

Globalization of R&D

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Background of International Trade

- Business Scenarios
 - Focus: Reasons for Trade
 - External Forces
 - Resultant Actions
- Research & Development
- Current State

Offsets / Countertrades

- Focus: Sell product
- Change in nature of trade over time
 - Commodities
 - Training
 - Manufacturing
- Outcomes dependent on trade

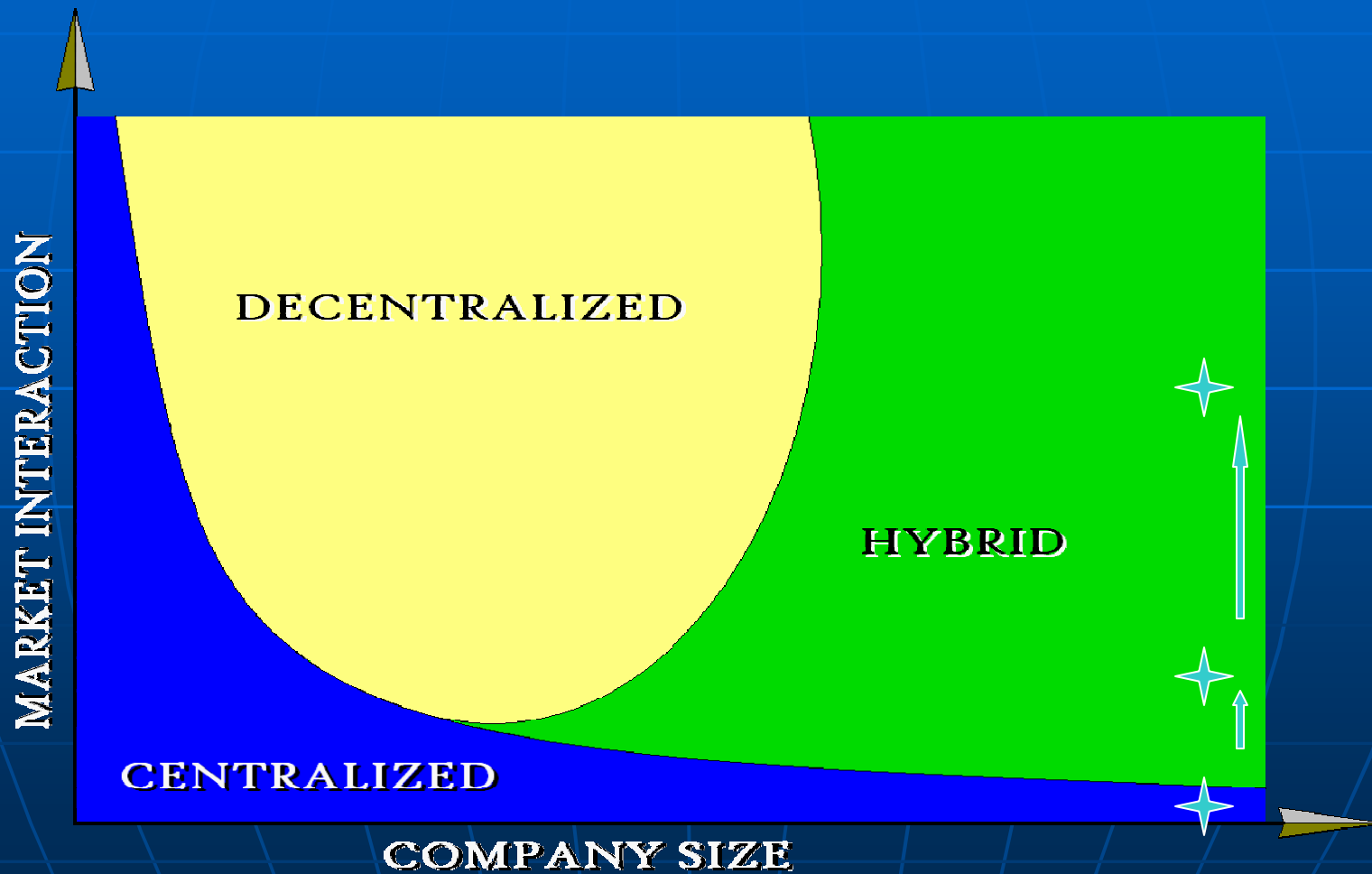
Offsets / Countertrades

- Larger companies
- More international purchases
- Majority of goods brought into US
- Largely positive
 - Increased sales
 - Increased utilization
- Some drawbacks

Offsets / Countertrades

- 25% of world trade
- Company-specific policies/practices
- Company advantage
- Mutual advantage

Changes to R&D Structure



Evolution of R&D

- Trends within the company
 - Increase in market interaction
 - Movement from centralized R&D structure to hybrid
 - Increase in “applied” R&D

The trend was away from doing own basic research

Collaborations

- Sources of basic R&D needed
 - Universities
 - Suppliers
 - External laboratories
 - Government laboratories / agencies

The need for high quality basic research exists

Technology Planning & Acquisition

- Strategic universities
- Strategic suppliers
- Technology links
- Off shore resources

*We are moving from a supplier relationship
to a partner relationship*

Globalization of R&D

- Excellent resources are available
- Diversity of ideas / research available
- Value greater than just being a supplier

We seek the highest quality R&D

Globalization

- In a global world, if you're not "there" you won't survive
- Principal benefits of global R&D
 - Proximity to the market
 - Exposure to a diversity of people and ideas
- Global corporations must value non-U.S. business experience as much as U.S. experience
- Country teams
 - Empowered to devise their own strategies
 - Important for creating responsiveness to local needs/opportunities