Preparation for Distributed Development and Outsourcing

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Objectives

This module will enable the participant to:

Prepare a decision basis for software outsourcing / distributed development.

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Content

- Categories for Software Outsourcing
- Strategy for Outsourcing
- Gartner Cost Model for Software Outsourcing

- Summary

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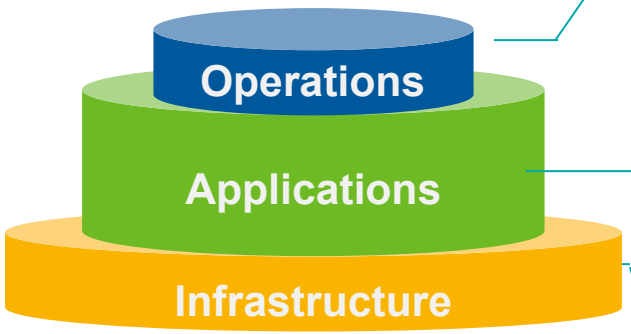
IT Outsourcing Categories (Gartner)



- **Business process outsourcing (BPO):**

Operations

Transaction Management Services

Transaction Processing Services

Human Resource and Payroll Services

Finance and Accounting Services (billing, payment)

Operations Management Services

Call Center Services

Applications

- **Application development and maintenance (ADM)**

- **Infrastructure Services**

Infrastructure

Data Center Services

Network Services

Desktop Services

Helpdesk Services

Asset Management Services

Security Management Services

Storage Services

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Strategic Approach to Application Outsourcing

- Application outsourcing strategies
  - Technical issues
    - Improve service levels to end users
    - Access to critical technical skills and resources
    - Upgrade applications quality, processes and methods
  - Business issues
    - Reduce cost
    - Ensure scalability of resources to business needs
    - Focus on core business

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Benefits Arising from Investment in Packaged Software

Use of packaged solutions contribute to revenue increase or organizational benefits

Benefit	Enabler
Revenue Creation	Create new products and services Reach new customers
Revenue Acceleration	Shorten sales cycles Accelerate collection of payments
Cost reduction	Improve direct staff efficiency Improve indirect staff efficiency (eliminate interruptions) Displace IT costs – hardware Displace IT costs – software
Organizational benefits	Improved decision making Improved communication

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Analysis of Business

- What Business are you in? What are the drivers?
- What is your differentiator?
- Which competence is key to your business?

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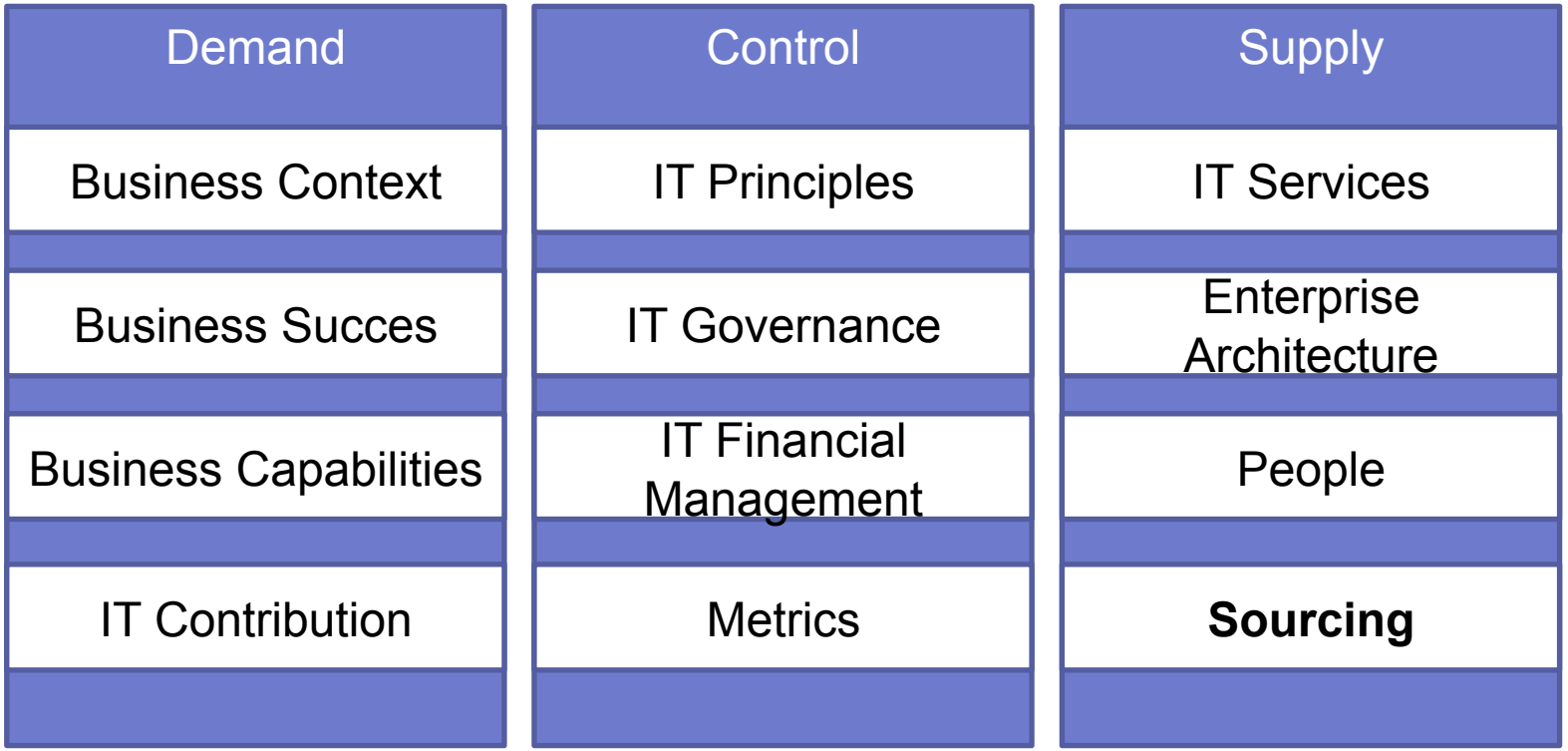
IT Strategy Elements



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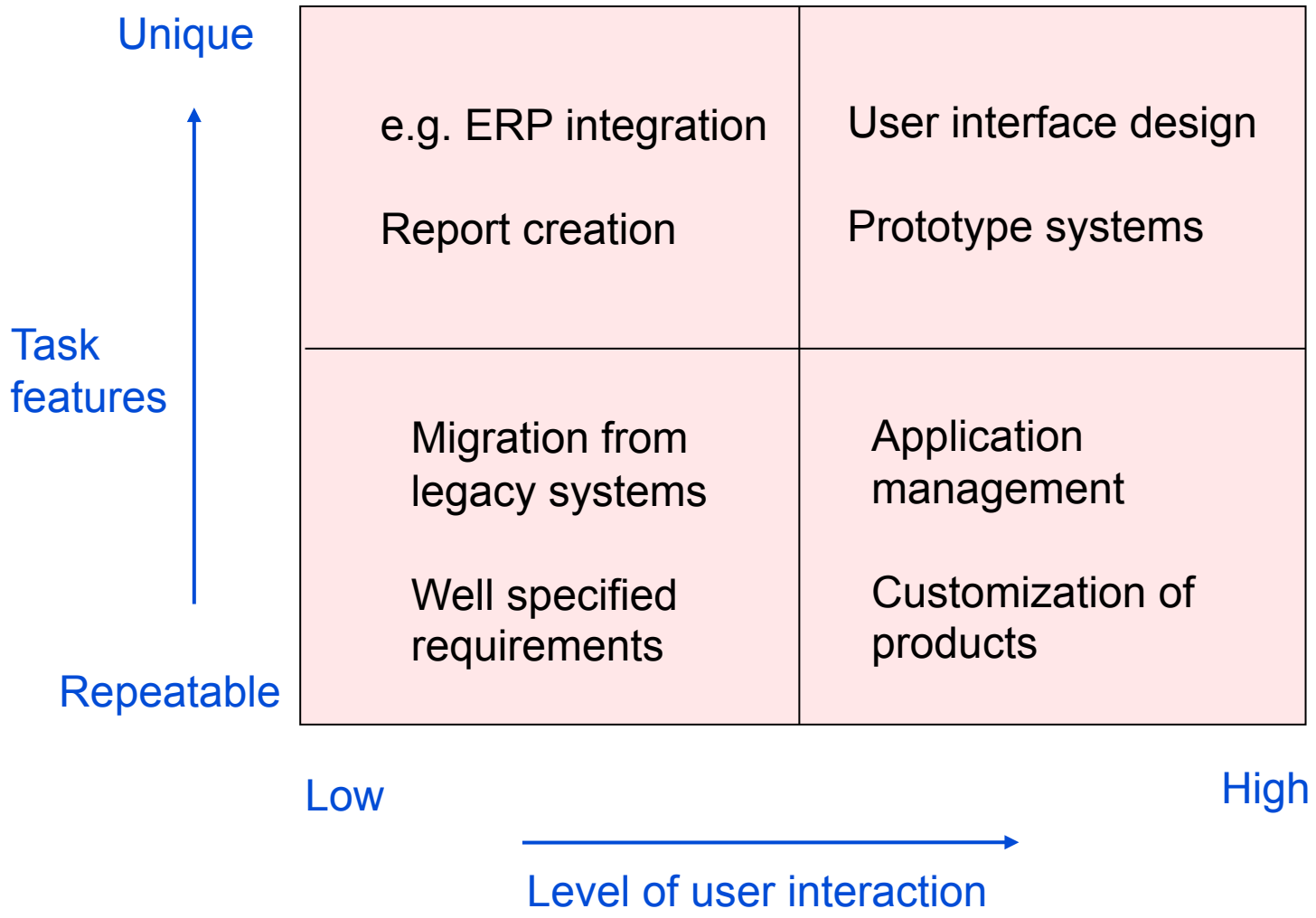
Identify Candidates for Software Outsourcing



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Application Outsourcing Inhibitors

Source:

Gartner

- Top three inhibitors to outsource
  - High costs associated with outsourcing
  - Security issues
  - Cost savings not realized
- Top fear
  - Loss of control and cost guarantees
- Other things to consider
  - Cultural differences, language
  - Geopolitical and social instability
  - Intellectual property protection
  - Loss of technical expertise and business knowledge

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The Application Development Outsourcing Cost Model

- Typical questions when searching best resources for a project:
  - Should the enterprise use its own staff or the staff of an external service provider (ESP)?
  - Should the staff be located on-site (co-located with the enterprise users), off-site (in the same country) or offshore?
  - If offshore, in what countries?

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The Application Development Outsourcing Cost Model

- In search of cost-efficiency of software sourcing, you need to answer to the following questions:
  - Why shouldn't they simply select the ESPs with the **lowest billing rates**?
  - Do off-site/offshore development realities, like
    — **geographical distances**,
    — **time-zone** differences
    — electronic, rather than face-to-face **communication** —
    complicate and, thus, result in less-cost-effective software outsourcing? And if so, to what degree?
  - Can domestic ESPs successfully compete against foreign ESPs from countries with lower (often much lower) billing rates than are available in your western country?

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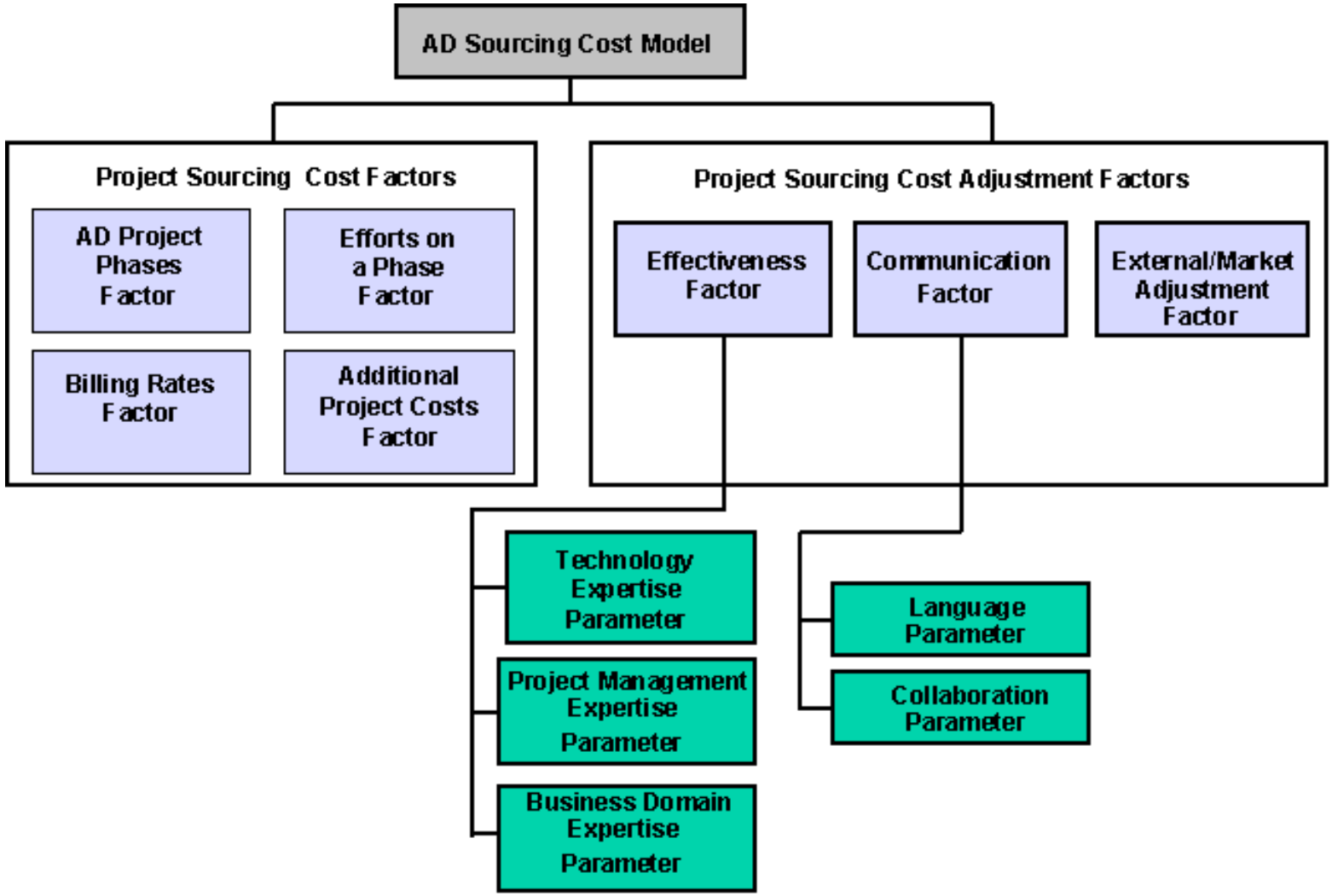
Driving Inputs to the Application Development Outsourcing Cost Model



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The Application Development Outsourcing Cost Model: Realistic Expectations

Saving Factors

- Billing Rates as Saving Factor
  (billing and cost of labor in units relative to 1.0)):
  - U.S. enterprise — 1.0 (reference)
  - In-sourced — 1.0 (Indian ESP working in the U.S.)
  - Offshore — 0.3 (Indian ESP support from India)
- Effectiveness factor
  (expertise in development, project management and business domain):
  - U.S. enterprise — 0.46
  - Average U.S. ESP — 0.74
  - Offshore ESP — 0.70 (typical for most Indian ESP)

Additional Cost Factors

- Communication factor
  (complexity of conducting off-site / offshore development):
  - U.S. enterprise — 0.95 (= or U.S. ESP in-sourced)
  - U.S. ESP — 0.87 (U.S. ESP working off-site)
  - Indian In-sourced — 0.78 (Indian ESP working in the U.S.)
  - Offshore — 0.46 (Indian ESP supports from India)

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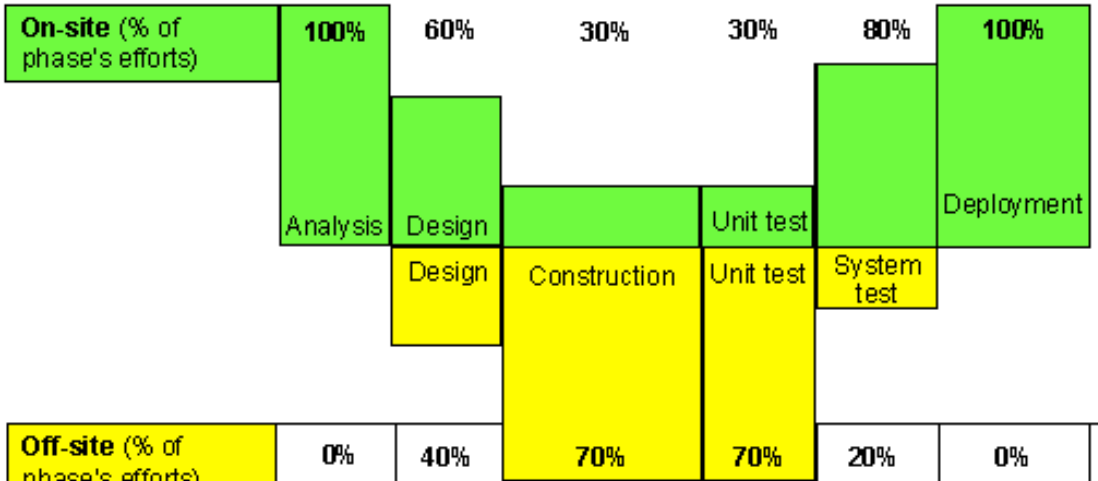
Example:



Off-site (% of phase's efforts)	0%	40%	70%	70%	20%	0%	Totals
Staff (full-time equivalents)	6	8	7	5	6	5	37
Time (months)	2.5	4	7	4	3	3	23.5
Allocation of Efforts Across Phases (man-months = staff x time)	15	32	49	20	18	15	149
Allocation of Efforts Across Phases (%)	10%	21%	33%	13%	12%	10%	100%
Allocation of Off-Site Efforts Across Phases (man-months = efforts on a phase x off-site %)	0	12.8	34.3	14	3.6	0	64.7
Allocation of Off-Site Efforts Across Phases	0%	9%	23%	9%	2%	0%	43%
Allocation of On-Site Efforts Across Phases (man-months = efforts on a phase x on-site %)	15	19.2	14.7	6	14.4	15	84.3
Allocation of On-Site Efforts Across Phases	10%	13%	10%	4%	10%	10%	57%

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Adjustment Factors Used in the Project Example

Choices for the Off-Site Part of Project:

	U.S. enterprise (reference)	Indian ESP on-site	Indian ESP off-site
Billing rates	— 1.0	— 0.95	— 0.3
Effectiveness factor	— 0.46	— 0.70	— 0.70
Communic. factor	— 0.95	— 0.78	— 0.46

- Calculated Savings = Difference between cost of ESP and U.S. enterprise for executing the same project part.

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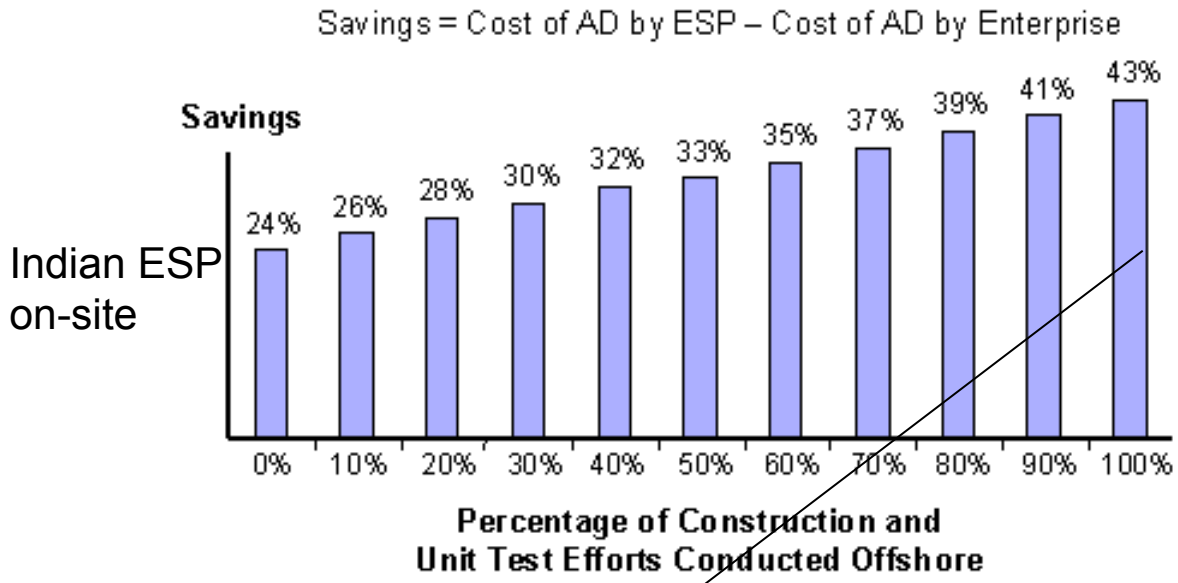
The Realistic Picture of Savings



Indian ESP on-site

Project part fully executed off-site by an Indian ESP

Cost of the project if executed by an enterprise	Savings if executed by an offshore ESP	Cost of the project if executed by an ESP	Project cost ratio = cost if executed by an enterprise/ cost if executed by an ESP	Cost of labor ratio = enterprise's fully loaded cost of labor/ESP developer's offshore billing rate
100 percent	**43 percent**	100 percent – 43 percent = **57 percent**	100 percent/57 = **1.75 times** less expensive to execute with an ESP than to develop on its own	ESP's offshore billing rate is **three** times lower than a U.S. developer's fully loaded cost of labor

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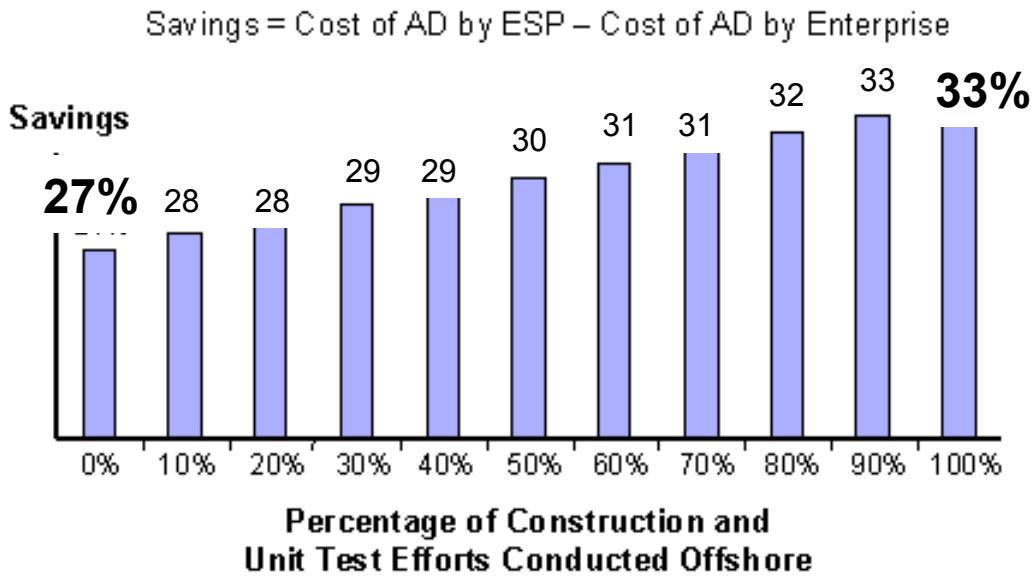
Comparison of Using an U.S. ESP

Choices for the Off-Site Part of Project:

	U.S. enterprise (reference)	U.S. ESP on-site	U.S. ESP off-site
■ Billing rates	— 1.0	— 1.2	— 0.9
■ Effectiveness factor	— 0.46	— 0.74	— 0.74
■ Communic. factor	— 0.95	— 0.95	— 0.87

U.S. ESP on-site



Project part fully executed off-site by an **U.S. ESP off-site**

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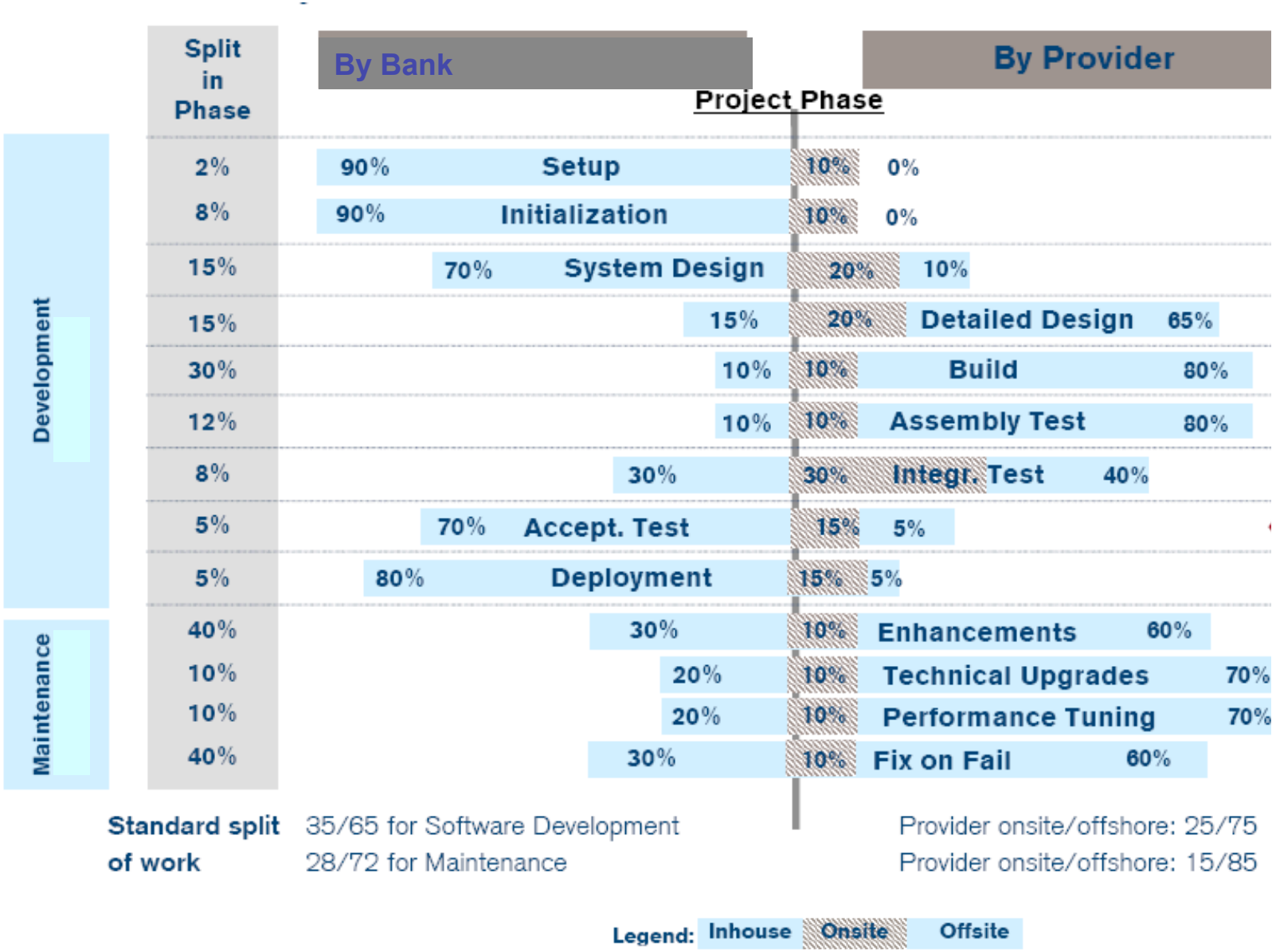
Example: Typical Split in IT Offshoring Projects



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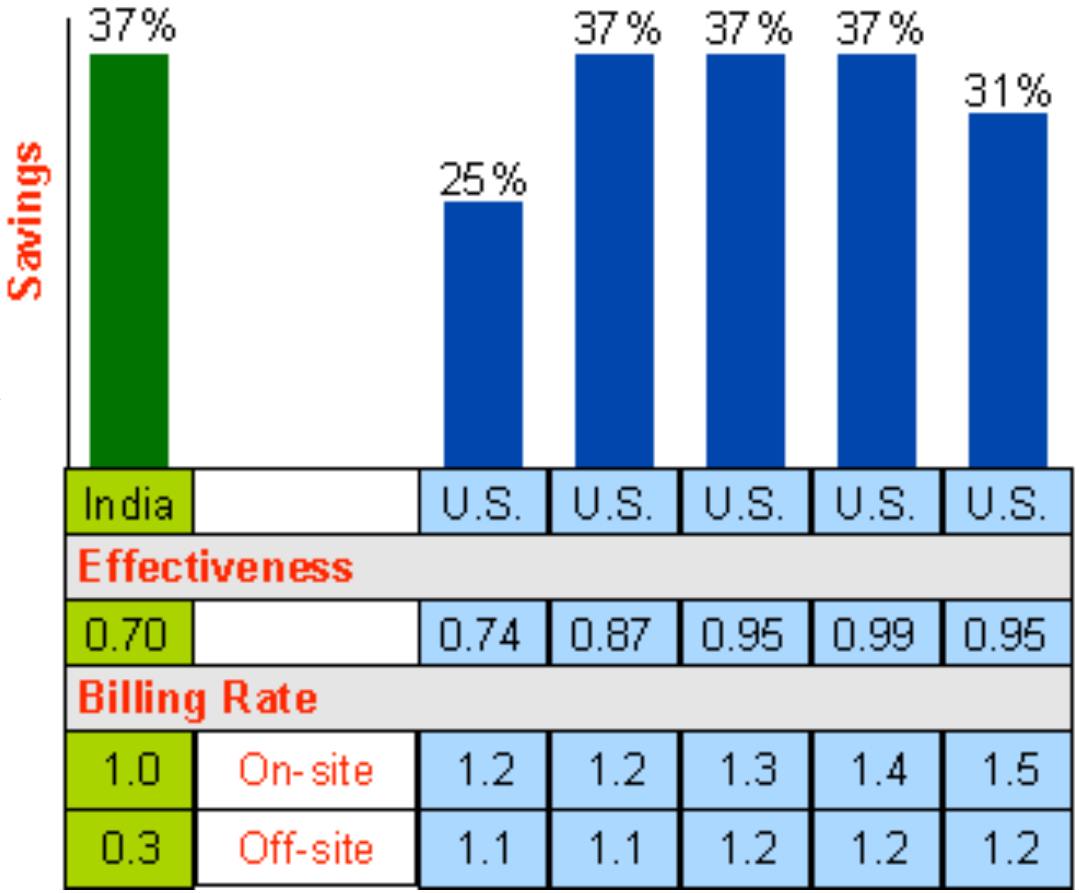
How Effectiveness Compensates for High Billing Rates

Outsourcing to India



Increased effectiveness in western countries can outrange
cheap labor cost in India

Outsourcing within the U.S.

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How to Become More Effective?

- Technical Improvements
  - IT education – increase percentage of developers with formal IT education
  - Software certification – have certified developers, e.g. in Microsoft technologies, Java, …
  - IT training – systematically train your people to keep them up to date
- Process Improvement
  - Follow the (software) process improvement models (CMMI, Spice, …)
- Management Improvement
  - Project leader training
  - Introduction and certification of new roles: configuration manager, quality manager

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