



# Preparation for Software Outsourcing and Offshoring

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# Objectives

**This module will enable the participant to:**

Prepare a decision basis for software outsourcing and offshoring.

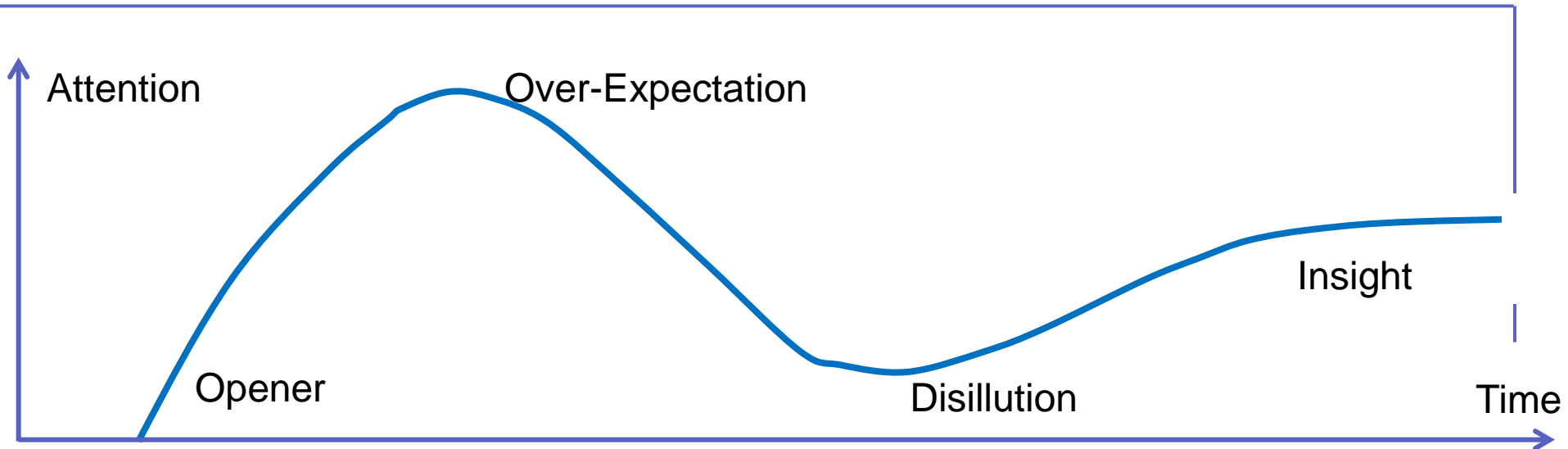
- Definition and Categories for Software Development Outsourcing
- Strategy for Outsourcing
- Gartner Cost Model for Software Outsourcing
  
- Summary

What is «development outsourcing» ?

Der Begriff "**Outsourcing**" wurde 1996 bei der Wahl des deutschen Unwort des Jahres von der Jury bezeichnet als:

Imponierwort, das der Auslagerung/Vernichtung von Arbeitsplätzen einen seriösen Anstrich zu geben versucht

# Development of Outsourcing over the Last 15 Years From «Cowboy Cost Saving» to «Best-Sourcing»



1995	2000	2005	2010	2012
<p>Data Digitalization Technology Migrations Testing ... labor intensive work</p> <p>Many cheap SW Engineers in India utilized by Indian diaspora in the US</p>	<p>Outsourcing Strategies Process Setup From Outsourcing to Subsidiaries</p> <p>CMMI Level 3-5 Stable business climate</p>	<p>It's all not so easy! Diversifications of</p> <ul style="list-style-type: none"> <li>- Continue / Stop</li> <li>- Dual Strategies</li> </ul> <p>Process Optimizations</p> <ul style="list-style-type: none"> <li>- Def. Transition Points</li> <li>- Outsourcing=Distributed</li> <li>- Agile Methods</li> </ul>	<p>Optimally Distributed</p> <p>Managed Risks</p>	

In the Beginning it was Only the People



# Bangalore Today

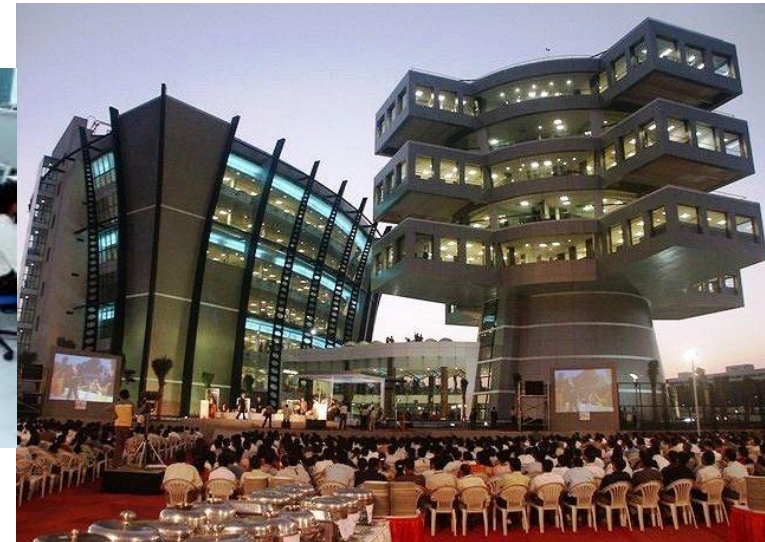
## The Garden City turned into an IT Hub of India



Bangalore IT Park

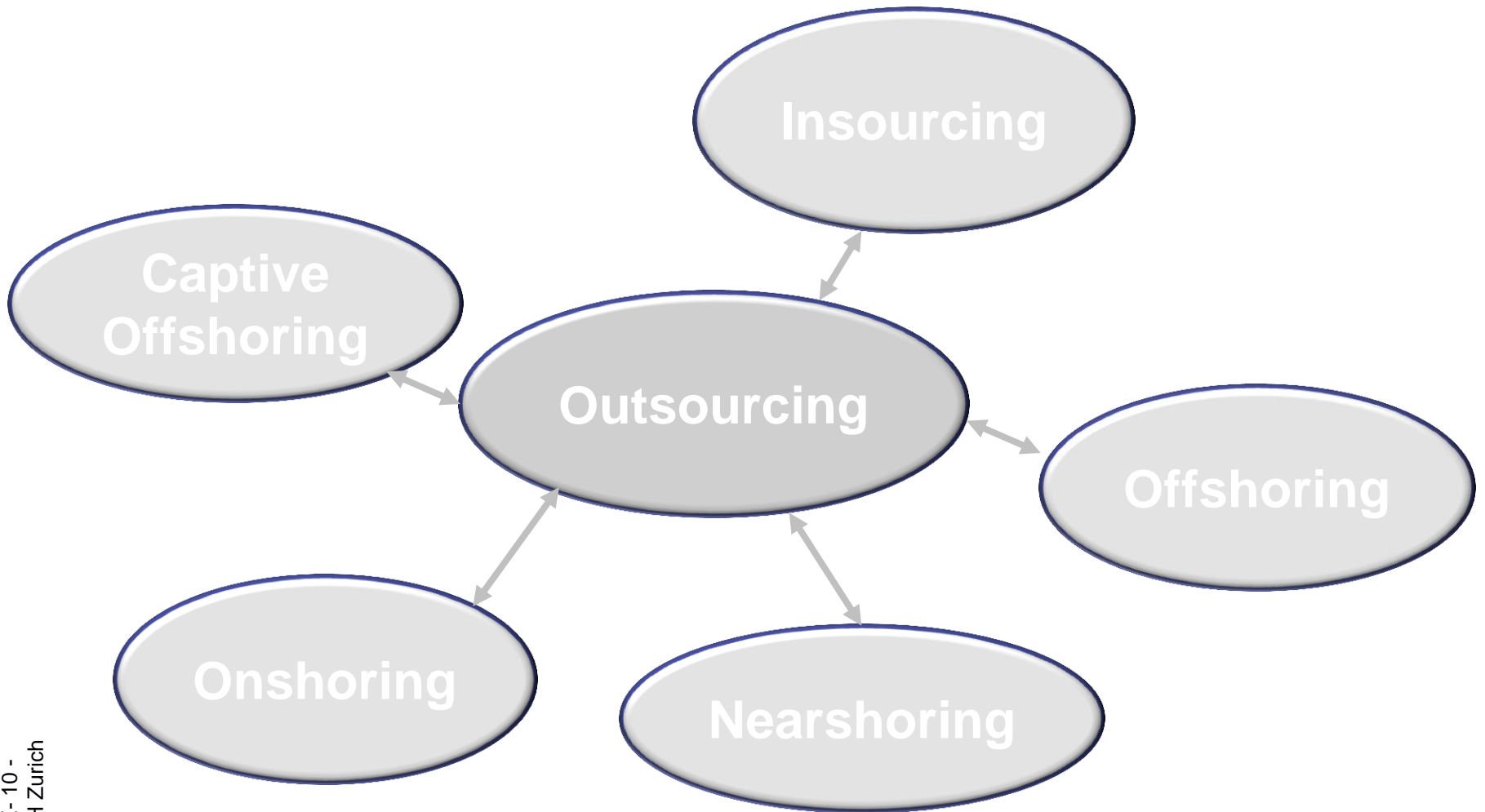


<http://bangalore-reviews.com/hamma-bengaluru/>





# Outsourcing 2012: What is Best-Sourcing?



# Definitions

## ■ Outsourcing

The transfer of a business process (e.g. application development) from company control to an external third-party provider that, in turn, owns, administers and manages the selected process(es) based on defined and measurable performance metrics.

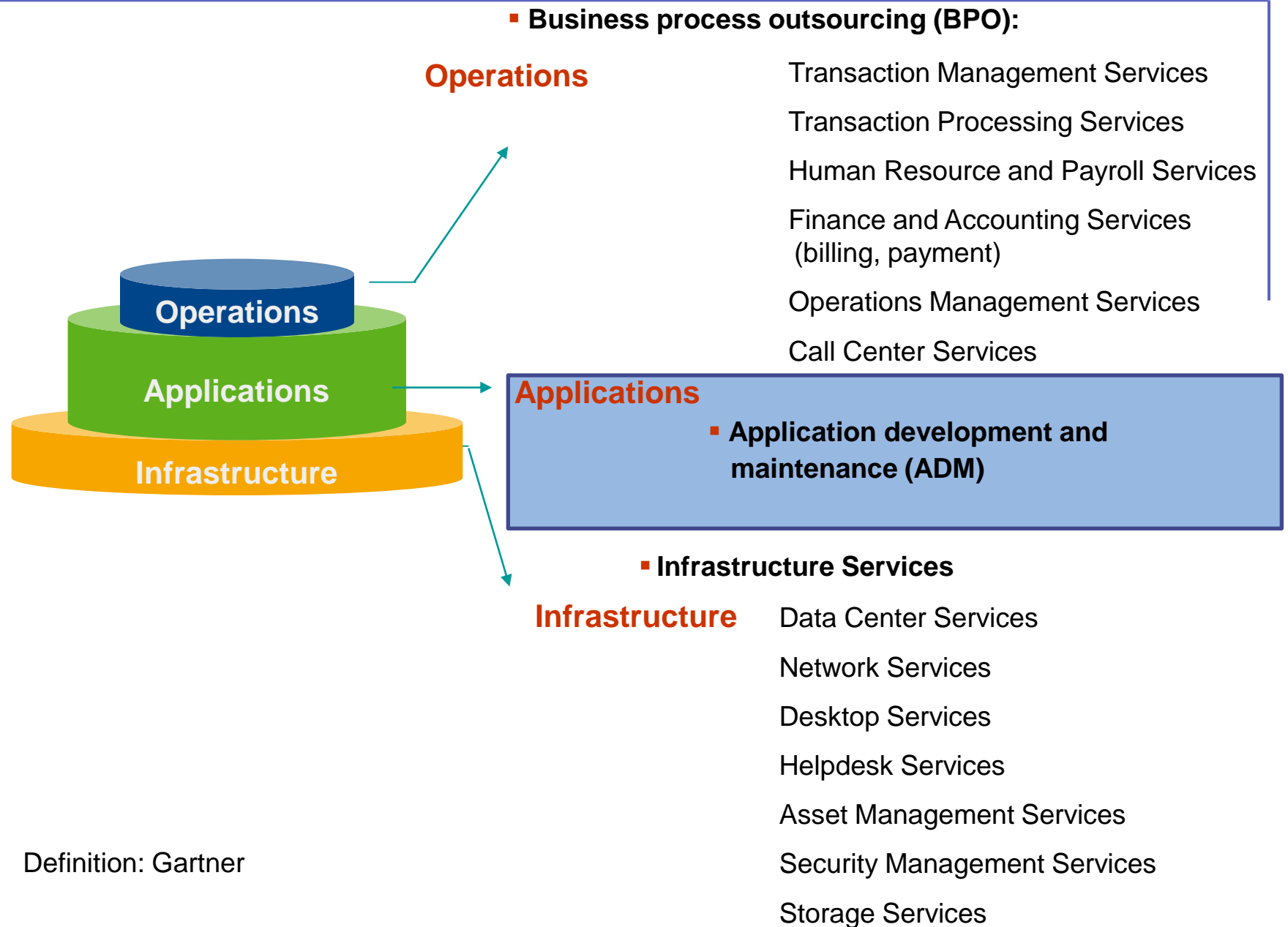
## ■ Offshoring

The process of moving a company's business operations, whether production, manufacturing or services, to a location overseas, usually through a third-party provider (third-party offshoring). The relocation generally occurs from developed countries where labor costs are high to developing or emerging nations where labor is considerably less expensive and more readily available. The economic logic is to reduce bottlenecks and costs, and the idea is that countries should freely trade the items that cost the least for them to produce.

## ■ Captive Offshoring

Offshoring in which a company creates its own captive site or subsidiary at an offshore location and staffs it with locals who become the company's own employees. This practice enables companies to take advantage of the financial benefits that arise from cheaper labor, resources and tax benefits, while assuming greater resource control and more effectively managing and protecting their intellectual property. Because of the high overhead and management costs associated with captive offshoring, it has been limited mainly to the largest multinational corporations.

# IT Outsourcing Categories



Definition: Gartner

# Content

- Categories for Software Outsourcing
- Strategy and Decision for Outsourcing
- Gartner Cost Model for Software Outsourcing
  
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# Outsourcing Cannot be Stopped Anymore

- How do we utilize «distributed development» best?

# Outsourcing Strategy

## Consider Business, Operational and Application Lifecycle Aspects

### Business Aspects

- Core business vs. commodity
- Perceived customer value vs. must have

### Operational Aspects

- IT security critical vs. non-sensitive data
- Reliability, maintainability

### Application Lifecycle Aspects

- Technical fit to existing IT
- Packaged vs. customized solution

# Analysis of Business

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

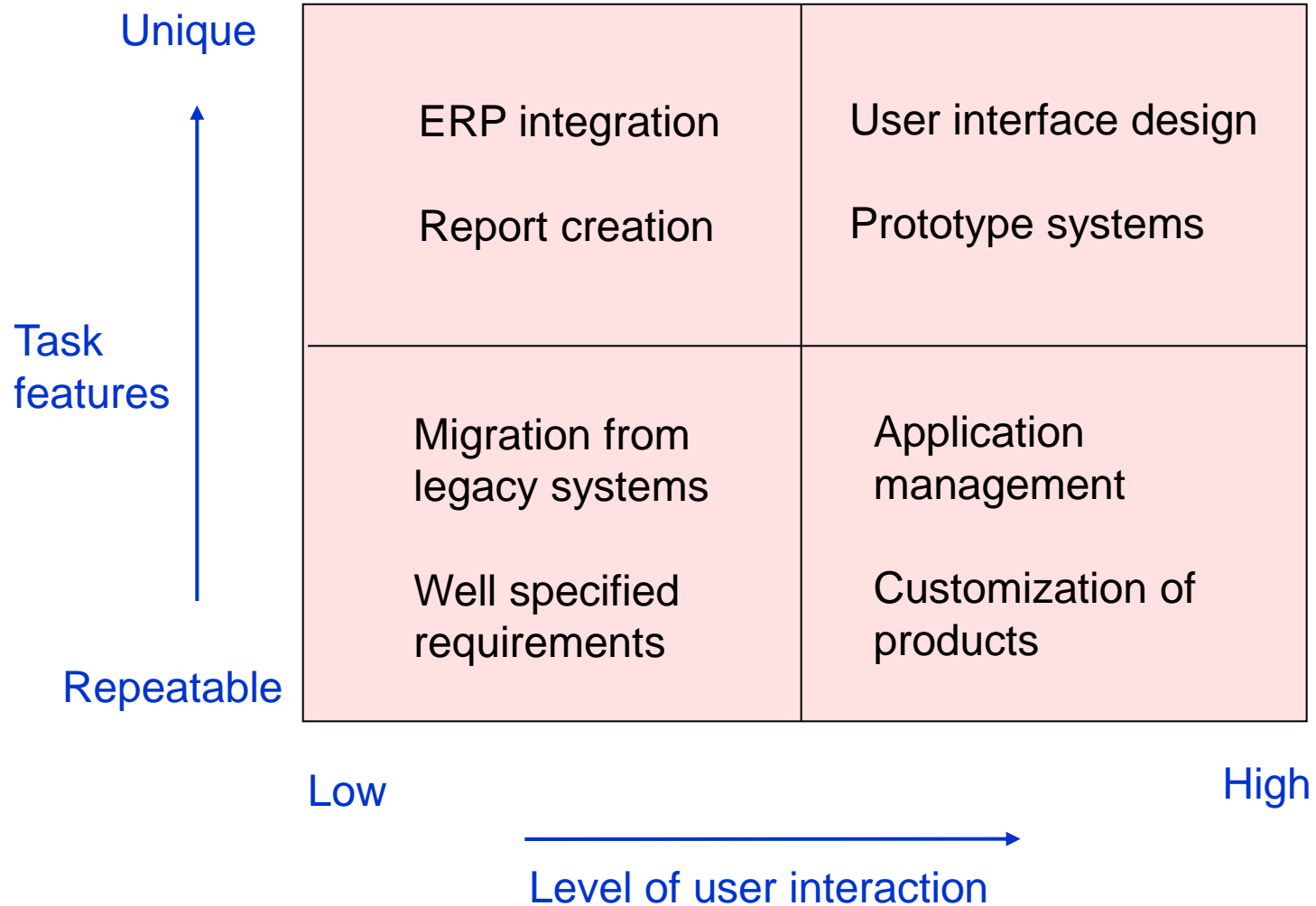
# Strategic Approach to Application Outsourcing

- 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
  
- Medium size enterprises act more tactical than large enterprises:
  - 40 % seek intermediate results/benefits through outsourcing (compared to 30% in large enterprises)
  - 60 % look for long-term payback (compared to 70% in large enterprises)

Source:  
Gartner



# Identify Candidates for Software Outsourcing



# 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

# Vendor Selection

- Identification of Outsourcing Candidates

- Recommendations 63%
- Past direct relationships 57%
- Presence at industry conferences 40%

- Vendor Selection Criteria

- Quality and Cost

- Decision makers

- Medium size enterprises: IT Managers
- Large enterprises: group of CIO, IT manager, BU manager, procurement officer

Source:

Gartner

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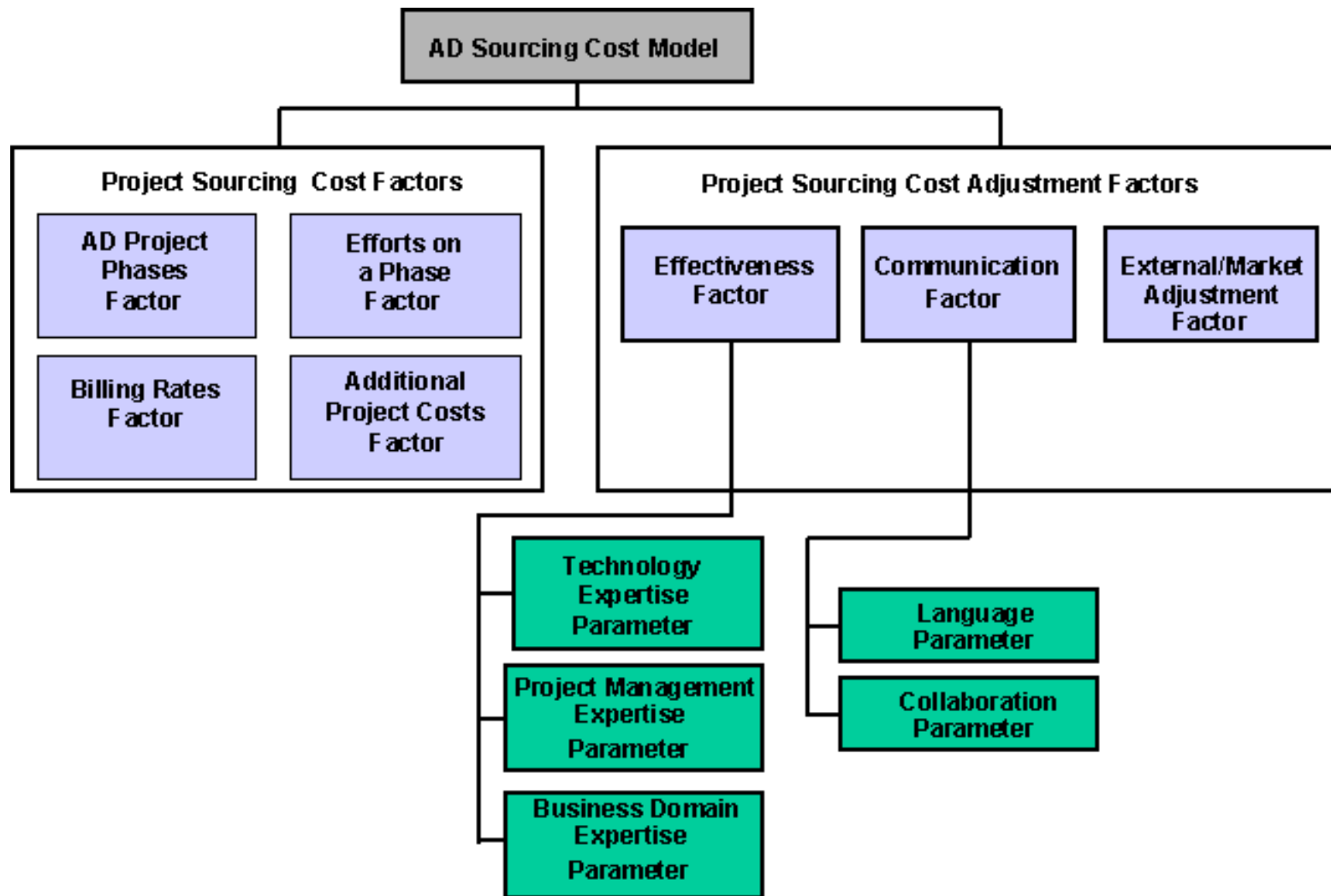
# The Application Development Outsourcing Cost Model

- 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?

# 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?

# Driving Inputs to the Application Development Outsourcing Cost Model



# 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)



# Example:

On-site (% of phase's efforts)	100%	60%	30%	30%	80%	100%	
	Analysis	Design	Construction	Unit test	System test	Deployment	
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
<b>Allocation of Efforts Across Phases</b> (man-months = staff x time)	15	32	49	20	18	15	149
<b>Allocation of Efforts Across Phases (%)</b>	10%	21%	33%	13%	12%	10%	100%
<b>Allocation of Off-Site Efforts Across Phases</b> (man-months = efforts on a phase x off-site %)	0	12.8	34.3	14	3.6	0	64.7
<b>Allocation of Off-Site Efforts Across Phases</b>	0%	9%	23%	9%	2%	0%	43%
<b>Allocation of On-Site Efforts Across Phases</b> (man-months = efforts on a phase x on-site %)	15	19.2	14.7	6	14.4	15	84.3
<b>Allocation of On-Site Efforts Across Phases</b>	10%	13%	10%	4%	10%	10%	57%

## Adjustment Factors Used in the Project Example

### Choices for the Off-Site Part of Project:

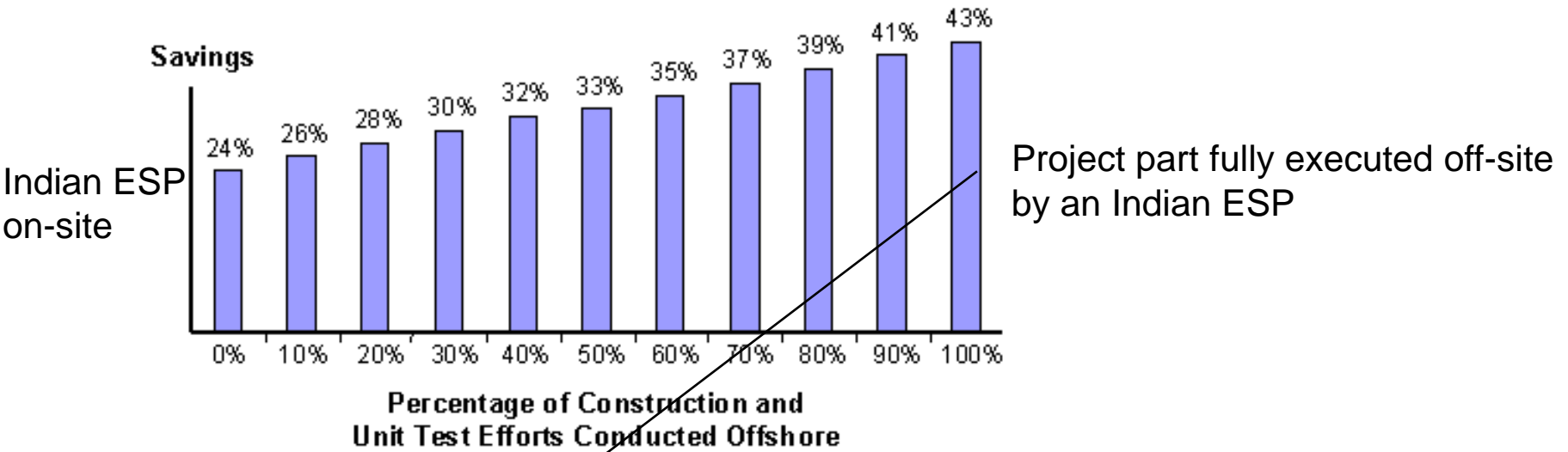
	<b>U.S. enterprise (reference)</b>	<b>Indian ESP on-site</b>	<b>Indian ESP off-site</b>
■ Billing rates	— 1.0	— 0.95	— 0.3
■ Effectiveness factor	— 0.46	— 0.70	— 0.70
■ Communic. factor	— 0.95	— 0.78	— 0.46

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

# The Realistic Picture of Savings

$$\text{Savings} = \text{Cost of AD by ESP} - \text{Cost of AD by Enterprise}$$



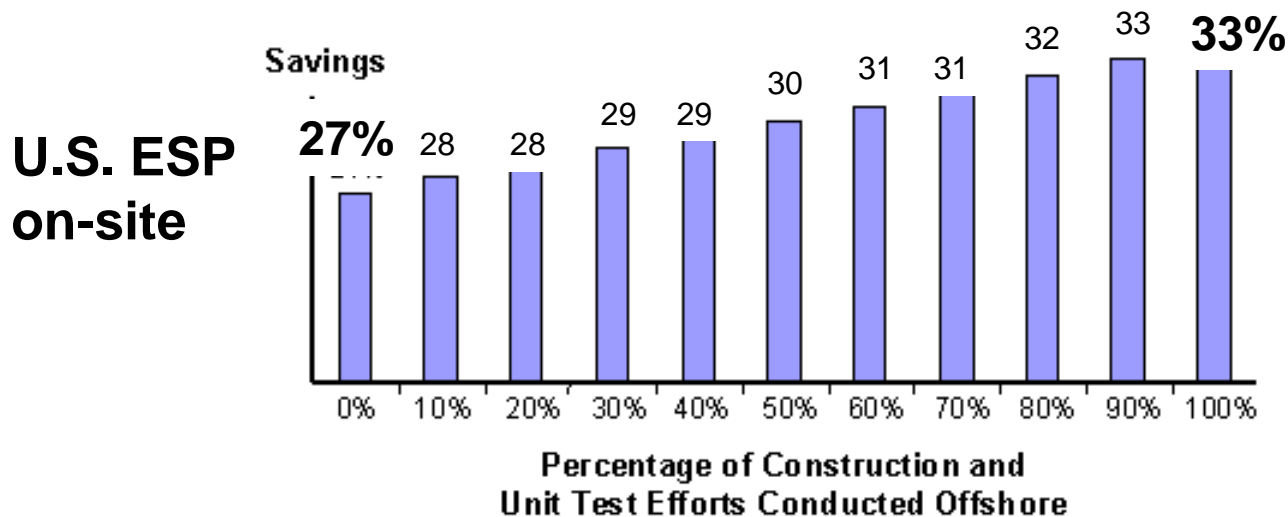
Cost of the project if executed by an enterprise	Savings if executed by an offshore ESP	Cost of the project if executed by an ESP	Project cost ratio = cost if executed by an enterprise/ cost if executed by an ESP	Cost of labor ratio = enterprise's fully loaded cost of labor/ESP developer's offshore billing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

# Comparison of Using an U.S. ESP

## Choices for the Off-Site Part of Project:

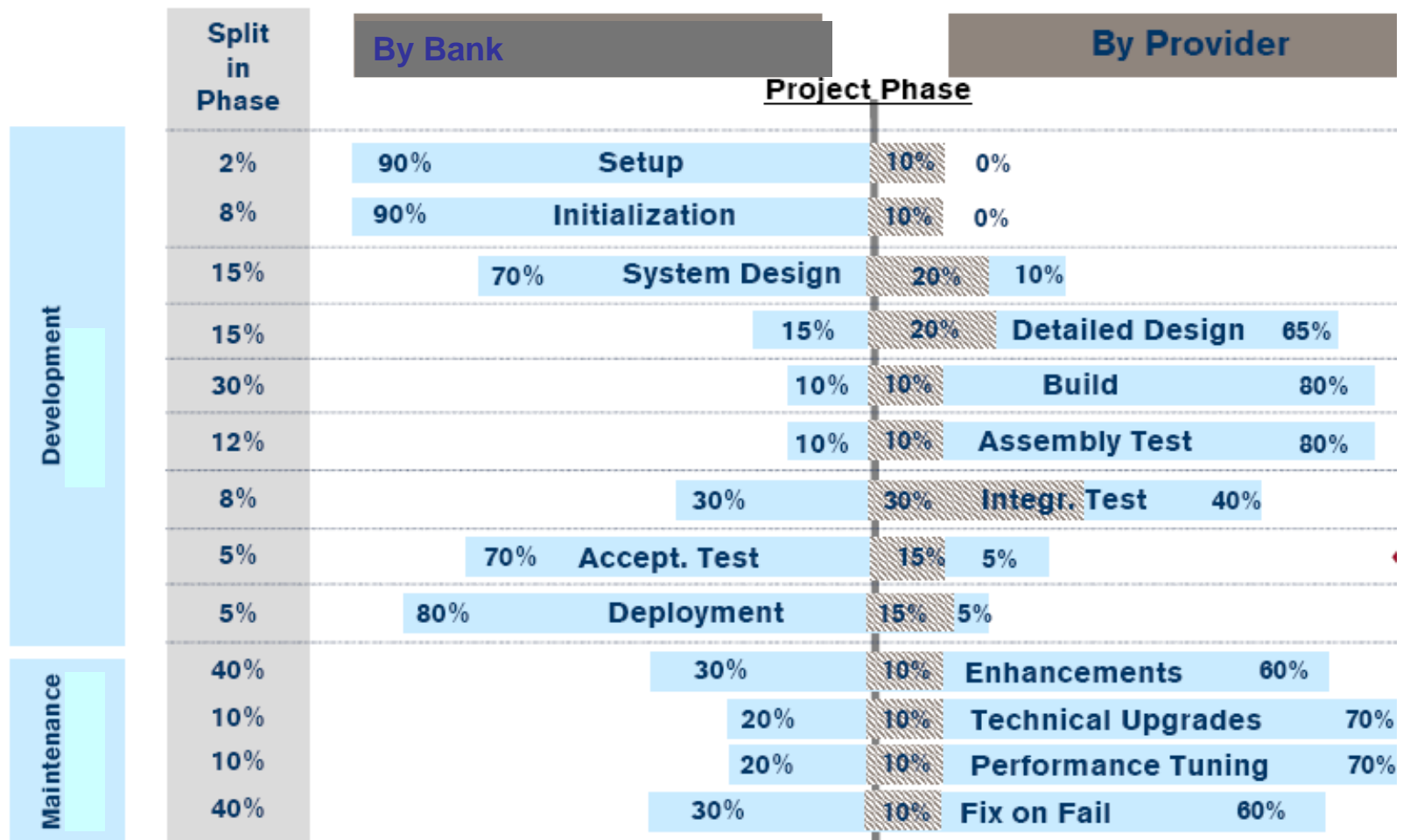
	U.S. enterprise (reference)	U.S. ESP on-site	U.S. ESP off-site
■ Billing rates	— 1.0	— 1.2	— 0.9
■ Effectiveness factor	— 0.46	— 0.74	— 0.74
■ Communic. factor	— 0.95	— 0.95	— 0.87

Savings = Cost of AD by ESP – Cost of AD by Enterprise



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

# Example: Typical Split in IT Offshoring Projects

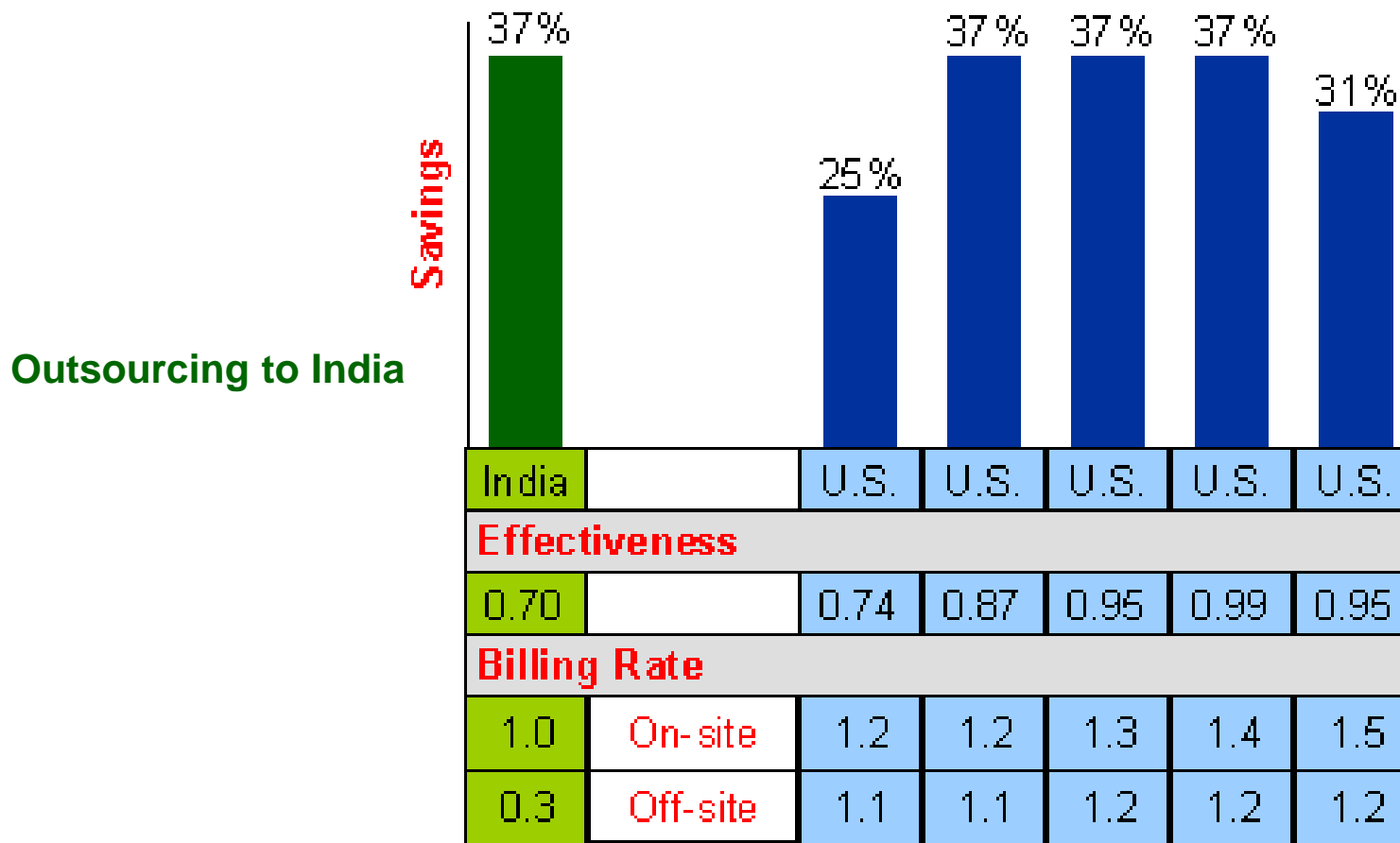


**Standard split of work** 35/65 for Software Development  
28/72 for Maintenance

Provider onsite/offshore: 25/75  
Provider onsite/offshore: 15/85

Legend: Inhouse Onsite Offsite

# How Effectiveness Compensates for High Billing Rates



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

**Outsourcing within the U.S.**

# 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