Agent Bond: A strategy for TAC Supply Chain Management

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Agent-Based Electronic Commerce
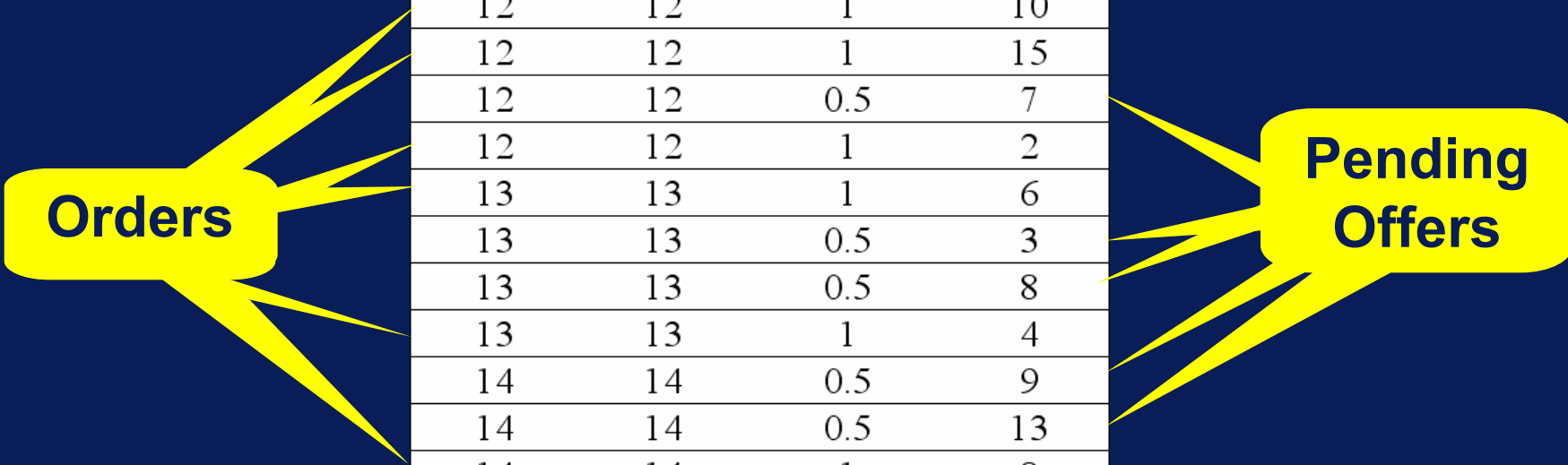*Submitted to: Dr. Peter Stone*

Customer Order Bidding Strategy

■ **Only examine orders if**

- **Components or computers exist in inventory**
- **Today's date is at least three days before end of game**
- **Due date is before end of game**

Examining a Customer RFQ

Orders and pending offers are merged into an order queue

Due Date	Del. Date	Probability	Quantity
12	12	1	10
12	12	1	15
12	12	0.5	7
12	12	1	2
13	13	1	6
13	13	0.5	3
13	13	0.5	8
13	13	1	4
14	14	0.5	9
14	14	0.5	13
14	14	1	8

Orders

Pending Offers

Examining a Customer RFQ

A customer RFQ is hypothetically inserted into the queue and additional penalties are included in price quote

A new RFQ is inserted

Due Date	Del. Date	Probability	Quantity
12	12	1	10
12	12	1	15
12	12	0.5	7
12	12	1	2
13	13	1	6
13	13	0.5	25
13	14	0.5	3
13	14	0.5	8
13	14	1	4
14	15		
14	15	0.5	
14	15	1	8

This RFQ will cause additional penalties!

Customer Offer Pricing

- **With no market reports, a standard upcharge of 19% is quoted**
- **With market reports, average product price is quoted, unless it is less than the standard upcharge**
- **End of game liquidation: offer function of base price**

Supply Management Strategy

- **Order supply buffer on first day**
- **Examine order queue and place 5 RFQs to cover components needed for four to fourteen days ahead**
- **If inventory falls below buffer amount, reorder to fill buffer**
- **Stop ordering during last 15 days of game**

Evaluating Supplier Offers

- **Place RFQs to both suppliers**
- **Choose supplier who can deliver greater quantity**
- **Choose supplier who offers lower price**

Production and Deliver Strategy

- **Produce and deliver according to BaseAgent's strategy**

- **When not at full production capacity, produce extra computers until there is a buffer of 100 of each computer type**