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Leading Edge Concepts in Supply Chain: A Review of Industry Mega Trends

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Sources:

- Interaction with hundreds of Companies by University of Tennessee faculty
- Supply Chain Forum
- Supply chain executive education
- Supply chain audits



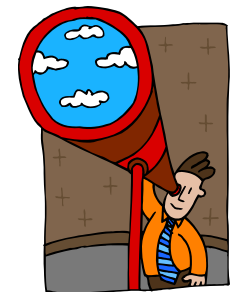
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1. Supply chain metrics: **KPI's**
2. **Collaboration**: CPFR/S&OP
3. **Lean/Six Sigma** applied to the supply chain
4. Managing **complexity**: SKU's, new product introductions
5. Managing out **cost and working capital**
6. Supply chain **systems**
7. **Network optimization**
8. **Global** supply chain implications



1. KPI's...Visibility

- Event management
- RFID
- Is this the next “big thing”?





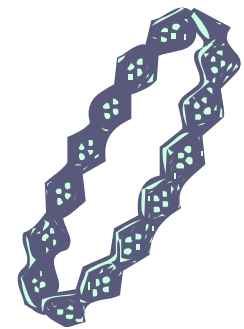
2. Collaboration: CPFR and S&OP

One of the earliest successes in the turnaround of Whirlpool's supply chain was the rollout of a new S&OP process. We soon pushed forecasting capability further by launching an CPFR pilot. Within 30 days of launch, our forecast error was cut in half."

Fewer than 10% of companies in a recent Capgemini study are actually collaborating with partners

S&OP: Internal Collaboration

- **Multi level**
- **Executive support....”most important meeting we have”**
- **Disciplined, defined process**



Forecasting Process Improvement



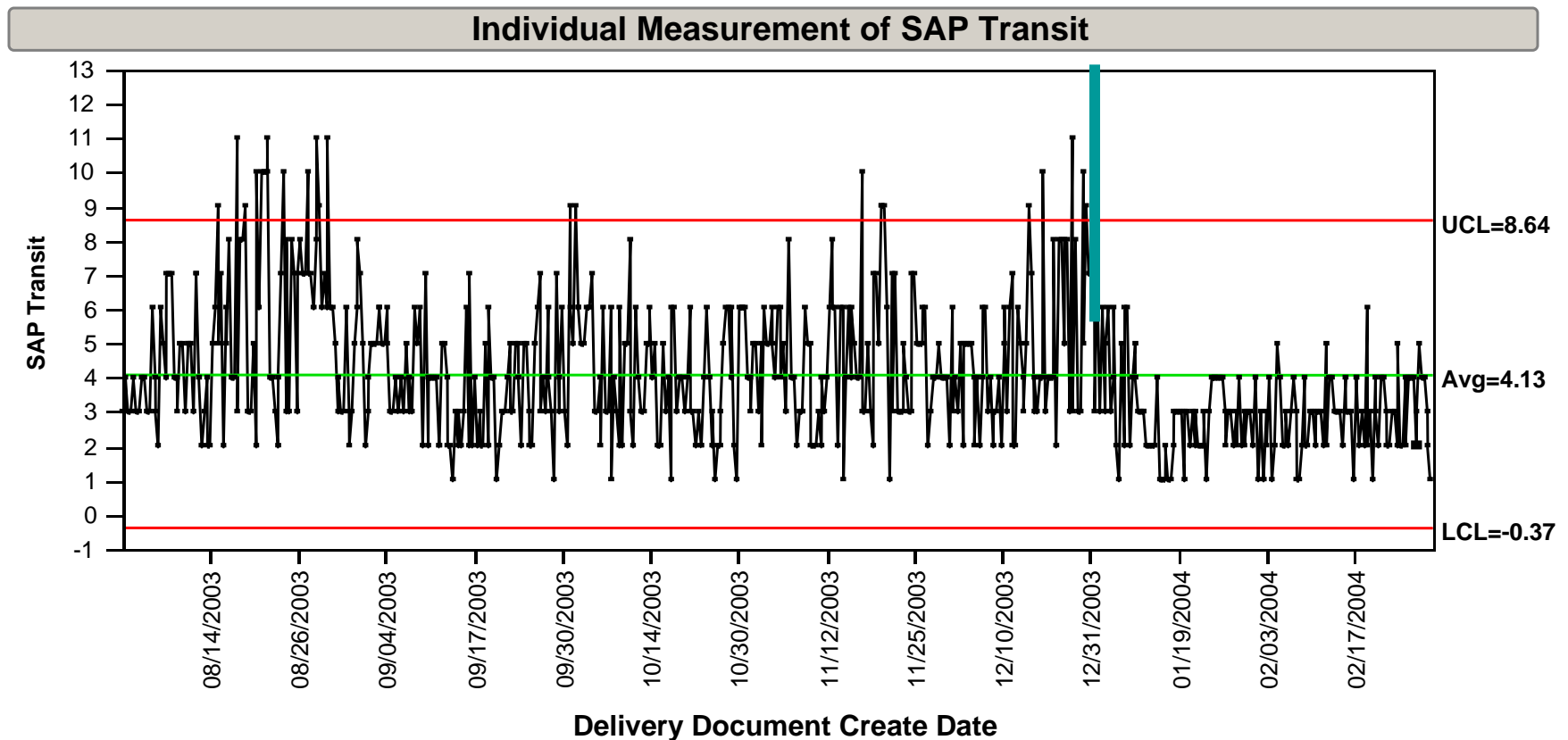
At Whirlpool, better forecasting was leveraged to lead a supply chain turnaround

- Sophisticated multi-level S&OP process implemented
- CPFR implemented with Sears, Lowes, Best Buy
- UT forecast audit done

HBR, October 2004

Every one point improvement in SKUL forecast accuracy yielded \$3 million in inventory reduction, as well as availability improvements

3. A Lean/Sigma Application: Lean Lanes



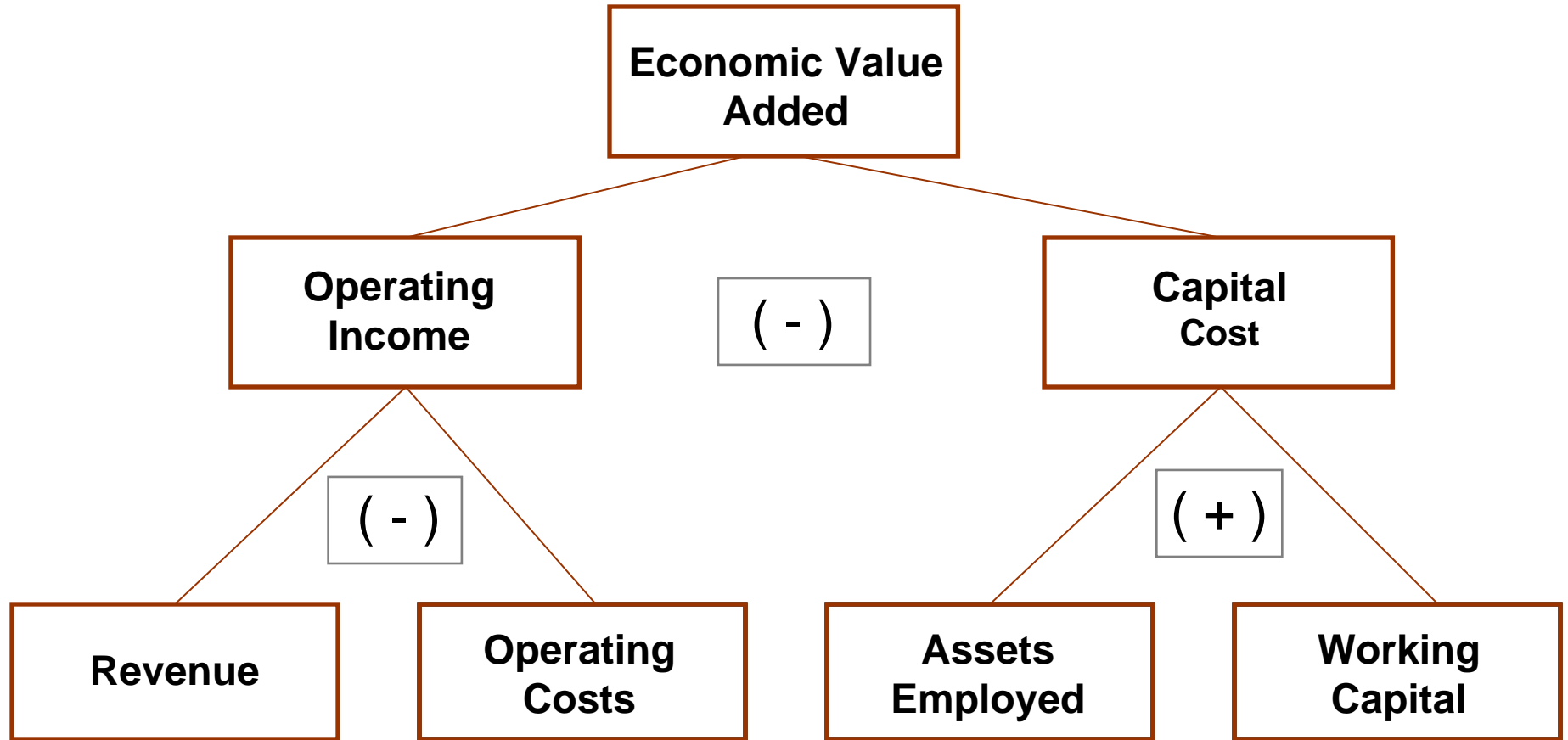
	<u>Before</u>	<u>After</u>
Mean	4.51	2.93
Std dev	2.08	1.24



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4. Managing Complexity: SKU's and New Product Introductions

- **Disciplined processes** are often lacking
- **Date integrity** in product transitions is weak, with metrics missing
- **SKU discipline:** Rigorous cost/benefit analyses are rarely done and post audited.



**5. Managing Out Cost and Working Capital
The Income Statement and Balance Sheet**

The Gathering Storm

- Fuel
- Environmental regulations
- Tort issues
- Sarbanes Oxley
- Government regulation: HOS
- Driver shortages
- Infrastructure Issues
- Insurance and security issues



6. Systems

- Projects very **resource intensive**; implementations very difficult
- Strategic inflection point: **optimization**
- **Change management** is paramount

7. Network optimization

- Cost
- Working capital
- On time delivery
- In stock percentage
- EVA

PRTM: An optimized network will result in a 75% higher bottom line for the average company

How Many Distribution Centers? *Industry Benchmarks*

Pharmaceuticals...3

- High margin
- Easy to ship express
- Inventory expensive relative to transportation cost

Hard Goods.....8-10

Food Companies.....14

Chemicals.....20

- Low margin product
- Service very important
- Outbound transportation expensive relative to inventory

Has the game been fundamentally changed with fuel cost increases?

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Is this a domestic problem or.....



A global one?



8. Global Supply Chain implications

- **Outsourcing** is a mega issue for supply chain people
- Is it consistent with **Lean? Six Sigma?**
- **Why** is it happening?
- How can the supply chain best deal with it?



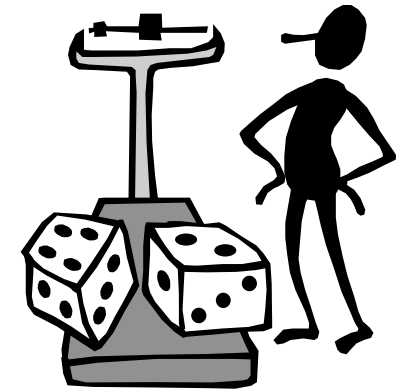
Why Outsource

- Incredible labor advantage
 - 11 hours per day, 6 days per week
 - \$100.00 per month
 - Intense work pace
 - Engineers @ \$6,000/year
- In a typical financial analysis, this labor cost savings is balanced against higher inventory and transportation cost
- But, industry is just now realizing that risk is the greatest potential cost



What are the Risks of Global Outsourcing

- **Catastrophic delay** in delivery
 - Terrorism....will C-TPAT work?
- **Quality problems**
- **Safety problems**
- **Forecast error**
- **Economic shifts**
 - Currency fluctuations
 - Yuan/RMB strengthens by 20% can wipe out net savings



What Else?



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How Do You Know If You Are Staying On The Leading Edge?

- Personal development plans for your people
- Benchmarking with other companies (Forums)
- Align with a university
- Hire/reward people who have a passion for self-development
- Use outside experts when appropriate

Questions



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