Preparation for Software Outsourcing and Offshoring

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The Value Creator

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
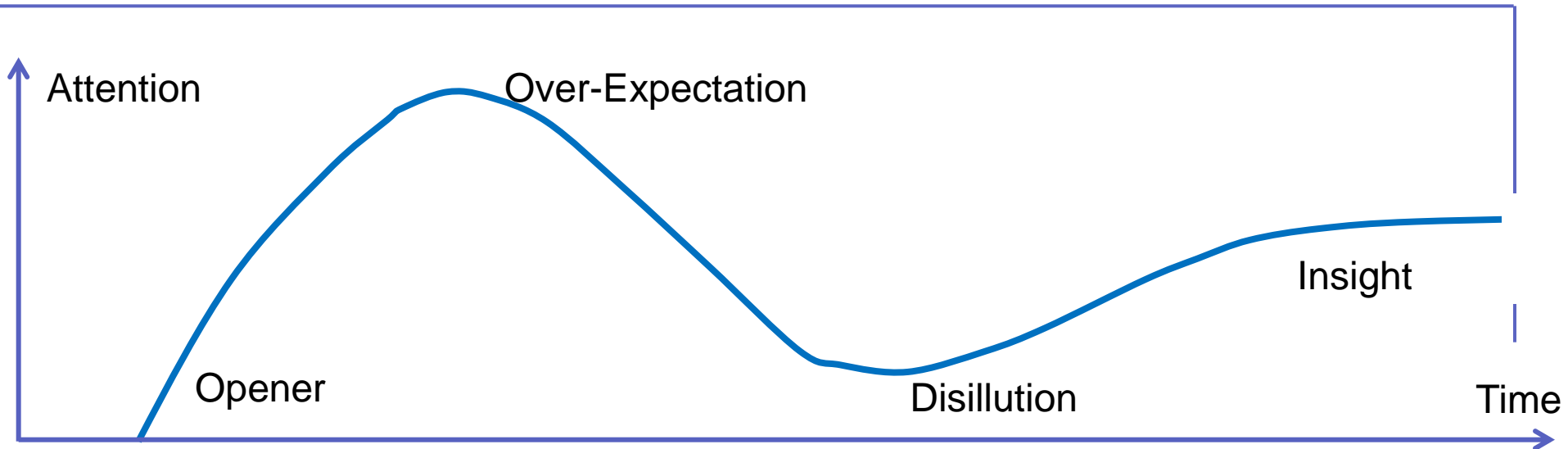
- Gartner Cost Model for Software Outsourcing

- 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

http://www.unwortdesjahres.net

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

Attention

Over-Expectation

Opener

Disillution

Insight

Time

1995　　　　　2000	2005	2010	2012
Data Digitalization Technology Migrations Testing … labor intensive work	Outsourcing Strategies Process Setup From Outsourcing to Subsidaries	It's all not so easy! Diversifications of - Continue / Stop - Dual Strategies	Optimally Distributed
Many cheap SW Engineers in India utilized by Indian diaspora in the US	CMMI Level 3-5 Stable business climate	Process Optimizations - Def. Transition Points - Outsourcing=Distributed - Agile Methods	Managed Risks

Bangalore IT Park

http://bangalore-reviews.com/namma-bengaluru/
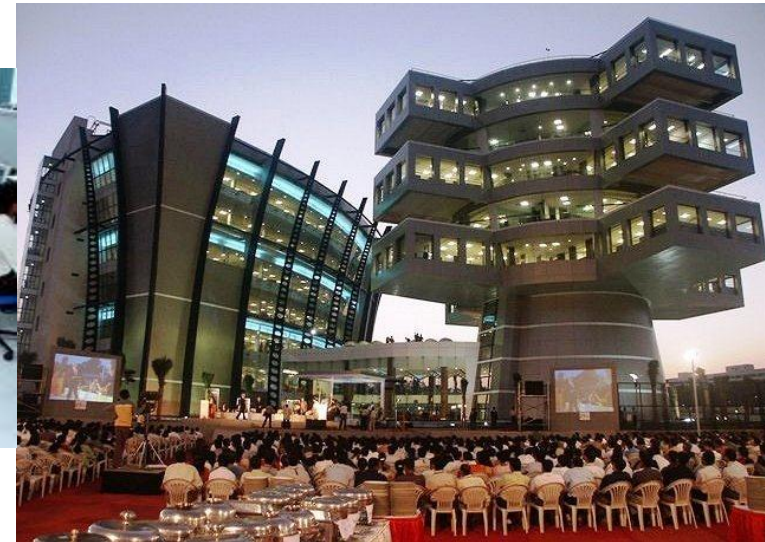
Outsourcing 2012: What is Best-Sourcing?

Insourcing

Captive Offshoring

Outsourcing

Offshoring

Onshoring

Nearshoring

24.09.2012

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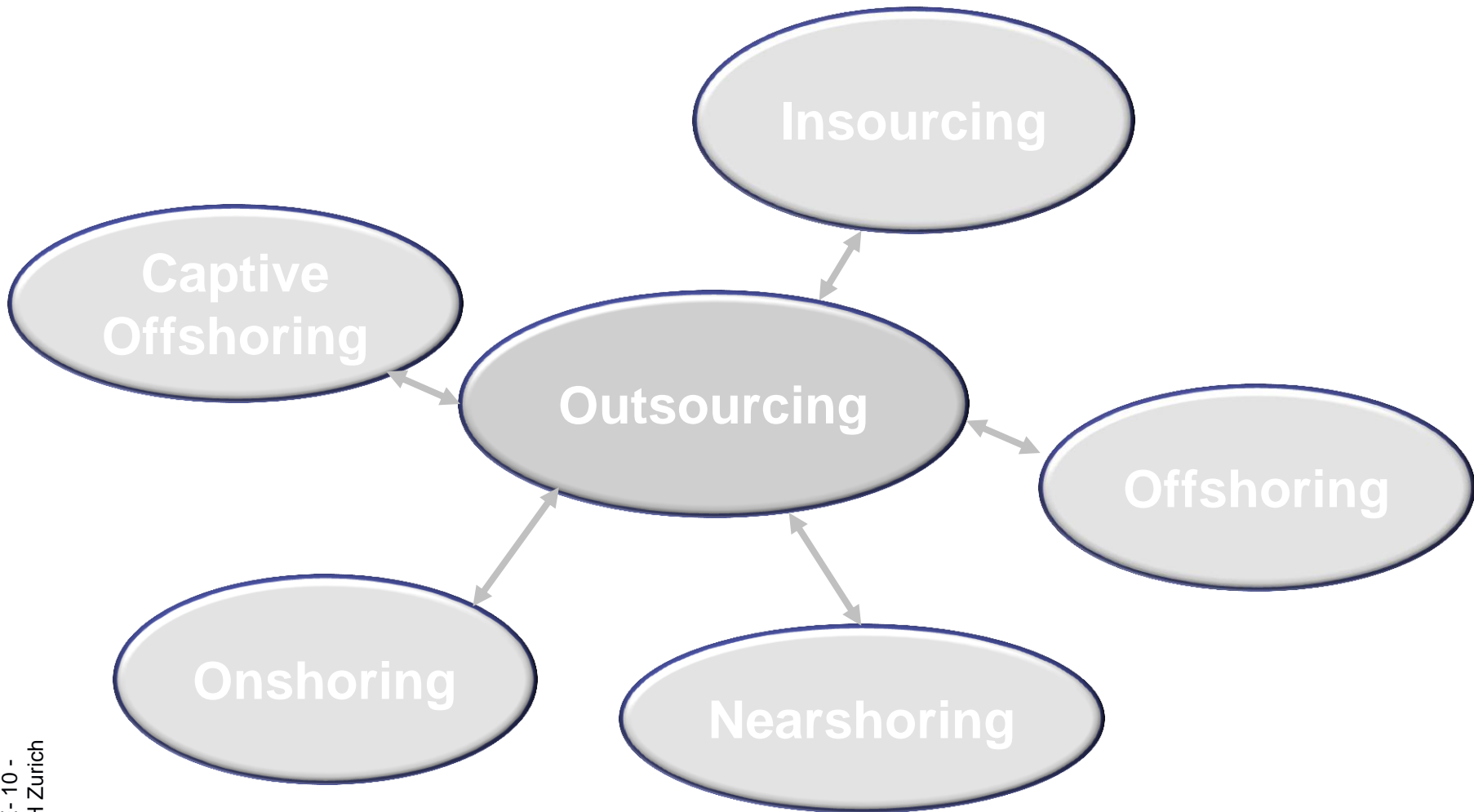
Definitions

- ## Outsourcing

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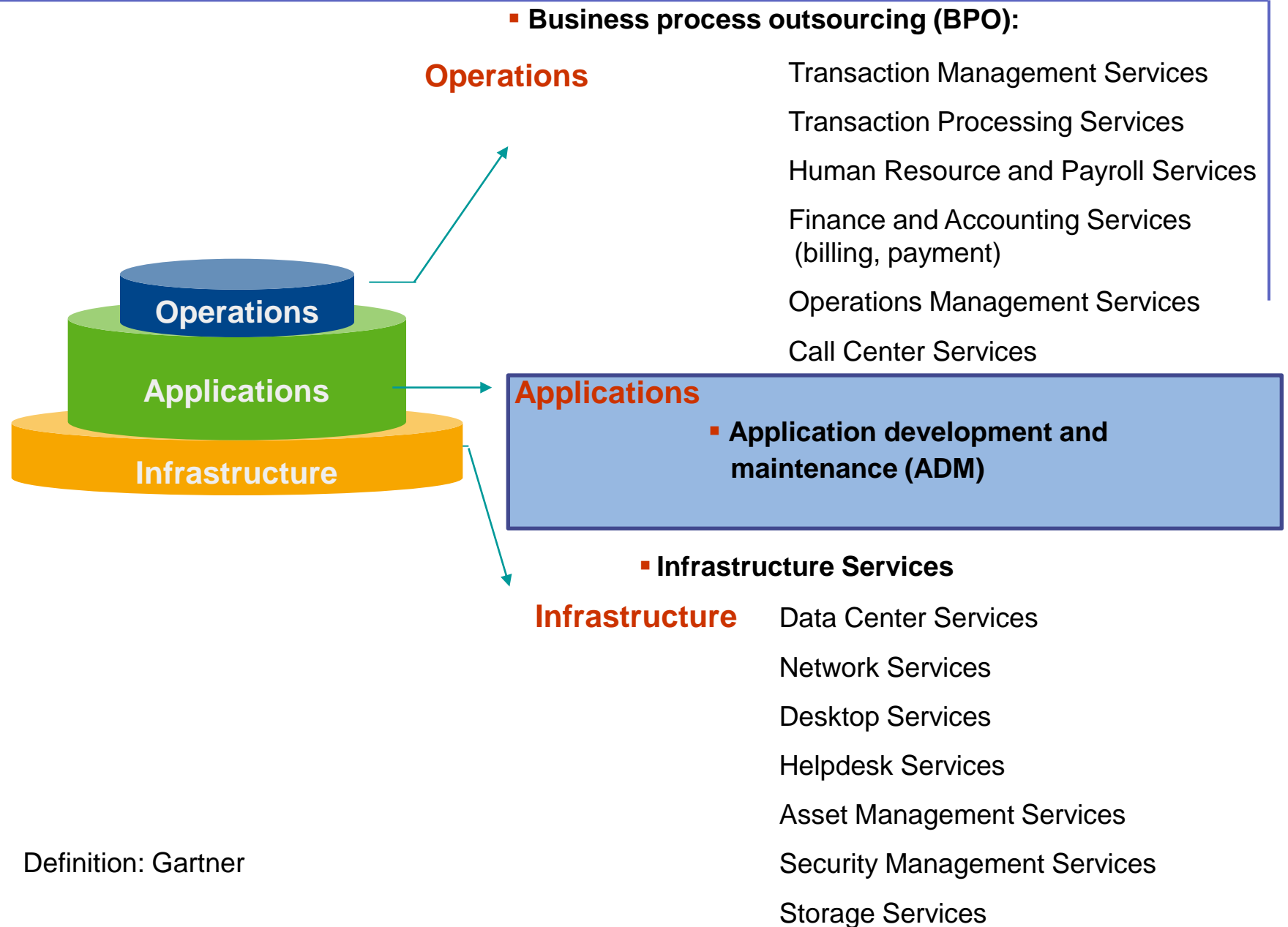
- ## Offshoring

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 <u>relocation</u> generally occurs from developed countries where labor costs are high <u>to developing or emerging nations</u> where <u>labor is considerably less expensive</u> 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 <u>captive site or subsidiary</u> at an <u>offshore location</u> and staffs it with <u>locals</u> who become the <u>company's own employees</u>. 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

Operations

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

  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

- **Infrastructure Services**

  Data Center Services

  Network Services

  Desktop Services

  Helpdesk Services

  Asset Management Services

  Security Management Services

  Storage Services

Definition: Gartner

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

- Summary

■ How do we utilize «distributed development» best?

Business Aspects	• Core business vs. commodity • Perceived customer value vs. must have
Operational Aspects	• IT security critial 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?
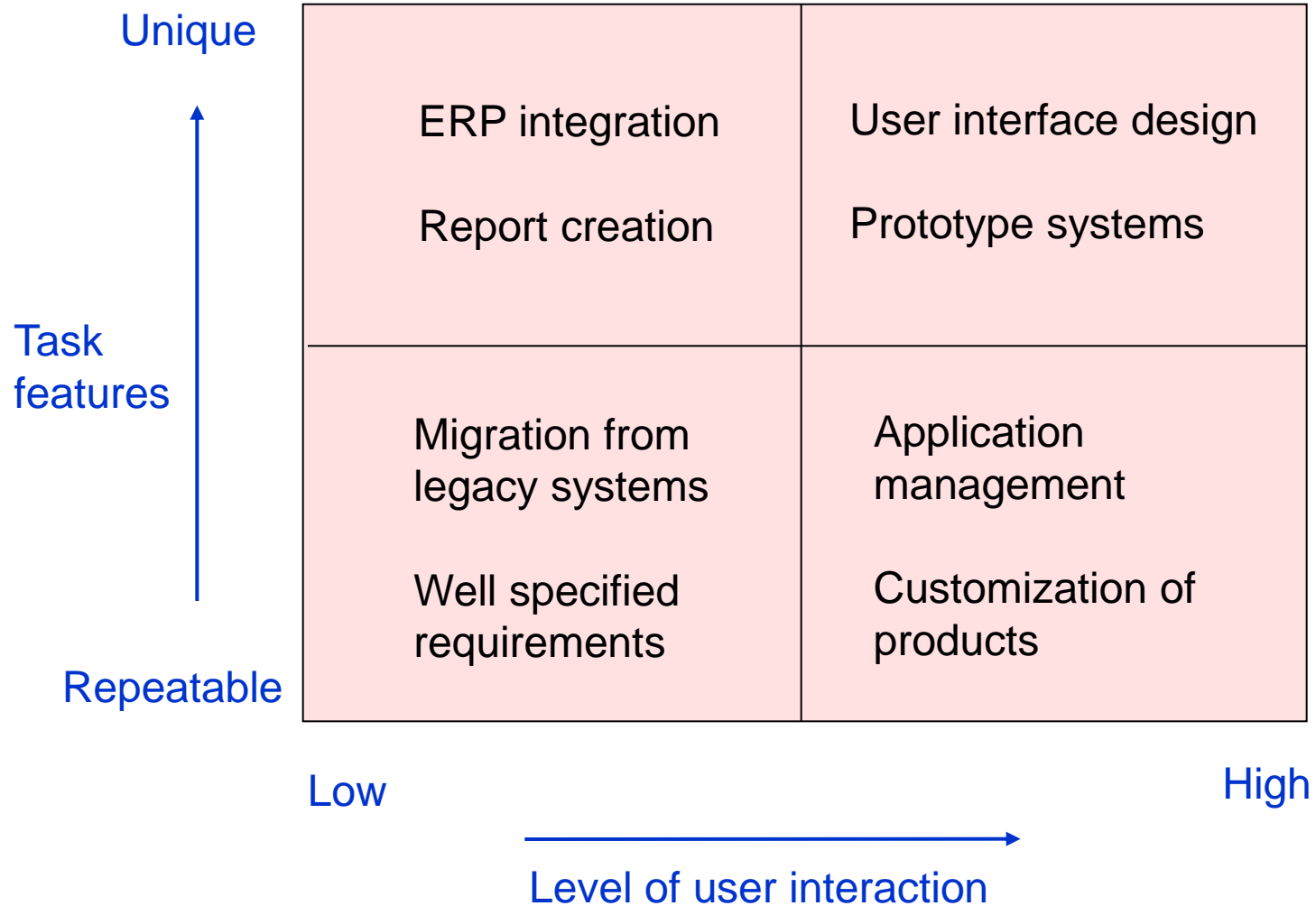
- Which competence is key to your business?

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

	Low → **High** (Level of user interaction)	
Unique	ERP integration Report creation	User interface design Prototype systems
Task features **Repeatable**	Migration from legacy systems Well specified requirements	Application management Customization of products

Level of user interaction

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

Content

- Categories for Software Outsourcing

- Strategy and Decision for Outsourcing

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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
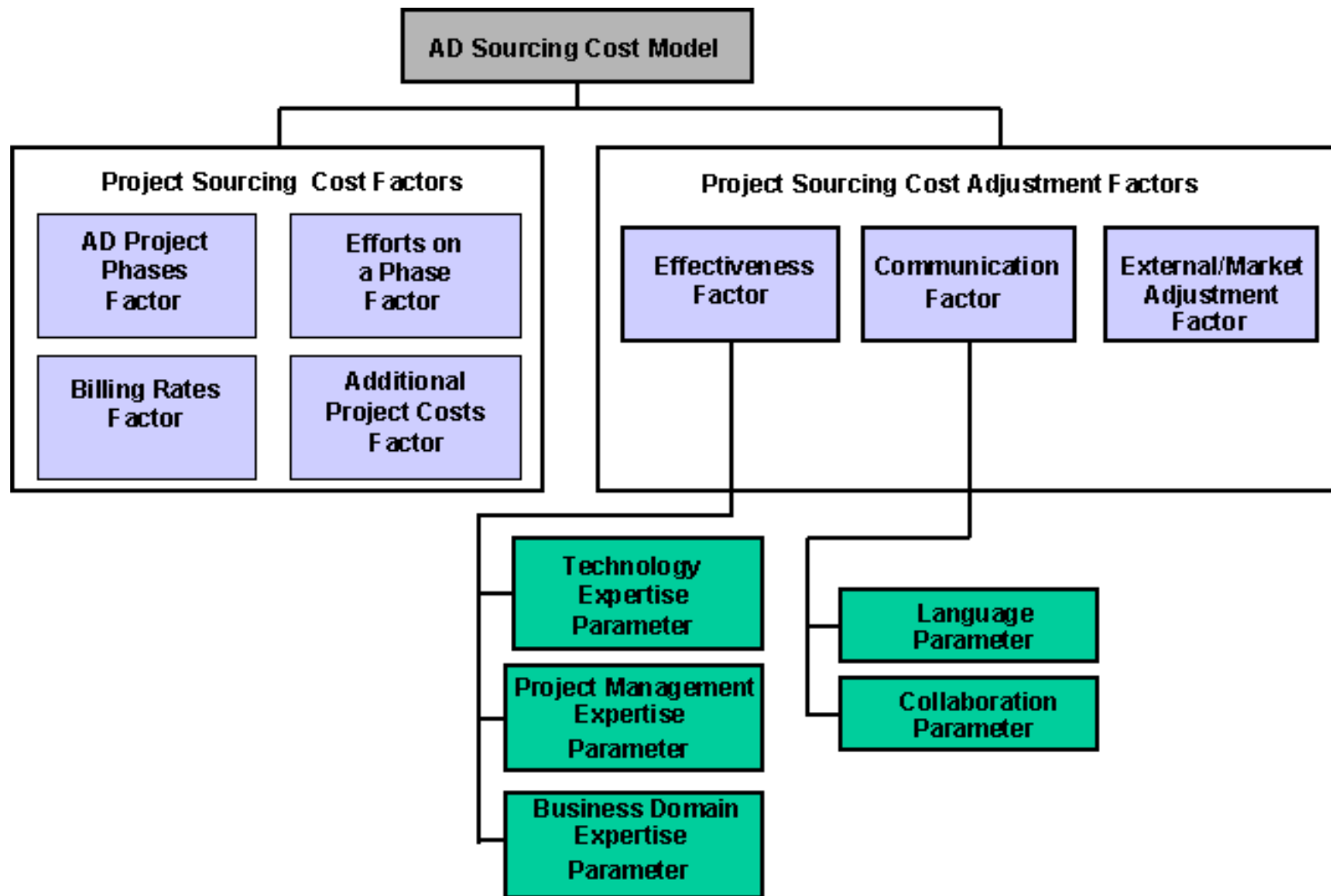
The Application Development Outsourcing Cost Model: Realistic Expectations

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		Unit test		Deployment	
		Design	Construction	Unit test	System test		
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%**

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.

The Realistic Picture of Savings

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

Savings

24% 26% 28% 30% 32% 33% 35% 37% 39% 41% 43%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Percentage of Construction and Unit Test Efforts Conducted Offshore

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

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

U.S. ESP on-site

27% 28 28 29 29 30 31 31 32 33 **33%**
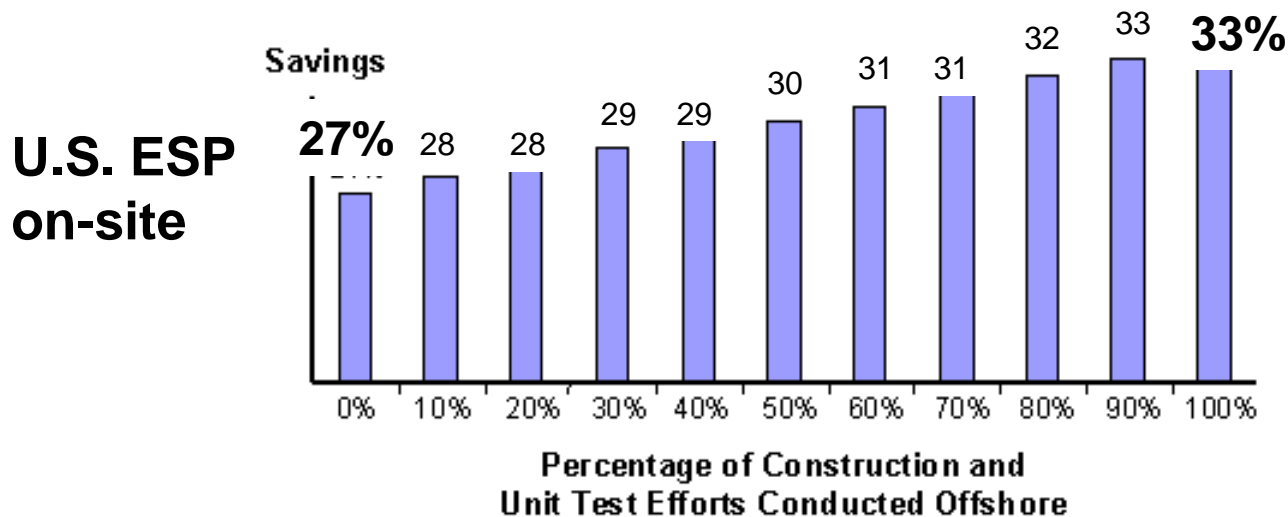
Project part fully executed off-site by an
U.S. ESP off-site

Savings

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Percentage of Construction and Unit Test Efforts Conducted Offshore

Example: Typical Split in IT Offshoring Projects

Split in Phase	By Bank		Project Phase	By Provider	
2%	90%		Setup	10%	0%
8%	90%		Initialization	10%	0%
15%	70%		System Design	20%	10%
15%	15%		Detailed Design	20%	65%
30%	10%		Build	10%	80%
12%	10%		Assembly Test	10%	80%
8%	30%		Integr. Test	30%	40%
5%	70%		Accept. Test	15%	5%
5%	80%		Deployment	15%	5%
40%	30%		Enhancements	10%	60%
10%	20%		Technical Upgrades	10%	70%
10%	20%		Performance Tuning	10%	70%
40%	30%		Fix on Fail	10%	60%

Development (Setup through Deployment)
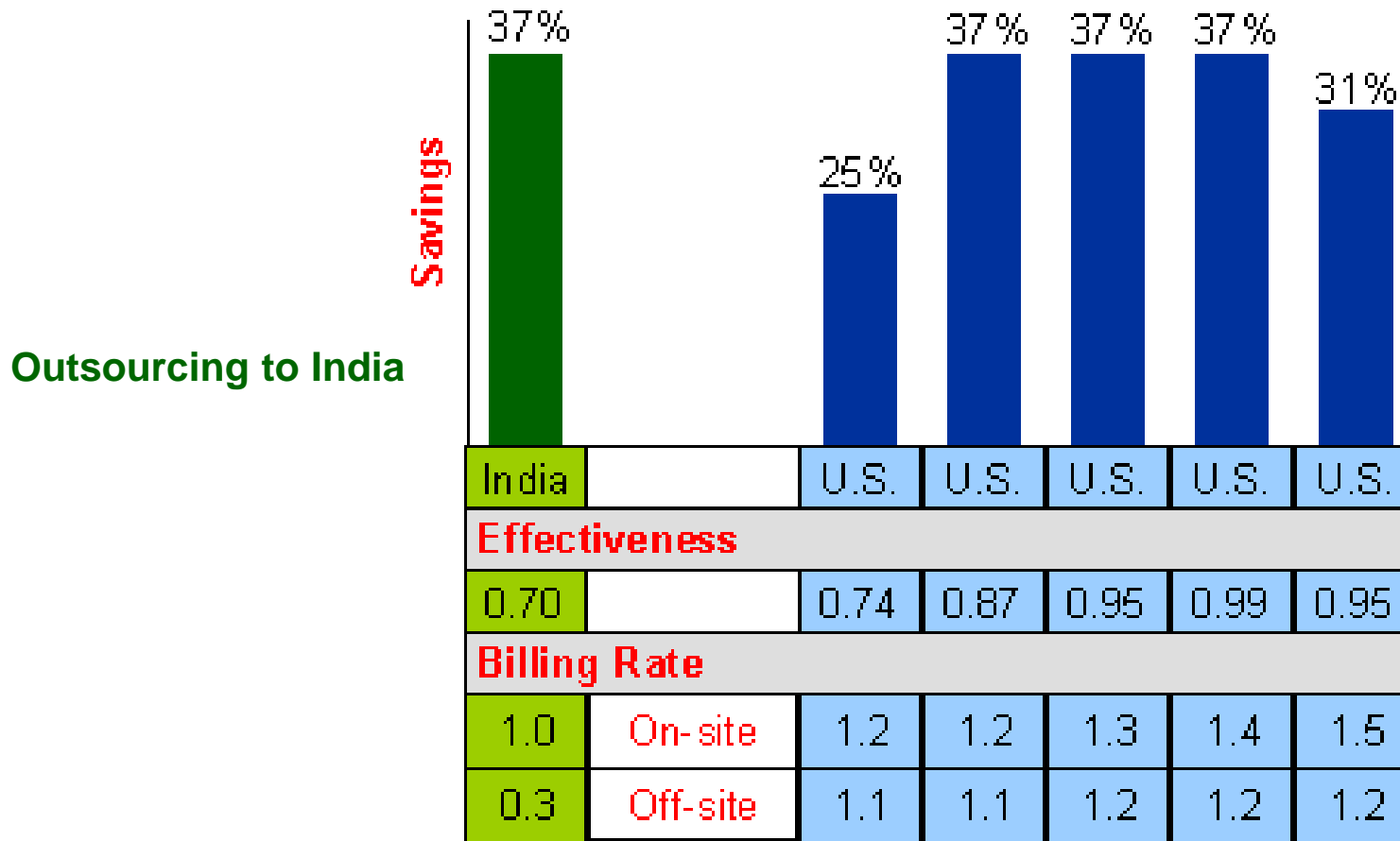*Maintenance* (Enhancements through Fix on Fail)

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

Outsourcing to India

India		U.S.	U.S.	U.S.	U.S.	U.S.
Effectiveness						
0.70		0.74	0.87	0.95	0.99	0.95
Billing Rate						
1.0	On-site	1.2	1.2	1.3	1.4	1.5
0.3	Off-site	1.1	1.1	1.2	1.2	1.2

Savings: 37% (India), 25%, 37%, 37%, 37%, 31%

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