

Project Risk & Supply Chain Risk

Prepared by Dr. Dalia Hosni

Lecture 8



PMG 663
Project Risk & Supply Chain Risk



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY



Supply chains in a global environment must be:

- Flexible enough to react to sudden changes in parts availability, distribution, or shipping channels, import duties, and currency rates
- Able to use the latest computer and transmission technologies to schedule and manage the shipment of parts in and finished products out
- Staffed with local specialists to handle duties, trade, freight, customs and political issues



- Major cost center
- Affects quality of final product
- Aids strategy of low cost, response, and differentiation



Supply-Chain Costs as a Percent of Sales

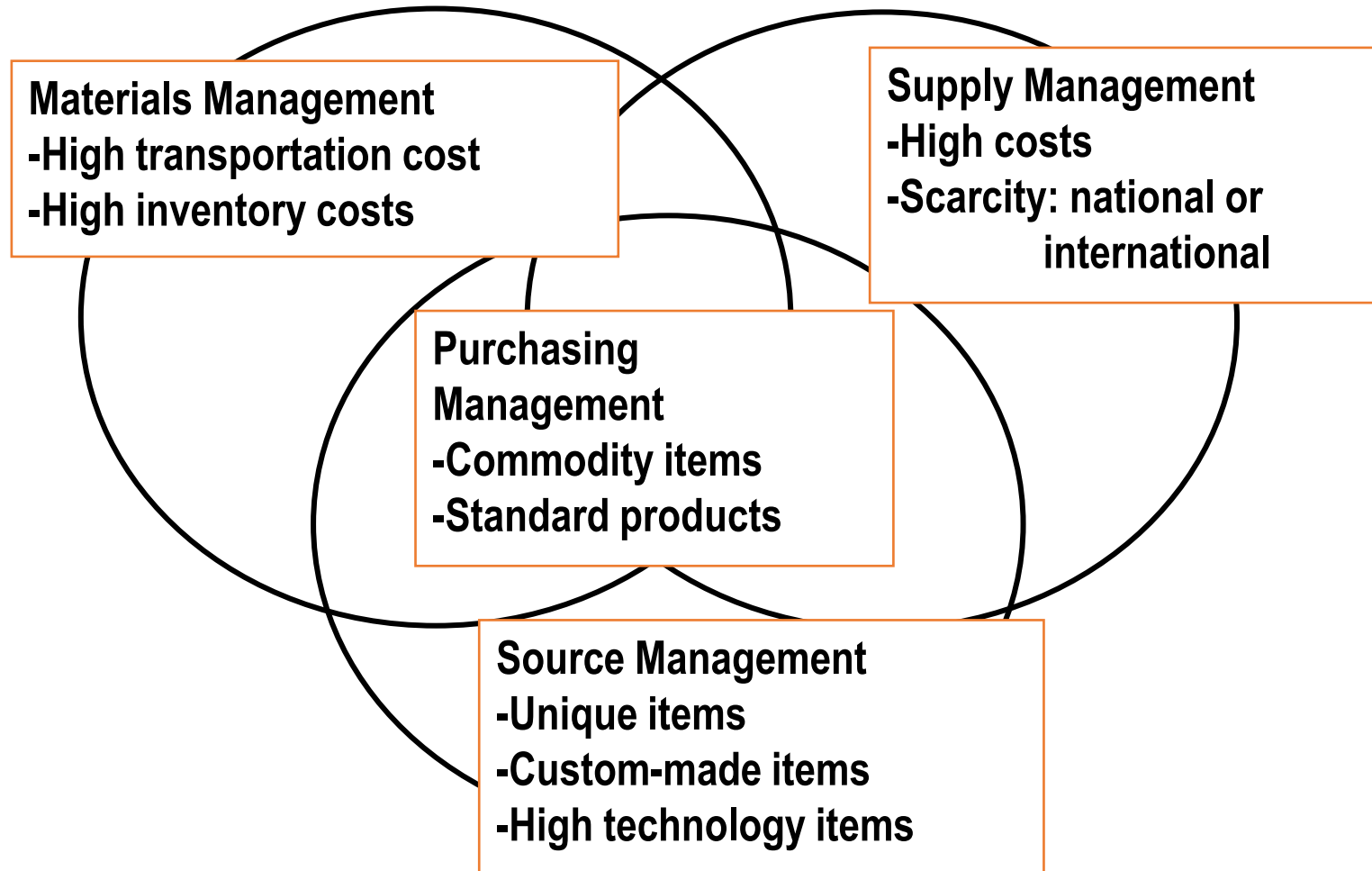
<u>Industry</u>	<u>Percent of Sales</u>
• All industry	• 52%
• Automobile	• 67%
• Food	• 60%
• Lumber	• 61%
• Paper	• 55%
• Petroleum	• 79%
• Transportation	• 62%



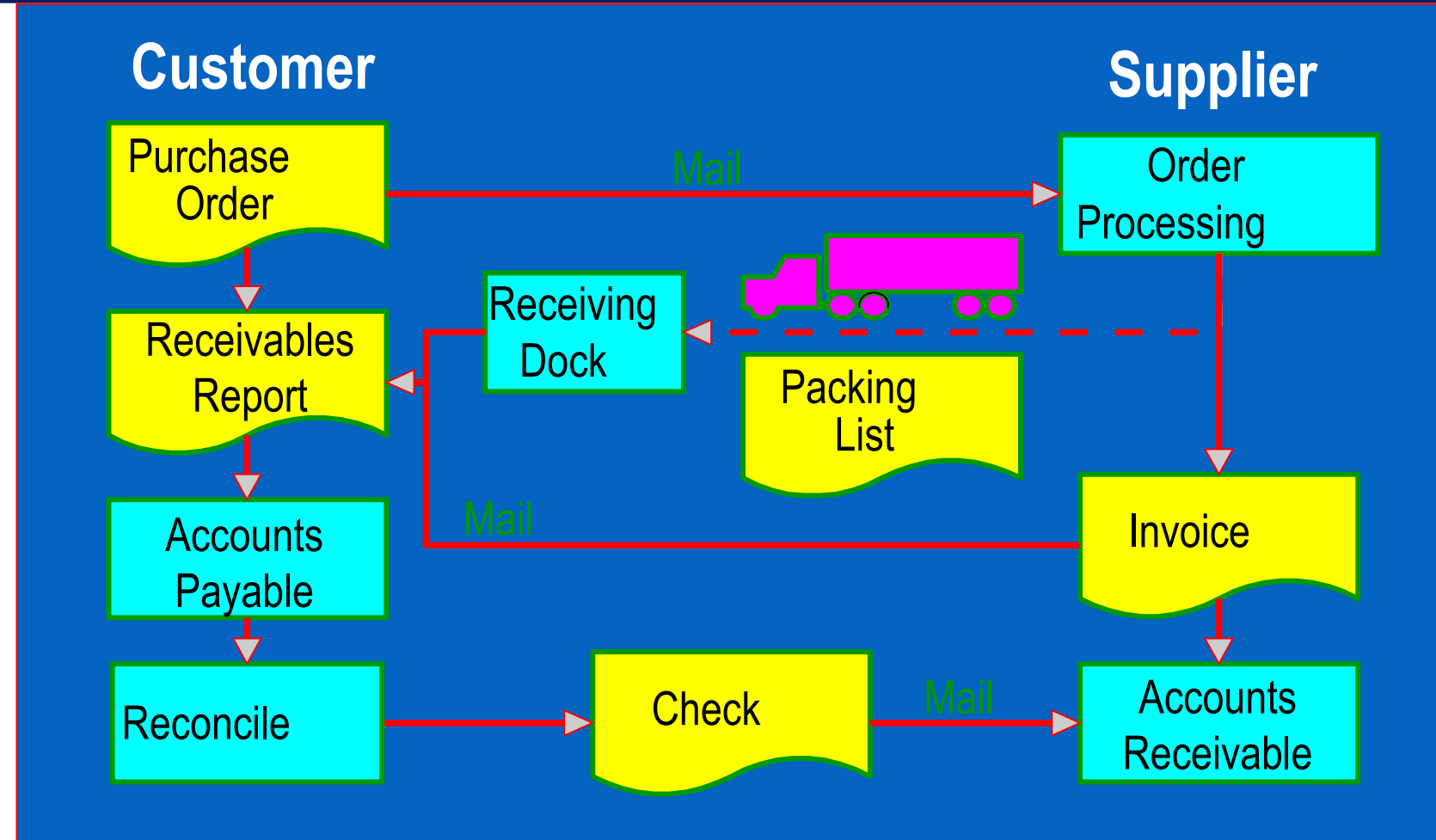
- Help identify the products and services that can be best obtained externally; and
- Develop, evaluate, and determine the best supplier, price, and delivery for those products and services



The Purchasing Focus



Traditional Purchasing Process



Purchasing Techniques

- Drop shipping and special packaging
- Blanket orders
- Invoice less purchasing
- Electronic ordering and funds transfer
- Electronic data interchange (EDI)
- Stockless purchasing
- Standardization
- Outsourcing



Make/Buy Considerations

Reasons for Making

1. Maintain core competencies and protect personnel from layoff
2. Lower production cost
3. Unsuitable suppliers
4. Assure adequate supply
5. Utilize surplus labor and make a marginal contribution

Reasons for Buying

1. Frees management to deal with its primary business
2. Lower acquisition cost
3. Preserve supplier commitment
4. Obtain technical or management ability
5. Inadequate capacity



Make/Buy Considerations

Reasons for Making

6. Obtain desired quantity
7. Remove supplier collusion
8. Obtain a unique item that would entail a prohibitive commitment from the supplier
9. Protect proprietary design or quality
10. Increase or maintain size of company

Reasons for Buying

6. Reduce inventory costs
7. Ensure flexibility and alternate source of supply
8. Inadequate managerial or technical resources
9. Reciprocity
10. Item is protected by patent or trade secret



Supply-Chain Strategies

Plans to help achieve company mission
Affect long-term competitive position
Strategic options
 Many suppliers
 Few suppliers
 Keiretsu network
 Vertical integration
 Virtual company



Supply-Chain Strategies

- Negotiate with many suppliers; play one supplier against another
- Develop long-term “partnering” arrangements with a few suppliers who will work with you to satisfy the end customer
- Vertically integrate; buy the actual supplier
- Keiretsu - have your suppliers become part of a company coalition
- Create a virtual company that uses suppliers on an as-needed basis.



Many Suppliers Strategy

- Many sources per item
- Adversarial relationship
- Short-term
- Little openness
- Negotiated, sporadic PO's
- High prices
- Infrequent, large lots
- Delivery to receiving dock



Few Suppliers Strategy

- 1 or few sources per item
- Partnership (JIT)
- Long-term, stable
- On-site audits & visits
- Exclusive contracts
- Low prices (large orders)
- Frequent, small lots
- Delivery to point of use



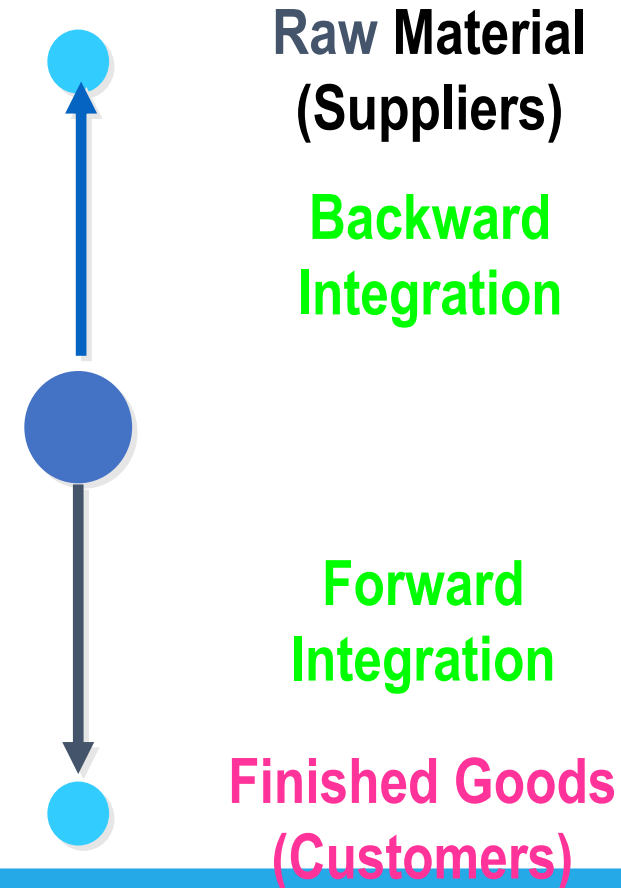
Tactics for Close Supplier Relationships

<u>Tactic</u>	<u>Results</u>
• Reduce total number of suppliers • Certify suppliers	• Average 20% reduction in 5 years • Almost 40% of all companies surveyed were themselves currently certified
• Ask for JIT delivery from key suppliers • Involve key suppliers in new product design	• About 60% ask for this • About 54% do this
• Develop software linkages to suppliers	• Almost 80% claim to do this • About 50% claim this

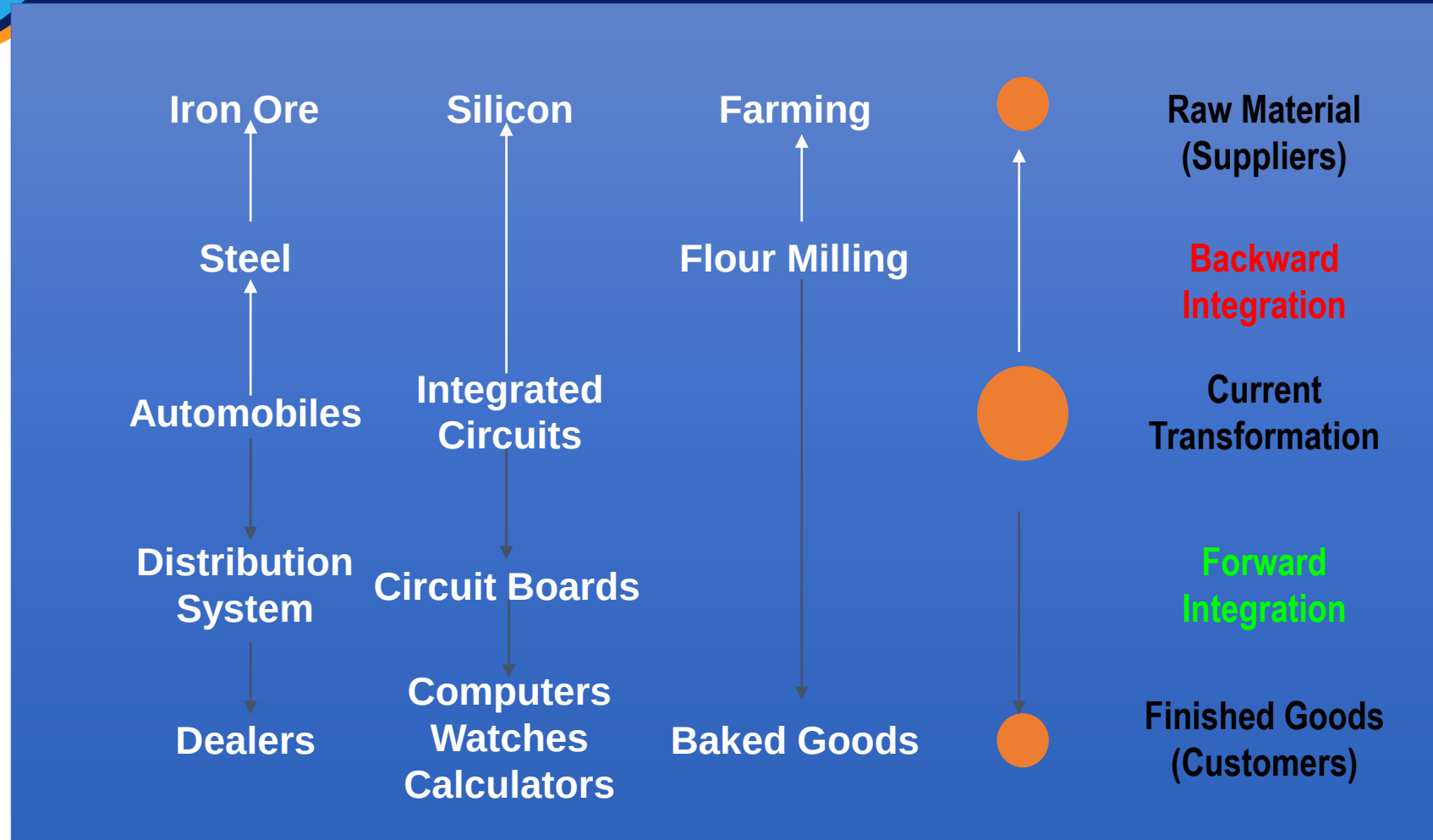


Vertical Integration Strategy

- Ability to produce goods previously purchased
 - Setup operations
 - Buy supplier
- Make-buy issue
- Major financial commitment
- Hard to do all things well



Forms of Vertical Integration



- Japanese word for 'affiliated chain'
- System of mutual alliances and cross-ownership
 - Company stock is held by allied firms
 - Lowers need for short-term profits
- Links manufacturers, suppliers, distributors, & lenders
 - 'Partnerships' extend across entire supply chain



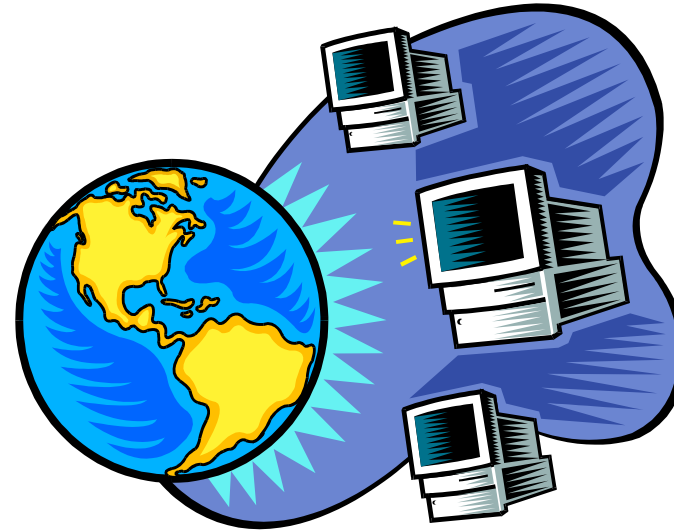
Virtual Companies

- Companies that rely on a variety of supplier relationships to provide services on demand.
- Also known as hollow corporations, or network corporations



Virtual Company Strategy

- Network of independent companies
 - Linked by technology
 - PC's, faxes, Internet etc.
 - Each contributes core competencies
 - Typically provide services
 - Payroll, editing, designing
- May be long or short-term
 - Usually, only until opportunity is met



© 1995 Corel Corp.



- Options:
 - Postponement
 - Channel assembly
 - Drop shipping
 - Blanket orders
 - Invoice less purchasing
 - Electronic ordering and funds transfer
 - Stockless purchasing
 - Standardization
 - Internet purchasing (e-procurement)



- Establishing lines of credit for suppliers
- Reducing bank “float”
- Coordinating production and shipping schedules with suppliers and distributors
- Sharing market research
- Making optimal use of warehouse space



Successful Supply-Chain Management Requires:

- A mutual agreement on goals
- Trust
- Compatible organizational cultures



- Local optimization
- Incentives
- Large lots



- Generation of accurate “pull” data
- Reduction of lot size
- Single stage control of replenishment



Vendor Managed Inventory (VMI)

- Postponement – keeps product generic as long as possible
- Channel Assembly – sends to distributor individual components and modules rather than finished goods
- Drop Shipping and Special Packaging – supplier will ship to end consumer rather than to seller
- Blanket Orders – a long-term purchase commitment to a supplier for items that are to be delivered against short-term releases to ship
- Standardization – reducing the number of variations in materials and components
- Electronic Ordering and Funds Transfer – “paperless” ordering and 100% material acceptance, payment by “wire”



Vendor Selection Steps

- Vendor evaluation
 - Identifying & selecting potential vendors
- Vendor development
 - Integrating buyer & supplier
 - Example: Electronic data exchange
- Negotiations
 - Results in contract
 - Specifies period of agreement, price, delivery terms etc.



Supplier Selection Criteria

- Company
 - Financial stability
 - Management
 - Location
- Product
 - Quality
 - Price
- Service
 - Delivery on time
 - Condition on arrival
 - Technical support
 - Training



Vendor Selection Rating Form

VENDOR RATING REPORT					J.M. HUBER CORPORATION				
COMPANY					TOTAL RATING				
Company	Excellent (4)	Good (3)	Fair (2)	Poor (1)	Products	Excellent (4)	Good (3)	Fair (2)	Poor (1)
Size and/or Capacity	4				Quality	4			
Financial Strength		3			Price		3		
Operational Profit		3			Packaging	4			
Manufacturing Range	4				Uniformity		3		
Research Facilities			2		Warranty	4			
Technical Service		3			Total 18	12	6		
Geographical Locations	4				1.25 x Total = 22.50				
Management		3			Sales Personnel				
Labor Relations		3			1. Knowledge				
Trade Relations		3			His Company		3		
Total 32	12	18	2		His Products	4			
.63 x Total = 20.16					Our Industry		3		
Service					Our Company		3		
Deliveries on Time	4				2. Sales Calls				
Condition on Arrival		3			Property Spaced	4			
Follow Instructions		3			By Appointment		3		
Number of Rejections	4				Planned and Prepared		3		
Handling of Complaints		3			Mutually Productive	4			
Technical Assistance			2		3. Sales Service				
Emergency Aid		3			Obtain Information		3		
Supply Up-to-Date Catalogues, Etc.				1	Furnish Quotations Promptly	4			
Supply Price Changes Promptly	4				Follow Orders		3		
Total 27	12	12	2	1	Expedite Delivery		3		
.69 x Total = 18.63					Handle Complaints		3		
					Total 43	16	27		
					.46 x Total = 20.64				



Negotiation Strategies

- Three types:
 - **cost-based price model** - supplier opens its books to purchaser; price based upon fixed cost plus escalation clause for materials and labor
 - **market-based price model** - published price or index
 - **competitive bidding** - potential suppliers bid for contract



Negotiation Strategies

- Three types:
 - **cost-based price model** - supplier opens its books to purchaser; price based upon fixed cost plus escalation clause for materials and labor
 - **market-based price model** - published price or index
 - **competitive bidding** - potential suppliers bid for contract

