



Portfolio Management for IS Outsourcing

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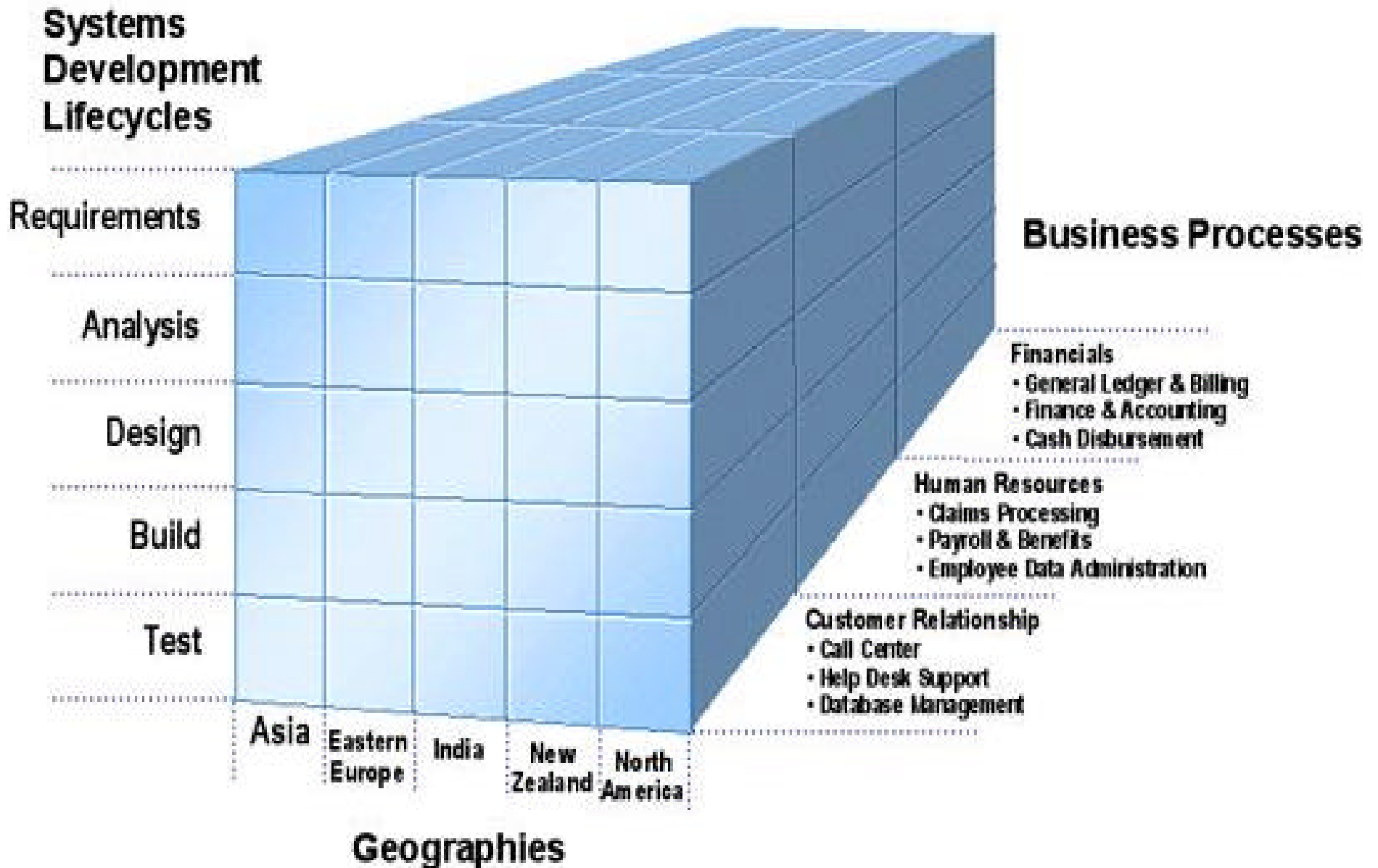


Key Risks in Int'l Outsourcing

- **Systemic risk** (like market risk in finance)
 - **Geography** (onshore, near-shore, offshore)
- **Specific risk** (IS type or firm-specific)
 - **System development life cycle (SDLC) phase**
 - **Business process areas**
- Recognize that outsourcing performance is based on **expected benefits** offset by **volatility of performance**

Source: Kleinhammer, R., Nelsen, T., and Warner, A. J. Outsourcing: Balancing the Risks, *Darwin*, June 2003.

www.darwinmag.com/read/060103/risk.html. (representing Deloitte Touche's outsourcing practice approach)



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Risk-Return-Rating (R³) Method

Distribute business functions or systems development phases across several geographies to optimize risk to return

Score between 1 and 0
 Lowest Risk = 0
 Highest Risk = 1

Score between 1 and 10
 Lowest Return = 1
 Highest Return = 10

Domains of Potential Returns

Geographies / Cities	Risk Coefficient	Cost Reduction	Quality Improvement	Productivity Improvement	Business Continuity	Operational Flexibility	Risk-Return Rating (R ³ Rating)
Offshore							
Near-Shore							
Onshore							

Risk is a function of the relative change over time of Economic (e.g. exchange rates), Financial (e.g. tax structures), Regulatory, Labor, and Political factors.

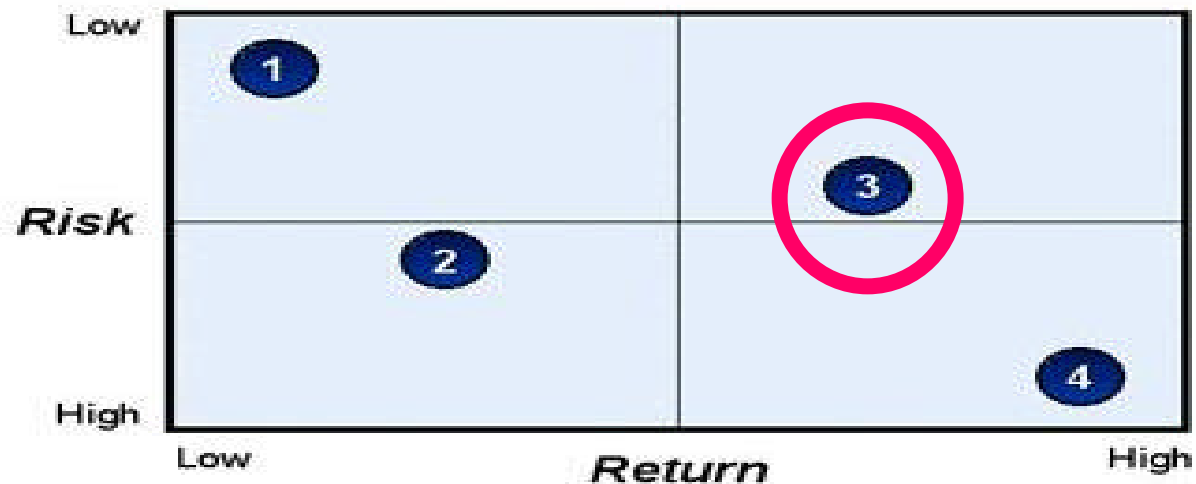
$$\text{Risk} = ((\text{Risk Coefficient} \times \text{Return \#1}) + (\text{Risk Coefficient} \times \text{Return \#2}) \dots)$$

The total score is the sum of the individual Potential Return ratings multiplied by the Risk Coefficient. The lower the total score for a specific city or geography, the lower the overall risk

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Risk-Return Relationship Thinking



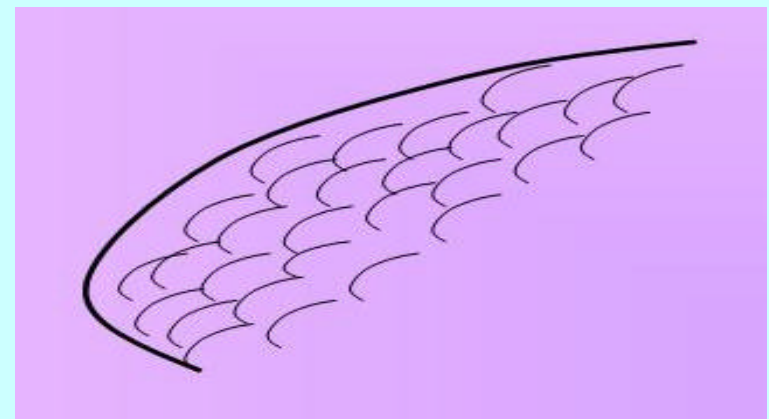
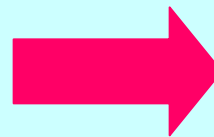
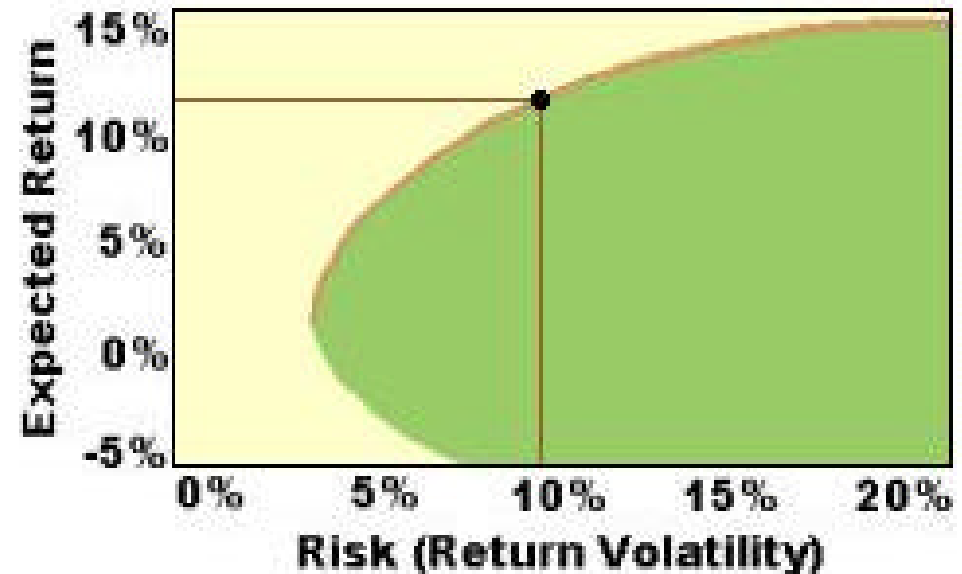
Point	Scenario	Onshore	Nearshore	Offshore
1	Business As Usual	100%	0%	0%
2	Conservative	50%	20%	30%
3	Moderate	20%	20%	60%
4	Aggressive	5%	30%	95%

Source: Kleinhammer, R., Nelsen, T., and Warner, A. J. Outsourcing: Balancing the Risks, *Darwin*, June 2003.

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Efficient Frontier Thinking

- Goal: Maximize return on outsourcing, minimize risk
- Approach: Build portfolio, diversify risk, achieve effective return
- You get to diversify your int'l outsourcing choices
- The more project assets are diversified in a portfolio, the greater the opportunity to achieve the efficient frontier





Suggested Reading

For general background, the following articles would be a good starting point:

- Berinato, S. Do the math, *CIO*, Oct. 1, 2001. www.cio.com/archive/100101/math.html
- Portfolio Management: Do's and don'ts, *CIO*, Oct 15, 2001. www.cio.com/archive/101503/exchange.html

For specific insights related to international outsourcing:

- Kleinhammer, R., Nelsen, T., and Warner, A. J. Outsourcing: Balancing the risks, *Darwin*, June 2003. www.darwinmag.com/read/060103/risk.html

Other reading on this perspective that may be helpful should focus on the basics of Markowitz's "efficient frontier" concepts and basic portfolio theory:

- Brealey, R. A., and Myers, S. C. *Principles of Corporate Finance (7th Ed.)*, McGraw Hill-Irwin, New York, NY, 2003.



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Contracting and IS Outsourcing Decisions

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Key Questions

- What should we consider when making outsourcing decisions?
 - Risks
 - Costs
 - Value
- What to outsource?
 - Business processes
 - SDLC considerations again



Transaction Costs, Agency Relationships

- Degree of outsourcing: determined by **tradeoffs between production costs and transaction costs**
- Focus: **minimizing overall costs**

	Production Costs	Transaction Costs
Outsourcing	<i>Low</i>	<i>High</i>
Insourcing	<i>High</i>	<i>Low</i>

Source: Malone, T. W., Yates, J., and Benjamin, R. I. "Electronic Markets and Electronic Hierarchies: Effects of Information Technologies on Market Structure and Corporate Strategies," *Commun. of the ACM* (30:6), 1987, 484-497.



“Incomplete” Contracts

- Asset ownership critical: most contracts incomplete
- Ownership affects bargaining power and incentives for asset-specific investments
- Contractible vs. non-contractible investments
 - **Contractible investments**: written in a contract; examples: hardware and software purchases
 - **Non-contractible, intangible investments**: depend on parties’ incentives; cannot be enforced by a contract: examples: data quality, personnel expertise
- Focus: maximizing value created by assets

Implications for IS Outsourcing

- Non-contractibility affects outsourcing choices
 - **Standardized applications:** good candidates for outsourcing (HR, Finance/Accounting)
 - **Applications with major non-contractible aspects:** insourcing may be more desirable (CRM)
 - Contractibility increases over time in SDLC
- Vendor's knowledge/expertise matters
 - Make sure vendor has ability to deliver IS services to diminish contracting headaches



Suggested Reading

For an introduction to transaction costs and agency theory thinking:

- Gurbaxani, V. and Whang, S. "The Impact of Information Systems on Organizations and Markets," *Commun. of the ACM* (34:1), 1991, 59-73.
- Malone, T. W., Yates, J., and Benjamin, R. I. "Electronic Markets and Electronic Hierarchies: Effects of Information Technologies on Market Structure and Corporate Strategies," *Commun. of the ACM* (30:6), 1987, 484-497.

For an application of transaction cost thinking to IS outsourcing:

- Ang, S. and Straub, D. W. "Production and Transaction Economies and IS Outsourcing: A Study of the U.S. Banking Industry," *MIS Quarterly*, Dec. 1998, 535-552.



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IS Outsourcing in Asia

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IS Outsourcing Leaders, Up-and-Comers, and Beginners





China

- Pros:
 - A large pool of low cost labor
 - Average salary of a programmer: \$3000-8000/year
 - 20-40% less than India, 1/6 of U.S.
 - Software professionals increase by 20,000/year
 - IT professionals with overseas experience are returning back
 - Political stability and a strong economic environment
 - Physical proximity to major markets, prosperous domestic market, Japan and South Korea
 - Special economic zones: tax breaks, good infrastructure
- Cons
 - Language and cultural differences
 - Intellectual property rights issues



Current Status and Prospects

- IBM, Microsoft, HP, Accenture have IT services support in China
- Indian IT services firms outsource to China
 - Tata, Wipro, Infosys
- Major providers: Huawei, Asia Info, BroadenGate
- Strength is programming; weakness is systems integration and project management
- By 2007, outsourcing revenues expected to reach US\$27 billion (Gartner Group)



Vietnam

- Pros:
 - Low cost: 40-50% less than India
 - Good government support
- Cons:
 - High infrastructure charges
 - Language
- Bottom line: small-scale application development and maintenance
- Customers: Cisco, IBM, Nortel, Merrill Lynch



Suggested Reading

- A Buyer's Guide to Offshore Outsourcing, *CIO Magazine*, November 15, 2002.
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- Mapping Offshore Markets, neoIT, April 2003.
www.neoit.com/pdfs/whitepapers/Mapping-Offshore-Markets.pdf
- Offshore Outsourcing: State of the Industry -- Part I, neoIT.com, September 2003.
www.neoit.com/pdfs/whitepapers/Sep-03-OffshoreOutsourcingPart-1.pdf
- Liu, L. China: The Next Offshore Sourcing Frontier? Gartner, January 9, 2002.
- Furniss, T. China: The Next Big Wave in Offshore, Everest Group, June 2003.
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www.cfo.com/article/1,5309,10791%7C%7CM%7C706,00.html?f=insidecfo
- Collett, S. Vietnam: Nascent capabilities but low cost, *ComputerWorld*, Sept. 15, 2003.
www.computerworld.com/managementtopics/outsourcing/story/0,10801,84814,00.html
- Vietnam: Offshore software development services emerge, *ebusinessforum.com*, May 20, 2002. www.ebusinessforum.com/index.asp?layout=rich_story&doc_id=5683.