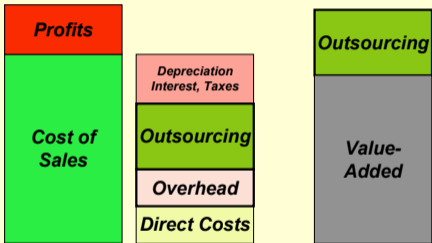


The Economics of Outsourcing

*Prof. Paul A. Strassmann
George Mason University, October 5, 2007*

What is Outsourcing?

Definitions



Outsourcing = Purchases + Contracts

Financial Profile of U.S. Firms

S&P Data for 769 US Firms	Costs - \$ Millions	% of Total
Profits	\$42,031	5.3%
Depreciation, Interest, Taxes	\$89,381	11.2%
Outsourcing	\$370,608	46.6%
Overhead	\$115,387	14.5%
Direct Costs	\$177,754	22.4%
Sales	\$795,161	100.0%

Standard & Poor's Data for U.S. Corporations with 3.8 Million Employees

Critical Ratios

Outsourcing Ratio = Outsourcing / Value-Added

Overhead Ratio = Overhead / Direct Costs

Outsourcing and Corporate Economics

- Overhead costs manage not only internal “direct” labor but also outsourcing work done by suppliers.
- Computer applications, optimized for “enterprise” integration have difficulty coping with the suppliers’ incompatible systems.
- Unmanaged outsourcing complexity can void labor saving gains.

Research Findings

International Firms Outsource a Large Share of Direct Costs

Company Name	Sales	Value Added	Purchases	Outsourcing Ratio
ROYAL DUTCH/SHELL	179,431	36,870	142,561	79%
DEUTSCHE BANK	57,816	8,255	49,561	86%
VOLKSWAGEN	98,708	26,273	72,435	73%
FRANCE TELECOM	48,892	-13,146	62,038	127%
CITICORP	65,874	18,796	47,078	71%
JOHNSON & JOHNSON	36,298	19,532	16,766	46%
GLAXOSMITHKLINE	34,261	17,151	17,111	50%
UNILEVER	50,611	14,646	35,965	71%
SIEMENS	82,999	35,922	47,077	57%
GENERAL MOTORS	184,214	46,660	137,554	75%
DAIMLERCHRYSLER	156,838	51,113	105,724	67%
NESTLE S A	64,455	23,017	41,438	64%

Some Banks Outsource Large Share of Value-Added

	Sales	Value-Added	Outsourcing	Outsourcing/ Value-Added
JPMORGAN CHASE	99,302	44,654	54,648	122%
BANK OF AMERICA	115,689	53,053	62,636	118%
M & T BANK	4,360	2,281	2,079	91%
SCHWAB (CHARLES)	4,963	3,305	1,658	50%
BEAR STEARNS	16,551	15,165	1,387	9%
LEHMAN BROTHERS	46,709	44,214	2,495	6%

Calculating a Firm's Outsourcing Ratio

	Item	Example
A	Net sales	\$41,862
B	Labor & directly related expenses,	\$10,005
C	Depreciation costs	\$1,869
D	Interest costs	\$315
E	Non-operating income minus expenses	\$440
F	Special income minus losses	-
G	Income taxes	\$3,111
H	Income before extraordinary items	\$7,197
$K=(B+C+D+E+F+G+H)$	Value-Added	\$22,937
$L=(A-K)$	Outsourcing	\$18,925
$M=L/A$	Outsourcing Ratio	45.2%

Outsourcing Ratios Differ by Industry

Sector	EC Code	Median Outsourcing Ratio	Min Ratio	Max Ratio
Materials	1000	66.5%	53.2%	89.8%
Consumer Discretionary	2000	62.2%	25.9%	93.8%

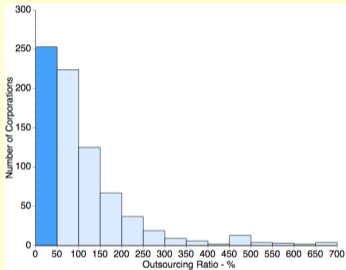
Higher Pay Need not Result in Outsourcing

Company	Average Compensation per Employee	Outsourcing Ratio - %	Return on Assets - %
Johnson & Johnson	\$90,461	45.2%	14.9%
Wyeth	\$57,336	59.2%	6.6%

Summary of Research Findings

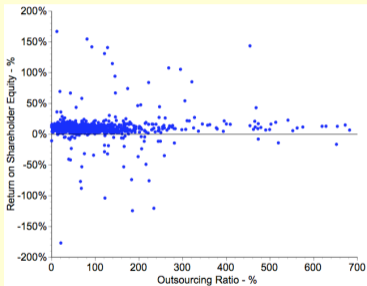
- “Outsourcing” is essential for the growth of any economy.
- Whether outsourcing is economically effective depends on the organization of the the value-chain.

Distribution of Outsourcing Ratios

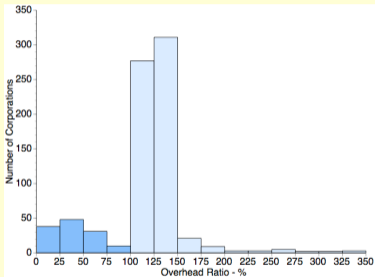


Median Outsourcing Ratio for 769 U.S. Corporations = 75.6%

Outsourcing Not Correlated with Profitability

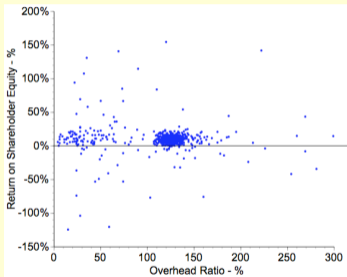


Distribution of Overhead Ratios



Median Overhead Ratio for 769 U.S. Corporations = 124%

Overhead Not Correlated with Profitability



Summary: Outsourcing and Overhead Ratios

- Outsourcing now equals 75.6% of corporate direct costs and is rising.
- Overhead costs now exceed corporate direct costs by 24% and keep rising as direct costs outsourced.
- Neither outsourcing nor overhead correlates with profitability. Corporate profitability reflects effectiveness of management.

Outsourcing in the Value-Chain

Case Study

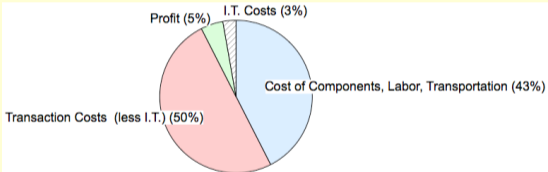
Estimated Cost of a Logitech Mouse

Elements of Value Chain	Total Costs in Value Chain	Estimated Transaction Costs	Estimated IT Costs
Assembly In China	\$3.00	\$1.00	\$0.02
Parts from Suppliers for China	\$14.00	\$3.50	\$0.18
Corporate Costs + Profit	\$8.00	\$6.00	\$0.66
Global Distributors & Retailers	\$15.00	\$10.00	\$0.30
Total Costs	\$40.00	\$20.50	\$1.16
% of Retail Price	100%	51%	2.9%

Different Perspectives on Outsourcing

Outsourcing Perspectives	Cost Inputs	Value Outputs	% Outsourcing Ratio
As Seen by Factory	\$3.00	\$17.00	467%
As Seen by Management	\$8.00	\$25.00	213%
As Seen by Competitor	\$20.50	\$40.00	95%

Distribution of Costs of a Logitech Mouse



Summary of Case Study

- The definition of “outsourcing” depends on the position in the value-chain.
- The dominant cost in global commerce are transaction costs, not labor costs;
- Assembly takes place from global sources where technology and logistics dictates sourcing.

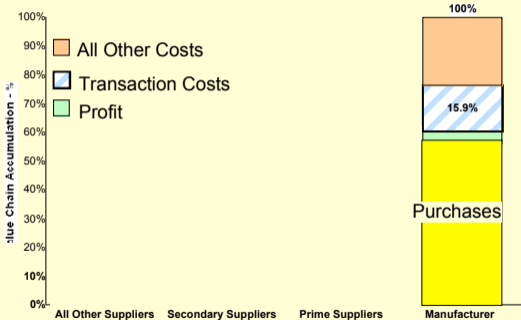
Outsourcing in the Value-Chain

Economic Analysis

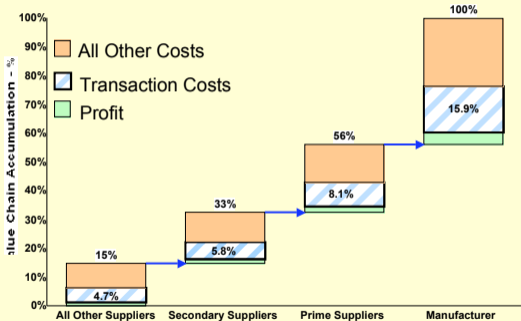
Transaction Costs in the Value Chain



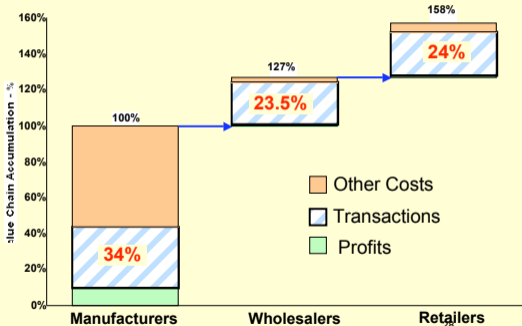
Manufacturing Supply Chain Costs



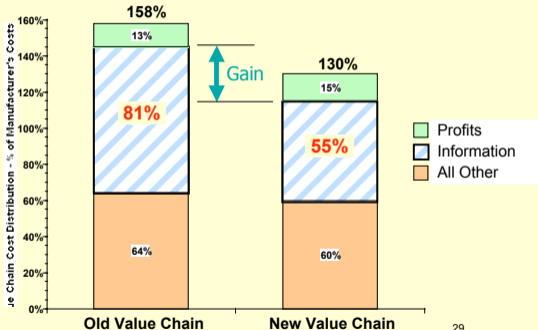
Costs in a Manufacturing Supply Chain



The Total Value Chain



Potential Gains in the Automobile Industry



A Value Chain View of Information Costs

Elements of Value Chain	Direct Costs	Transaction Costs	I.T. Costs
Suppliers	\$15,000	\$1,800	\$198
Manufacturing	\$5,000	\$1,100	\$165
Management	\$7,000	\$5,600	\$1,232
Dealers	\$3,000	\$2,400	\$120
Customer	\$43,691	\$7,350	\$1,617
Cost of Automobile	\$73,691	\$18,250	\$3,332
% of Total Costs	100%	30%	6%

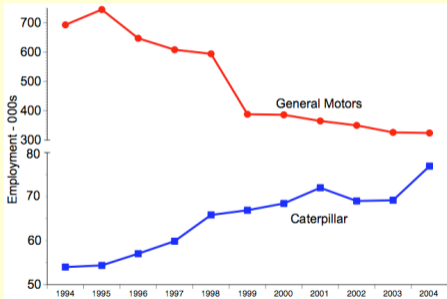
Summary of Economic Analysis

- The global supply chain has accumulated enormous transaction costs, far exceeding direct costs;
- There are enormous opportunities for cost reduction and improvement of customer service;
- The challenge is in organization of the value-chain.

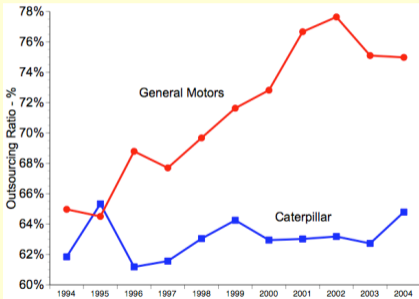
Is Outsourcing Damaging?

A Case Study: GM vs. Caterpillar

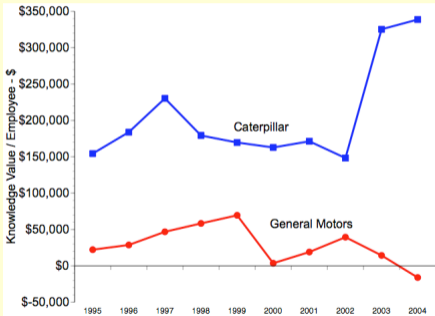
Employment: GM vs. Caterpillar



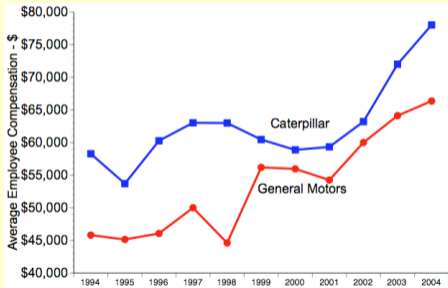
Outsourcing: GM vs. Caterpillar



Knowledge Value: GM vs. Caterpillar



Compensation: GM vs. Caterpillar



A Comparison With Competitive Indicators

	2000-2004 Sales Increase	2000-2004 Inventory Increase
GM	5.7%	92.7%
Toyota	34.3%	31.5%
Honda	33.8%	34.8%

Summary of GM vs. Caterpillar Comparison

- Despite higher wages Caterpillar increased employment;
- Despite high level of outsourcing Knowledge Value of Caterpillar gains through good management of the value-chain.

A Summary

A Case of Value-Chain Superiority



	Albertson's	% of Consumer Price	Wal-Mart	% of Consumer Price	Wal-Mart Advantage
Consumer Price	\$15.29	100.0%	\$12.83	100.0%	19%
Distribution Profit	\$0.24	1.6%	\$0.26	2.0%	8%
Retail Store	\$0.92	6.0%	\$0.49	3.8%	88%
Transaction Costs	\$0.82	5.4%	\$0.31	2.4%	165%
Logistics & Distribution	\$1.46	9.5%	\$0.89	6.9%	64%
Manufacturer's Price	\$11.85	77.5%	\$10.88	84.8%	9%

The Keys to Cost Advantage

- Collaboration Costs
- Coordination Costs
- Intermediation Costs
- Transaction Costs
- Sales, General & Administrative Costs

= Overhead Costs

The Keys to Value Advantage

- Economic Value-Added
- Information Value-Added
- Knowledge Capital

= Enterprise Profit Performance

A CIO's Perspective - A Cost Based Point of View

Managerial Perspective	Metric	Scope of CIO Job	Scope of Value-Chain
Corporate CTO	I.T. Costs / Revenue	\$1,397	\$12,000
Corporate CIO	Info Costs / Revenue	\$6,700	\$27,000
Enterprise CIO	Info Costs / Revenue	\$10,900	\$30,000
Information Economist	Transaction Costs / Total Cost	\$18,250	\$73,691

SOURCE: A General Motors case study

A CIO's Perspective - A Value Based Point of View

A Value-Based CIOs Perspective	Metric	Scope of Job
I.T. Budget	I.T./Revenue	3.1%
Transaction Costs	Transaction Costs/ Direct Costs	46%
Information Productivity	Economic Value-Added/ Transaction Costs	53%
Knowledge Capital Leverage	Information Value-Added / Employee Costs	85%

SOURCE: A Bank of America case study

Impacts of Information Technologies

- Information drives an economic “arms race”.
- Obsolete assets will be discarded.
- Collaboration favors global consolidation.
- I.T. becomes an economic weapon.

Questions?

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