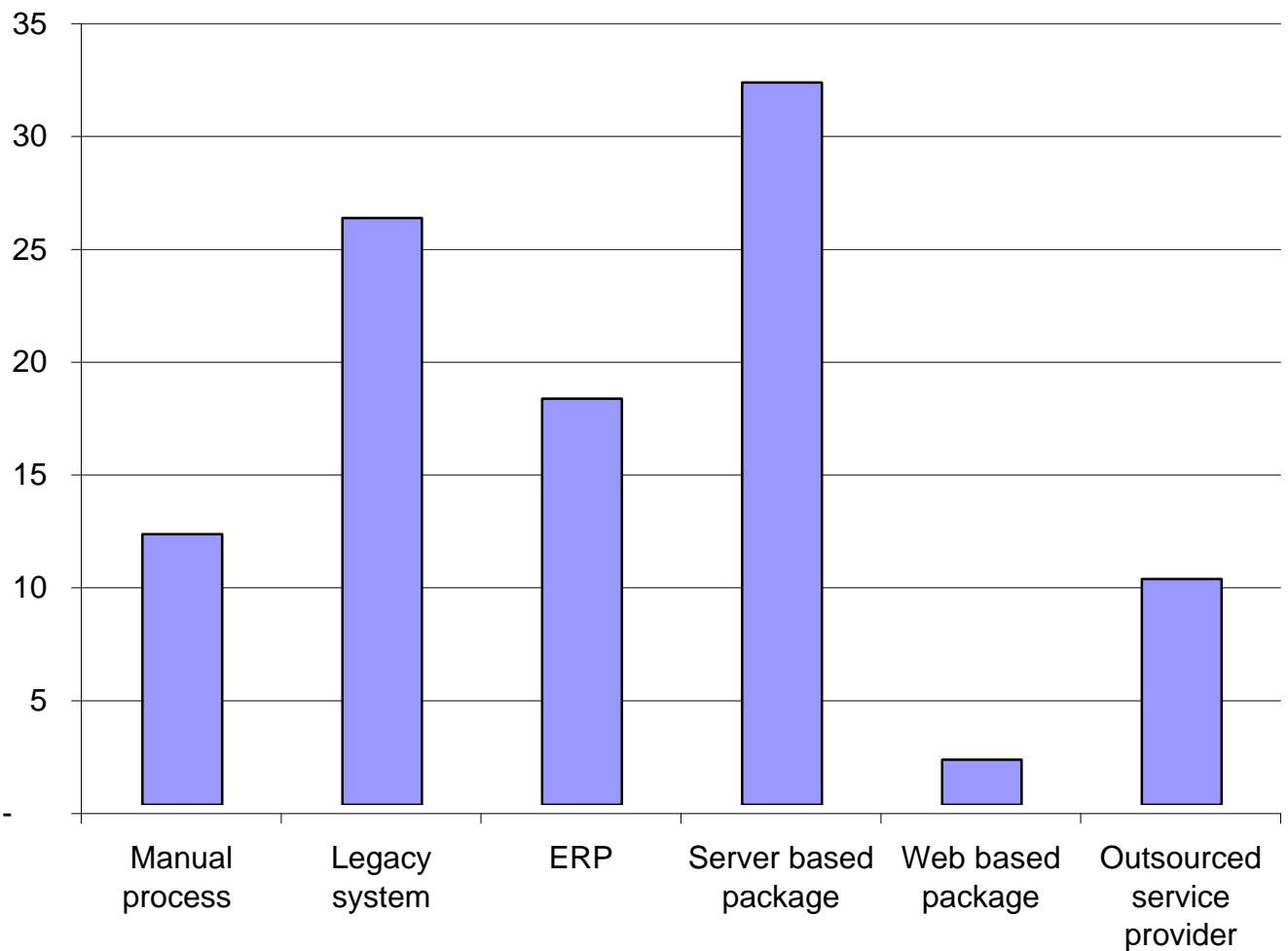


What method do you currently use to manage:

Warehouse management

	2002
Manual process	12
Legacy system	26
ERP	18
Server based package	32
Web based package	2
Outsourced service provider	10
Total	100%

2002

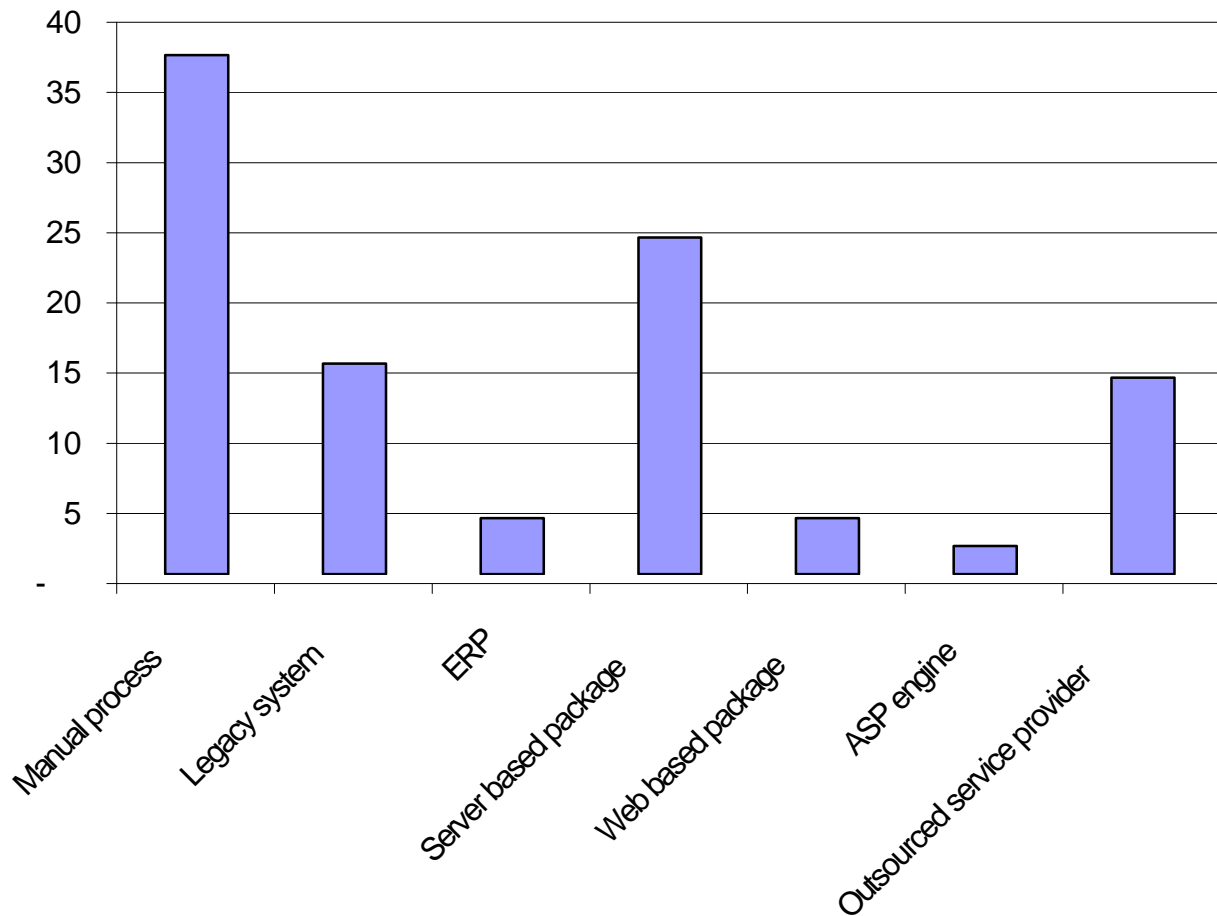


What method do you currently use to manage:

Transportation planning

	2002
Manual process	37
Legacy system	15
ERP	4
Server based package	24
Web based package	4
ASP engine	2
Outsourced service provider	14
Total	100%

2002

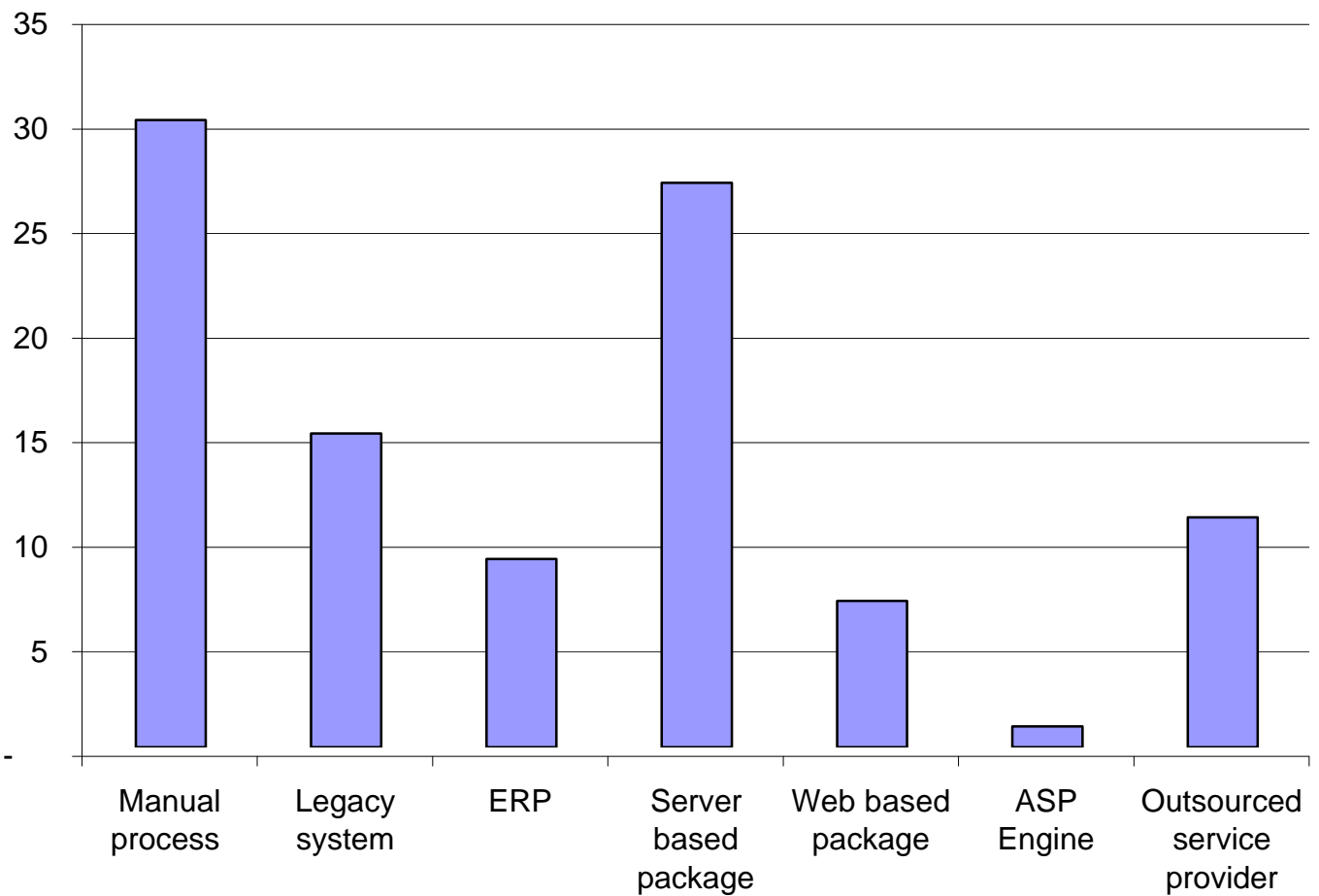


What method do you currently use to manage:

Transportation management

	<u>2002</u>
Manual process	30
Legacy system	15
ERP	9
Server based package	27
Web based package	7
ASP Engine	1
Outsourced service provider	11
Total	<u>100%</u>

2002

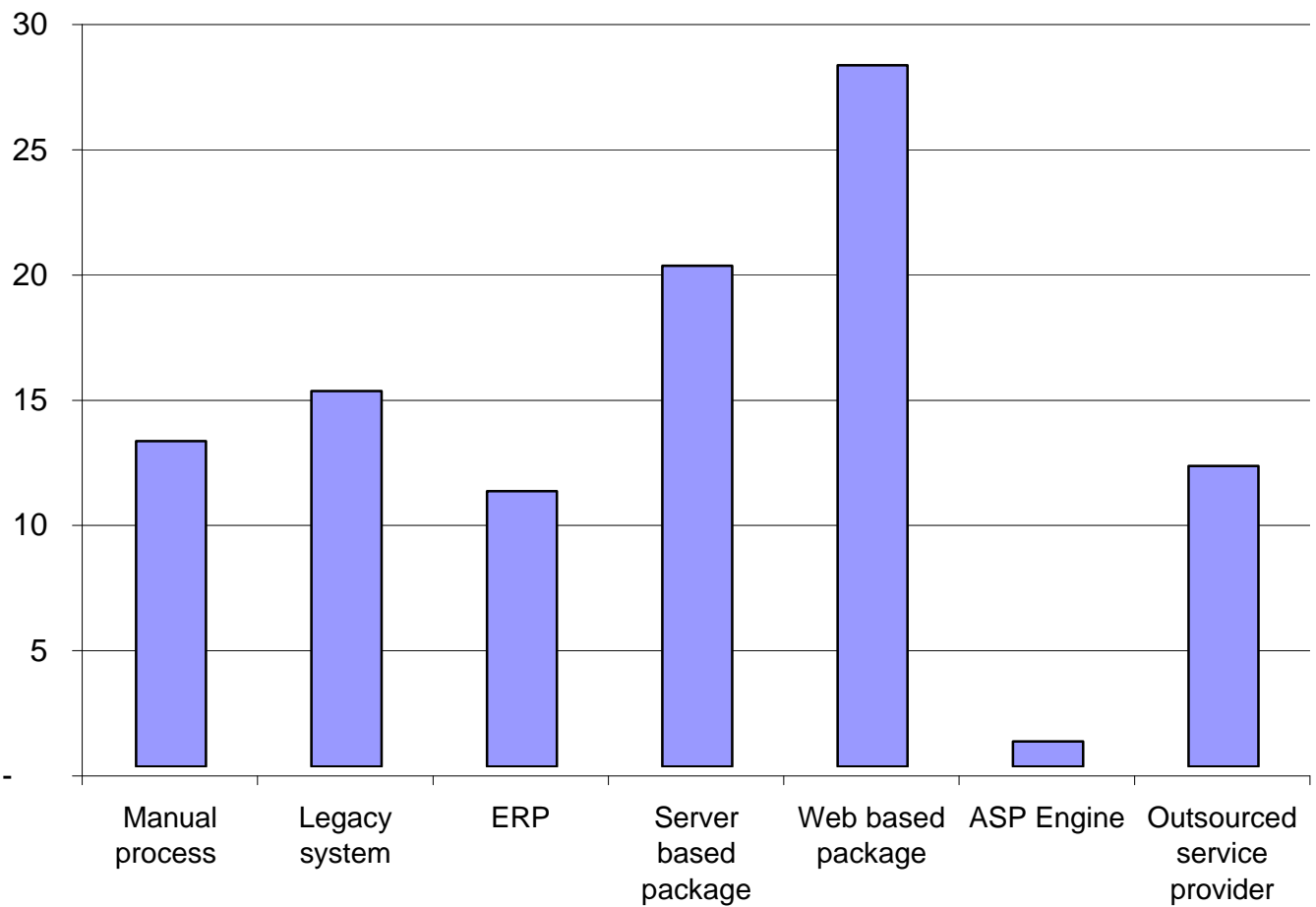


What method do you currently use to manage:

Track and trace

	2002
Manual process	13
Legacy system	15
ERP	11
Server based package	20
Web based package	28
ASP Engine	1
Outsourced service provider	12
Total	100%

2002



What method do you currently use to manage:

Freight settlement

	2002
Manual process	29
Legacy system	12
ERP	6
Server based package	17
Web based package	11
Outsourced service provider	25
Total	100%

2002

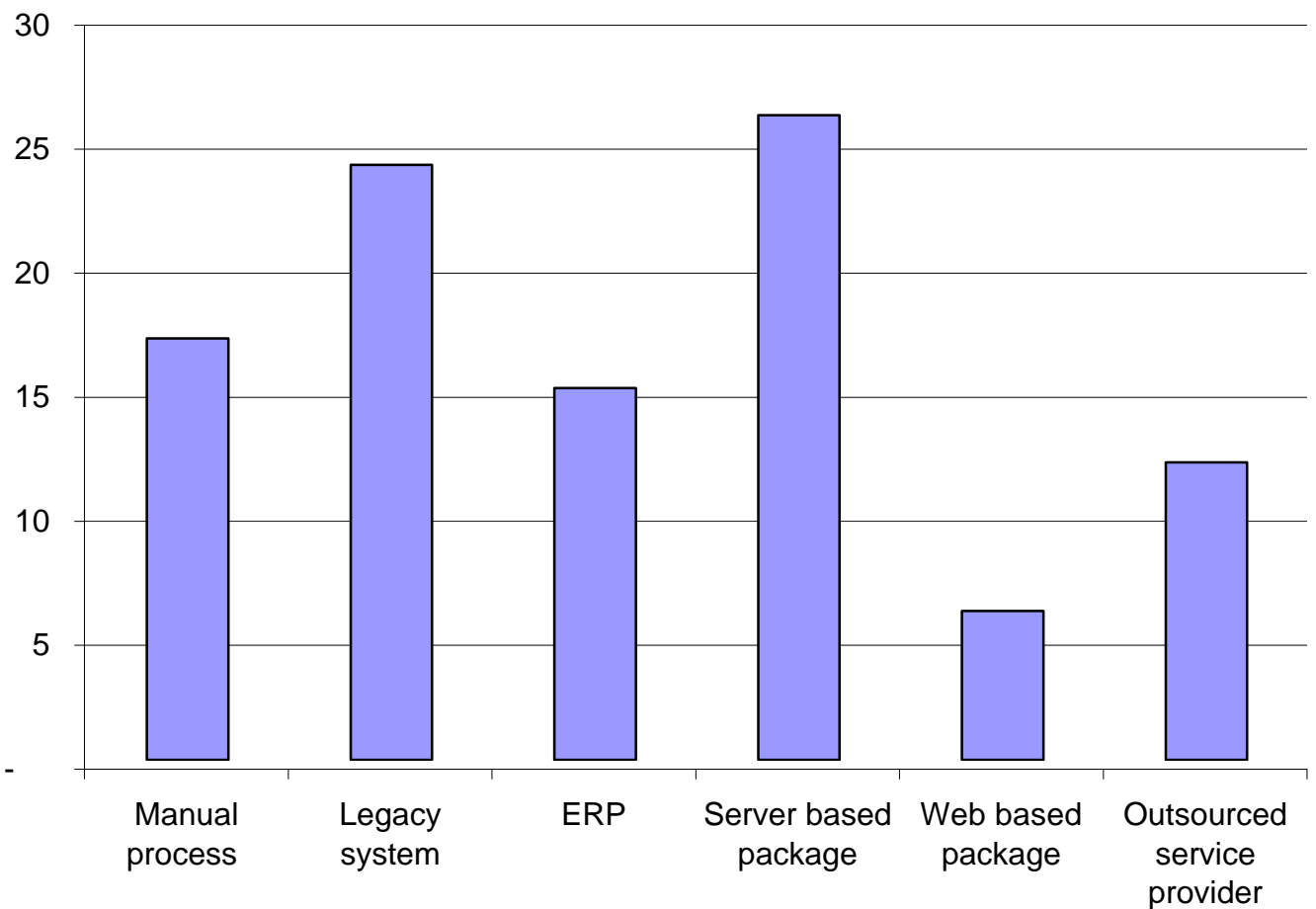


What method do you currently use to manage:

Electronic settlement

	<u>2002</u>
Manual process	17
Legacy system	24
ERP	15
Server based package	26
Web based package	6
Outsourced service provider	12
Total	<u>100%</u>

2002

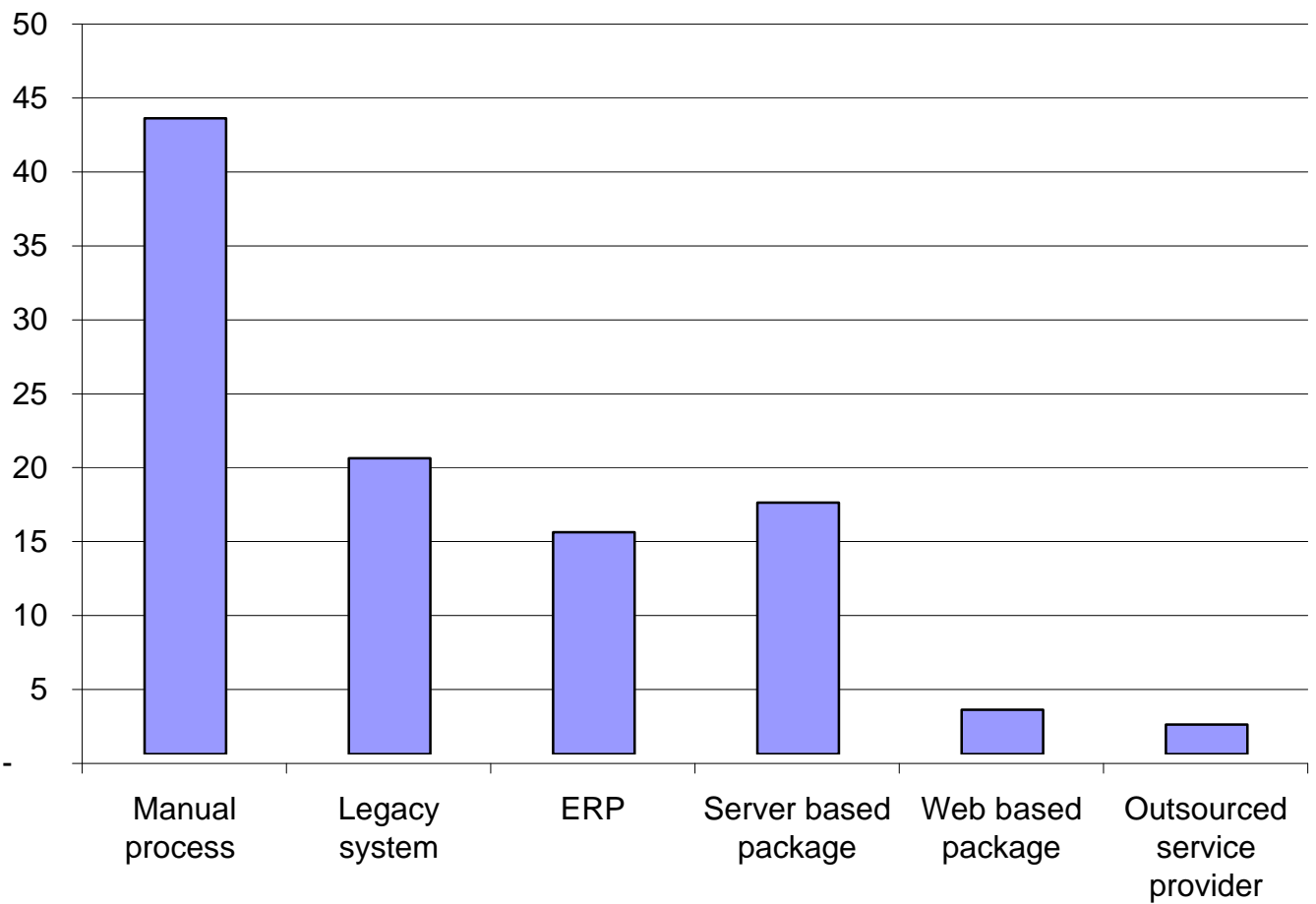


What method do you currently use to manage:

Returns management

	2002
Manual process	43
Legacy system	20
ERP	15
Server based package	17
Web based package	3
Outsourced service provider	2
Total	100%

2002

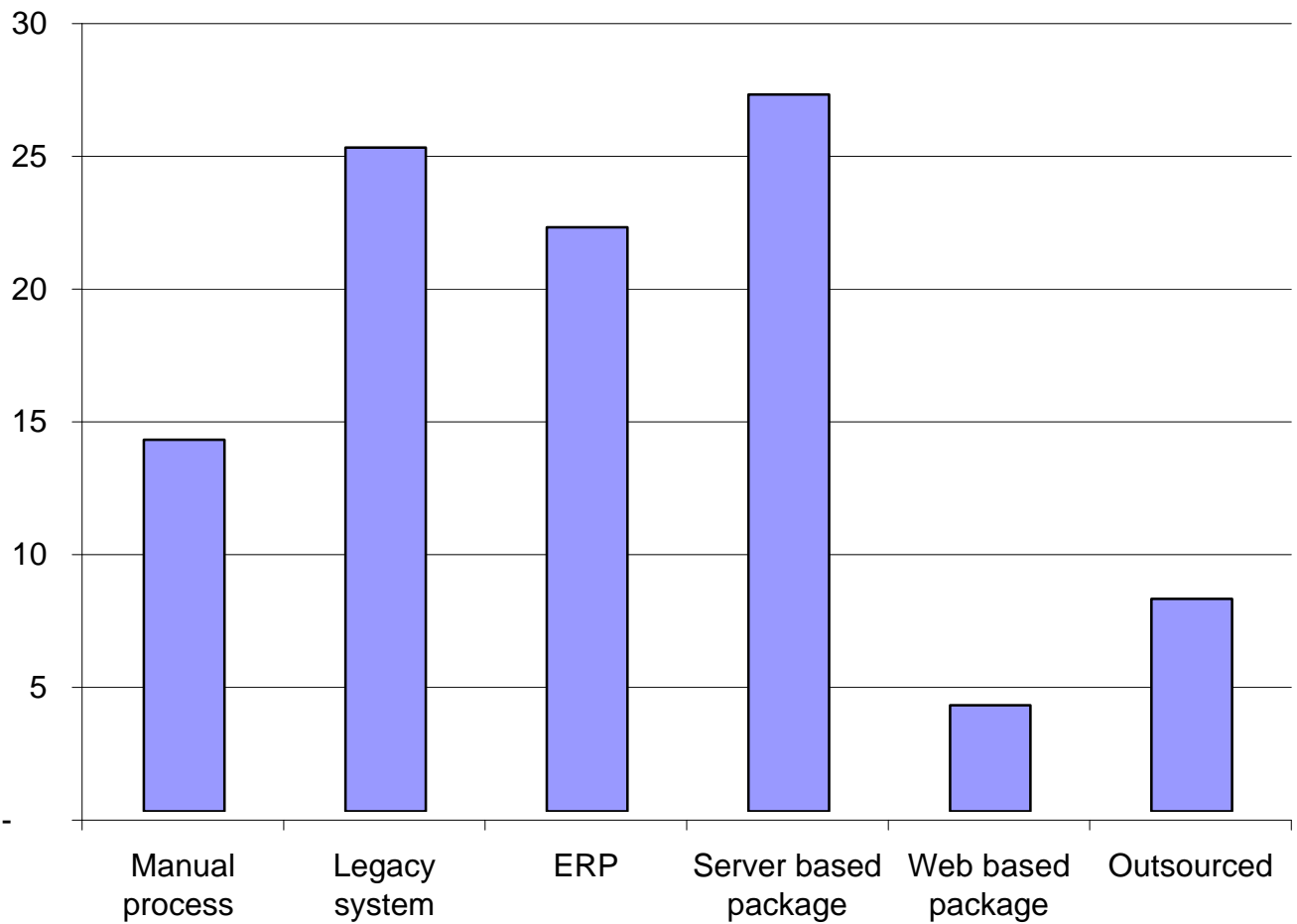


What method do you currently use to manage:

Operational data warehouse

	2002
Manual process	14
Legacy system	25
ERP	22
Server based package	27
Web based package	4
Outsourced	8
Total	100%

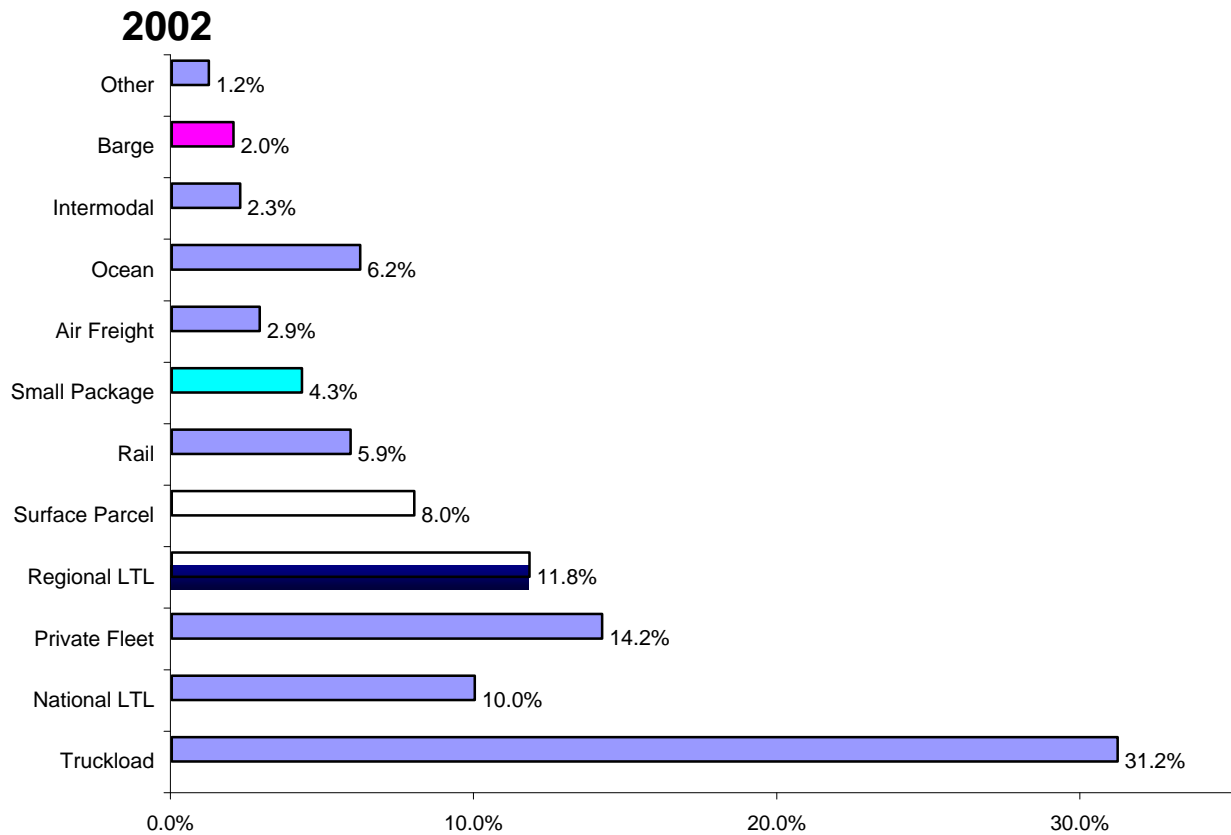
2002



Percent of Domestic Transportation by Mode

Overall total transportation costs

	Mean	
	2002	2001
Truckload	31.2%	29.5%
National LTL	10.0%	12.7%
Private Fleet	14.2%	12.2%
Regional LTL	11.8%	11.5%
Surface Parcel	8.0%	7.5%
Rail	5.9%	6.9%
Small Package	4.3%	6.5%
Air Freight	2.9%	4.0%
Ocean	6.2%	3.9%
Intermodal	2.3%	2.3%
Barge	2.0%	1.6%
Other	1.2%	1.4%
Total	100.0%	100.0%



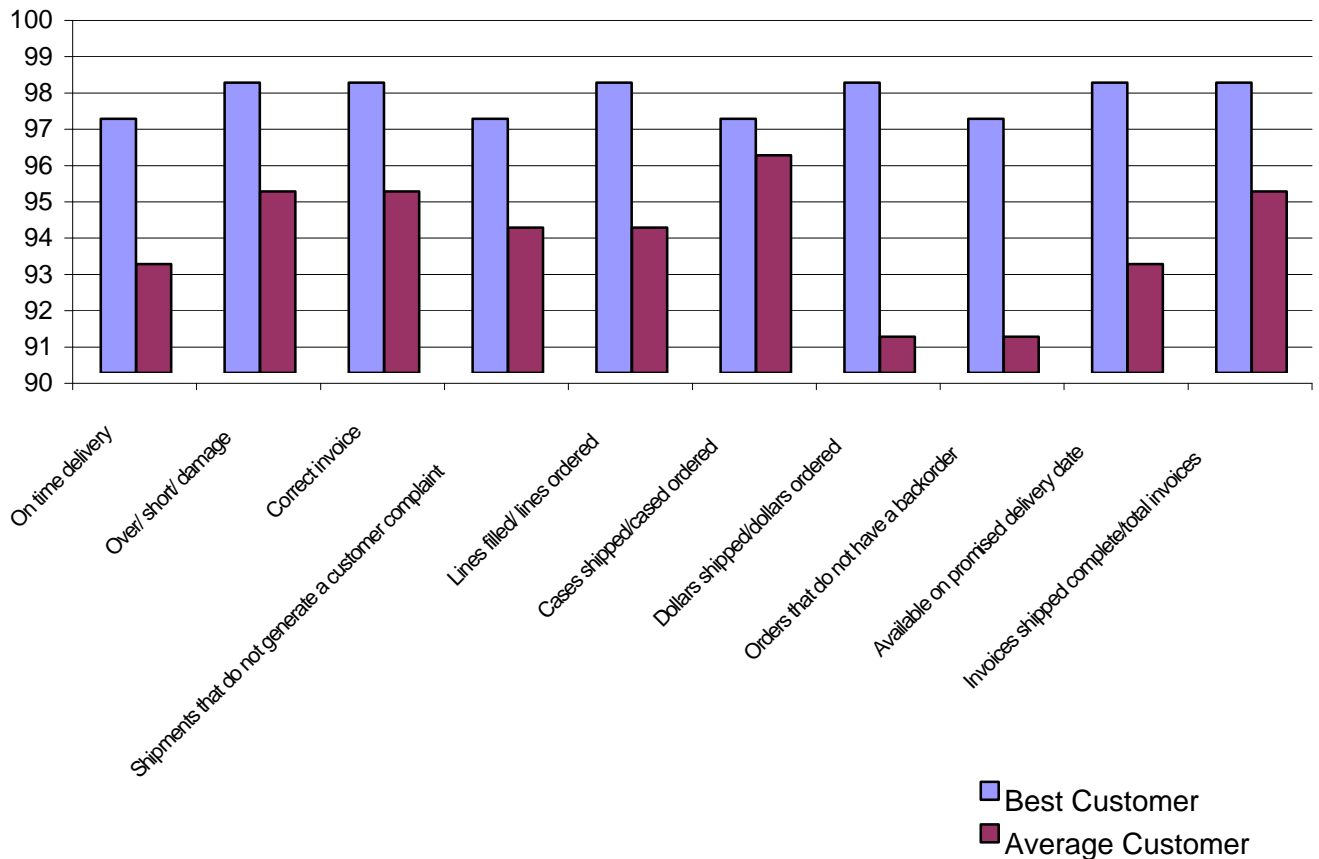
Level of Performance By Various Providers

2002				
Measure	TL	National LTL	Regional LTL	Rail
Billing error rate	3.4%	5.5%	4.5%	5.2%
Equipment availability	94.7%	97.4%	98.3%	85.5%
On-time delivery ratio	95.6%	92.6%	95.2%	83.4%
Frieght loss and damage	1.1%	2.0%	1.9%	1.5%
Turndown ratio	3.8%	1.0%	1.0%	1.0%

2001				
Measure	TL	National LTL	Regional LTL	Rail
Billing error rate	2.6%	4.3%	4.5%	4.2%
Equipment availability	95.1%	97.1%	96.9%	87.6%
On-time delivery ratio	96.1%	92.9%	94.4%	78.0%
Frieght loss and damage	1.6%	2.2%	1.8%	1.8%
Turndown ratio	3.0%	1.2%	1.3%	1.2%

Level of performance for Best and Average Customers

	Best Customer	Average Customer
On time delivery	97	93
Over/ short/ damage	98	95
Correct invoice	98	95
Shipments that do not generate a customer complaint	97	94
Lines filled/ lines ordered	98	94
Cases shipped/cased ordered	97	96
Dollars shipped/dollars ordered	98	91
Orders that do not have a backorder	97	91
Available on promised delivery date	98	93
Invoices shipped complete/total invoices	98	95



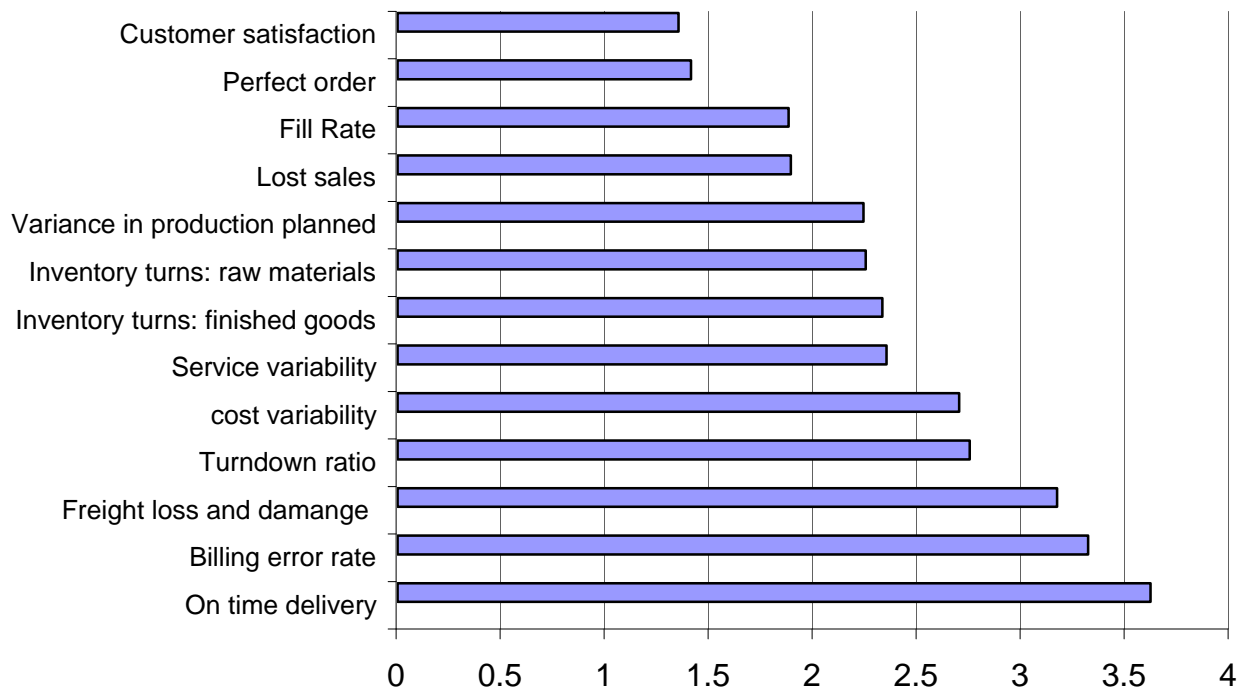
Performance Metrics

Importance of metrics

	Mean
On time delivery	3.62
Billing error rate	3.32
Freight loss and damage	3.17
Turndown ratio	2.75
cost variability	2.7
Service variability	2.35
Inventory turns: finished goods	2.33
Inventory turns: raw materials	2.25
Variance in production planned	2.24
Lost sales	1.89
Fill Rate	1.88
Perfect order	1.41
Customer satisfaction	1.35

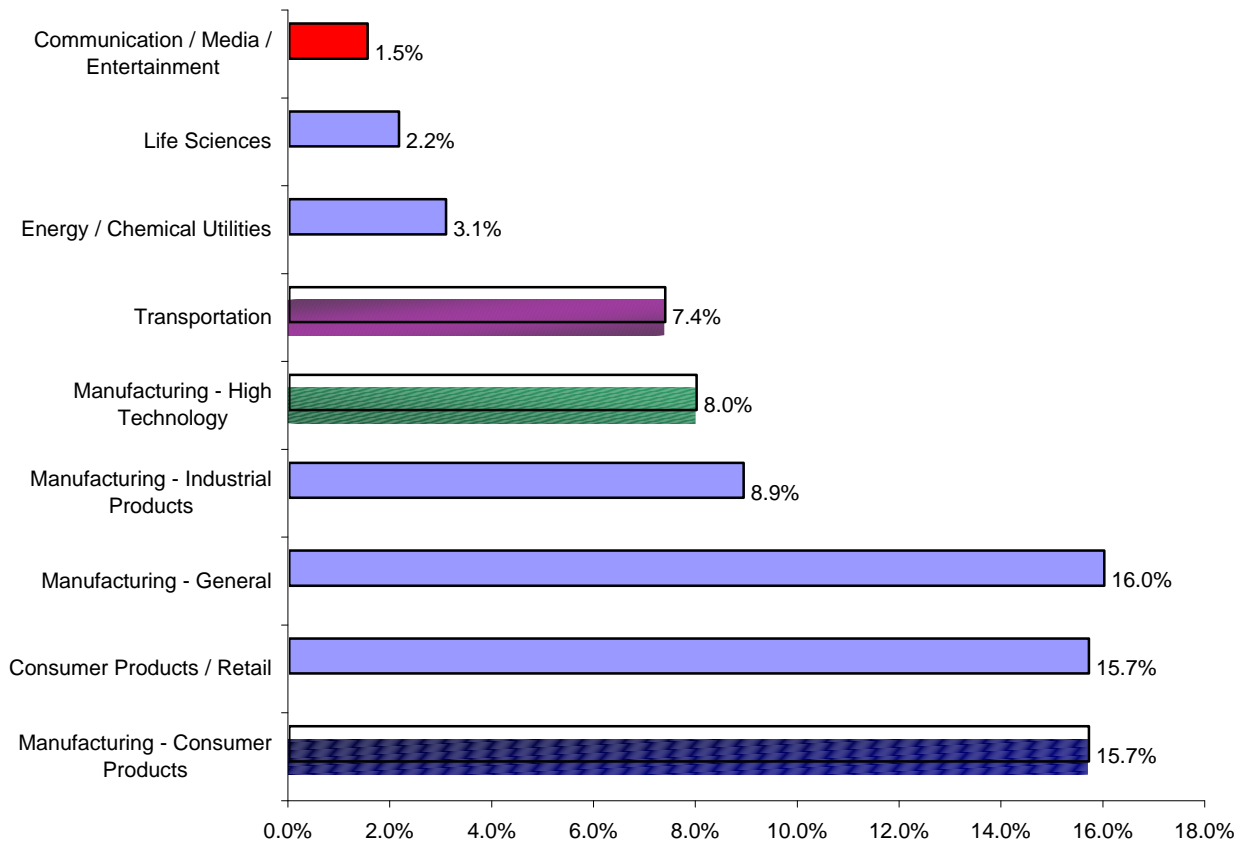
1= Very Important, 7= Not Important

2002



Primary Business of Firms

	2002	2001
Manufacturing - Consumer Products	17.5%	23.1%
Consumer Products / Retail	15.7%	8.9%
Manufacturing - General	15.7%	12.8%
Manufacturing - Industrial Products	16.0%	11.9%
Manufacturing - High Technology	8.9%	4.2%
Transportation	8.0%	11.2%
Energy / Chemical Utilities	7.4%	6.5%
Life Sciences	3.1%	0.9%
Communication / Media / Entertainment	2.2%	2.3%
Mining or Petroleum	1.5%	1.4%
Other	4.0%	16.8%
Total	100.0%	100.0%



Total Annual Sales of the Organization

	2002	2001
< \$250 million	24.0%	28.1%
\$250 - \$500 million	13.0%	14.4%
\$500 - \$1 billion	13.0%	12.5%
\$1 - \$2 billion	12.0%	13.1%
\$2 - \$3 billion	10.0%	6.3%
\$3 - \$5 billion	6.0%	7.5%
\$5 - \$9 billion	5.0%	6.3%
> \$9 billion	17.0%	11.8%
Total	100.0%	100.0%

Domestic Transportation Spending of the Organization as a Percent of Sales

	2002	2001
<1%	10.0%	16.8%
1-2%	20.0%	20.8%
2-5%	49.0%	46.4%
>5%	21.0%	16.0%
Total	100.0%	100.0%

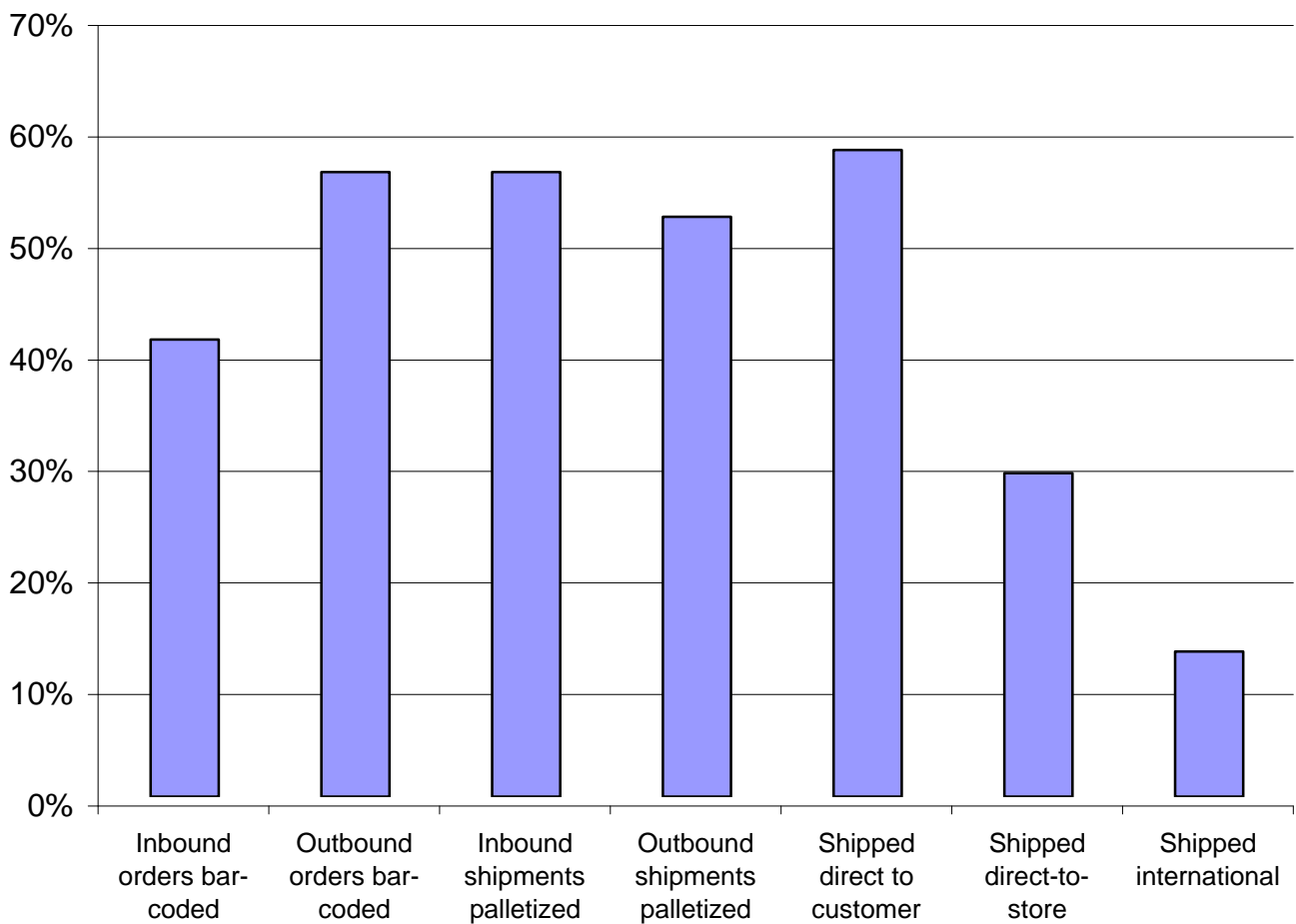
Domestic Transportation Spending of the Organization (Dollar Amount)

	2002	2001
\$0 - \$49 million	53.0%	62.6%
\$50 - \$99 million	14.0%	12.9%
\$100 - \$149 million	9.0%	8.0%
\$150 - \$199 million	4.0%	3.6%
\$200 - \$249 million	2.0%	3.6%
\$250 - \$499 million	7.0%	3.1%
\$500 - \$750 million	6.0%	3.1%
> \$750 million	5.0%	3.1%
Total	100.0%	100.0%

Percentage of distribution center volume that is:

	2002	2001
Inbound orders bar-coded	41%	69%
Outbound orders bar-coded	56%	44%
Inbound shipments palletized	56%	9%
Outbound shipments palletized	52%	48%
Shipped direct to customer	58%	61%
Shipped direct-to-store	29%	63%
Shipped international	13%	59%

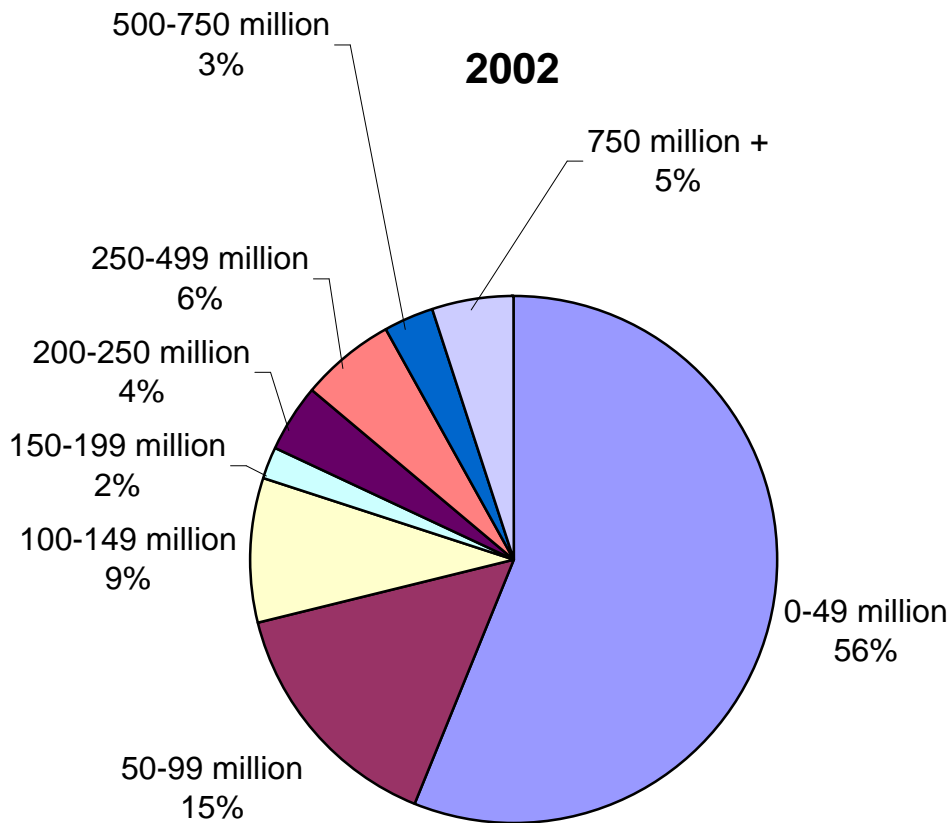
2002



Total spent on transportation:

Europe

Dollar amount	Percent of Respondents
0-49 million	56
50-99 million	15
100-149 million	9
150-199 million	2
200-250 million	4
250-499 million	6
500-750 million	3
750 million +	5
Total	100%

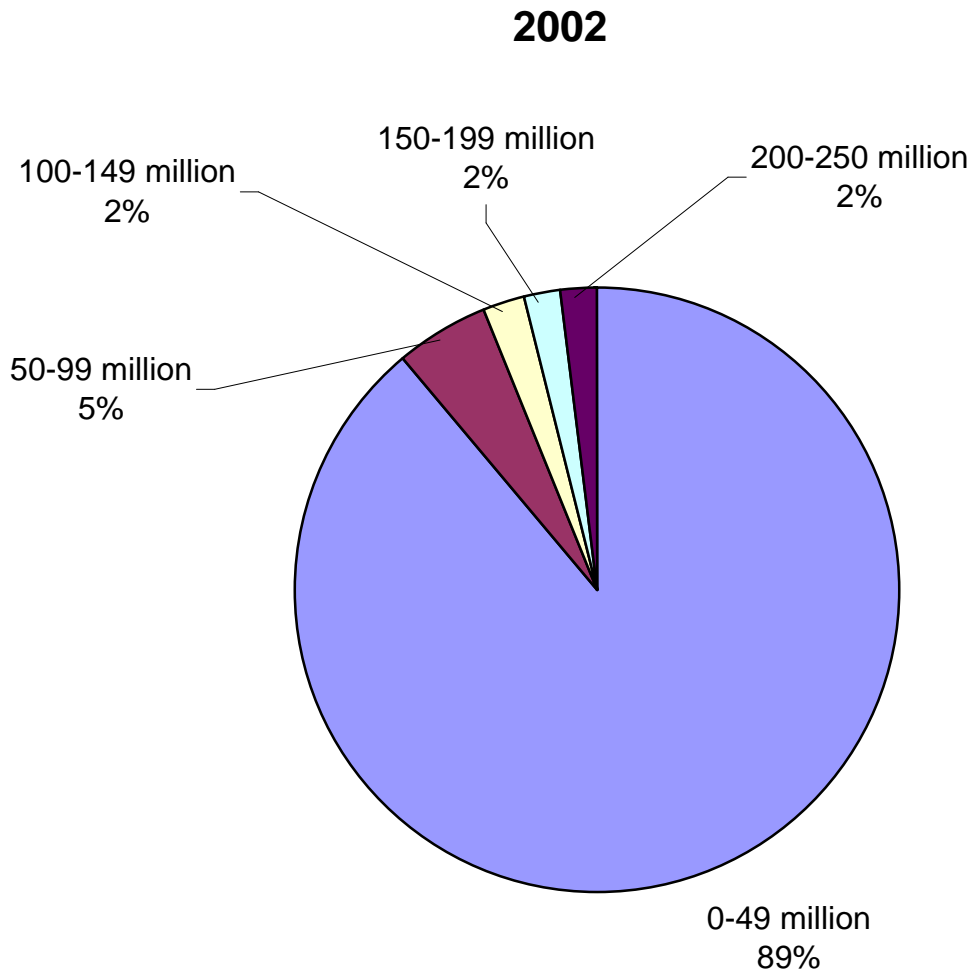


Total spent on transportation:

Asia

Dollar amount

	2002
0-49 million	89
50-99 million	5
100-149 million	2
150-199 million	2
200-250 million	2
Total	100%

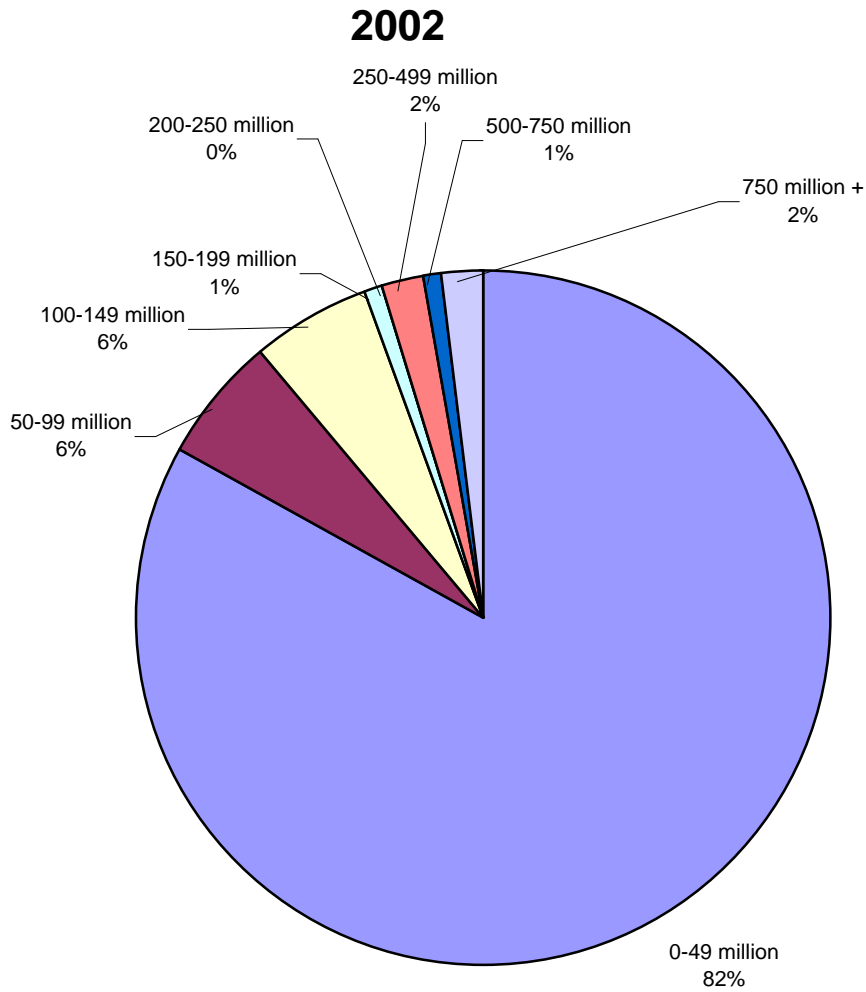


Total spent on transportation:

America

Dollar amount

	2002
0-49 million	89
50-99 million	6
100-149 million	6
150-199 million	1
200-250 million	0
250-499 million	2
500-750 million	1
750 million +	2
Total	100%



Title of this year's respondents

	Percent of Respondents
President	1
Vice President	8
Director	21
Manager	64
Supervisor	5
Analyst	1
Total	<hr/> 100%

2002

