

Case Study on Software Project Risk Management

Our Experience of RM in

- Software Projects
- IT Organizations

Presented By :
Abhijit Majumdar
Optimizory Technologies Pvt. Ltd.

Agenda

- Real Stories from Indian IT Industries
- Present Scenario
- Context for Risk Management
- Problem Domain
- Solution Domain
- Approach to Risk Management
- RMP Offering by Optimizory
- About Optimizory

Real Stories from Indian IT Industries

Story 1

- A small company and 1 product.
- Dependent on 1 major customer.
- Subcontracted to India in T&M mode.
- Constantly pursuing functional enhancement.
- Repeated requests for performance consideration ignored.
- End user rejects the product due to performance.
- Liability put onto offshore vendor. Impact
 - Lost customer.
 - Order of 1 Mn US\$ legal suit.
 - Multiples of 100,000 US\$ in legal costs.

Story 2

- Young startup subcontracts engineering to India.
- Poorly specified product.
- VC funds dry up as they fail to meet sales targets.
- Blame on Indian company claiming refund of all payments.
- Likely Impact
 - Loss of reputation
 - Financial liability of more than 500,000 US\$.

Story 3

- A utilities company.
- Subcontracts simulator development.
- 5 years and 150 Man Years later; subcontractor delivers a perfect (functionally) tested solution.
- However !
 - The output expected in 30 secs takes 30 minutes.
 - System not designed for multiprocessor. Project is scrapped.
- Impact
 - Lost 150 MY of effort.
 - Loss of credibility and customer.
 - Customer's plans significantly affected.

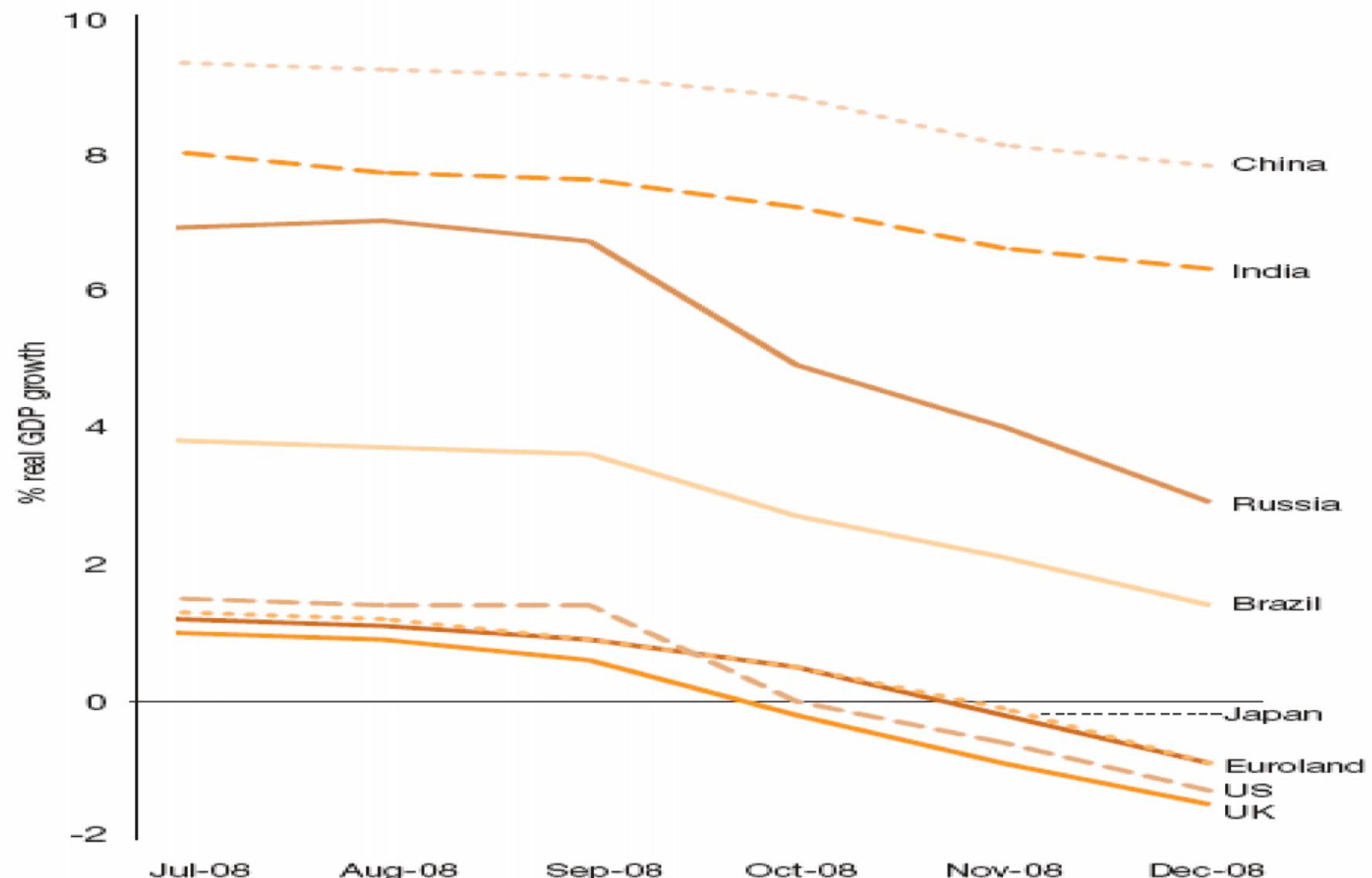
Story 4

- A perfect relationship with all praises from the best customer.
- One day the customer closes the relationship.
- Reason
 - Delivery below expectation.
 - Today we decided to speak up.
 - RCA reveals poor project management and politics inside team.
- Impact
 - Lost a major account with highly predictable revenue.

Present Scenario

1.1.1

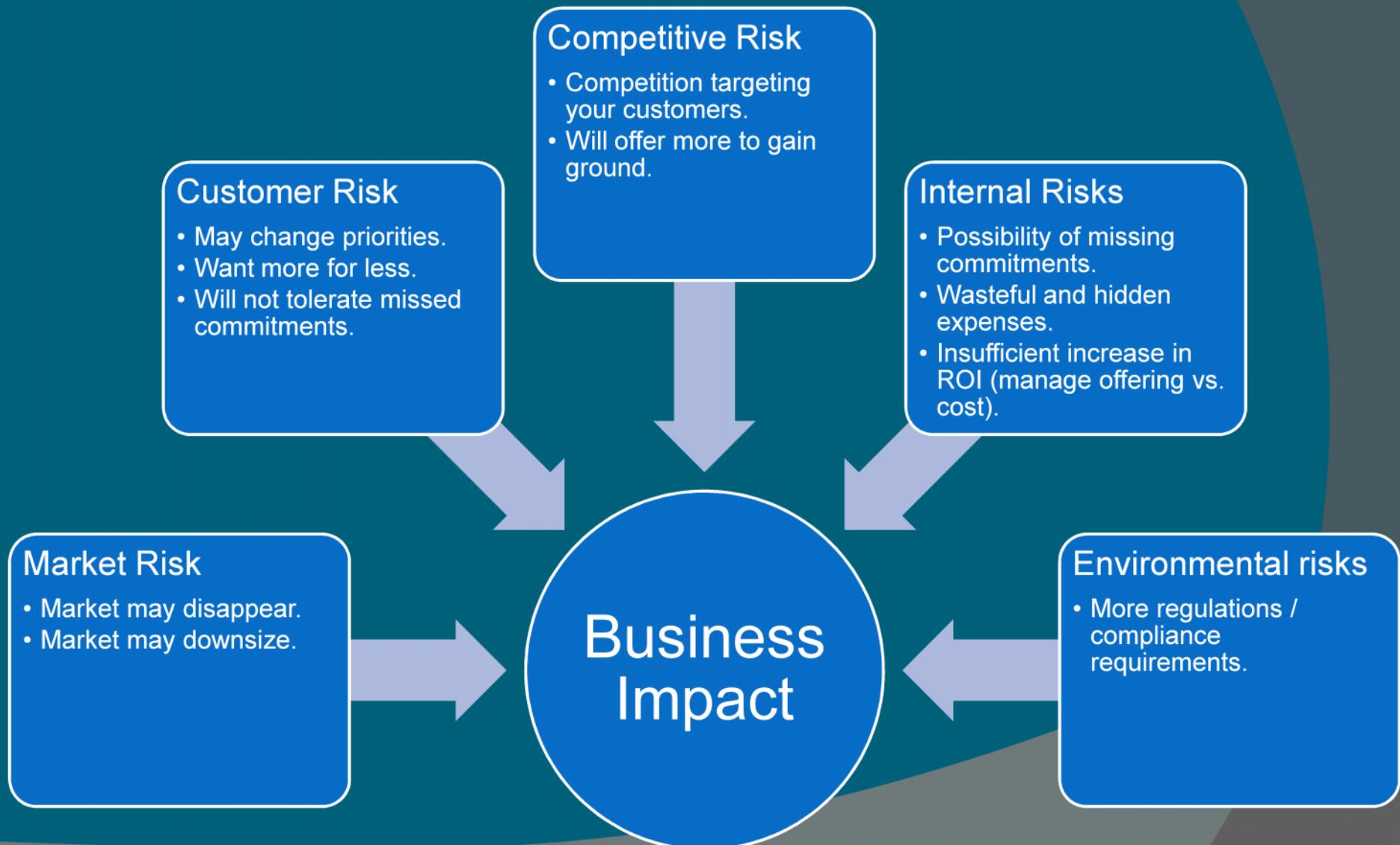
World economies decelerate together



Source: Average forecasts from Consensus Economics surveys in months shown

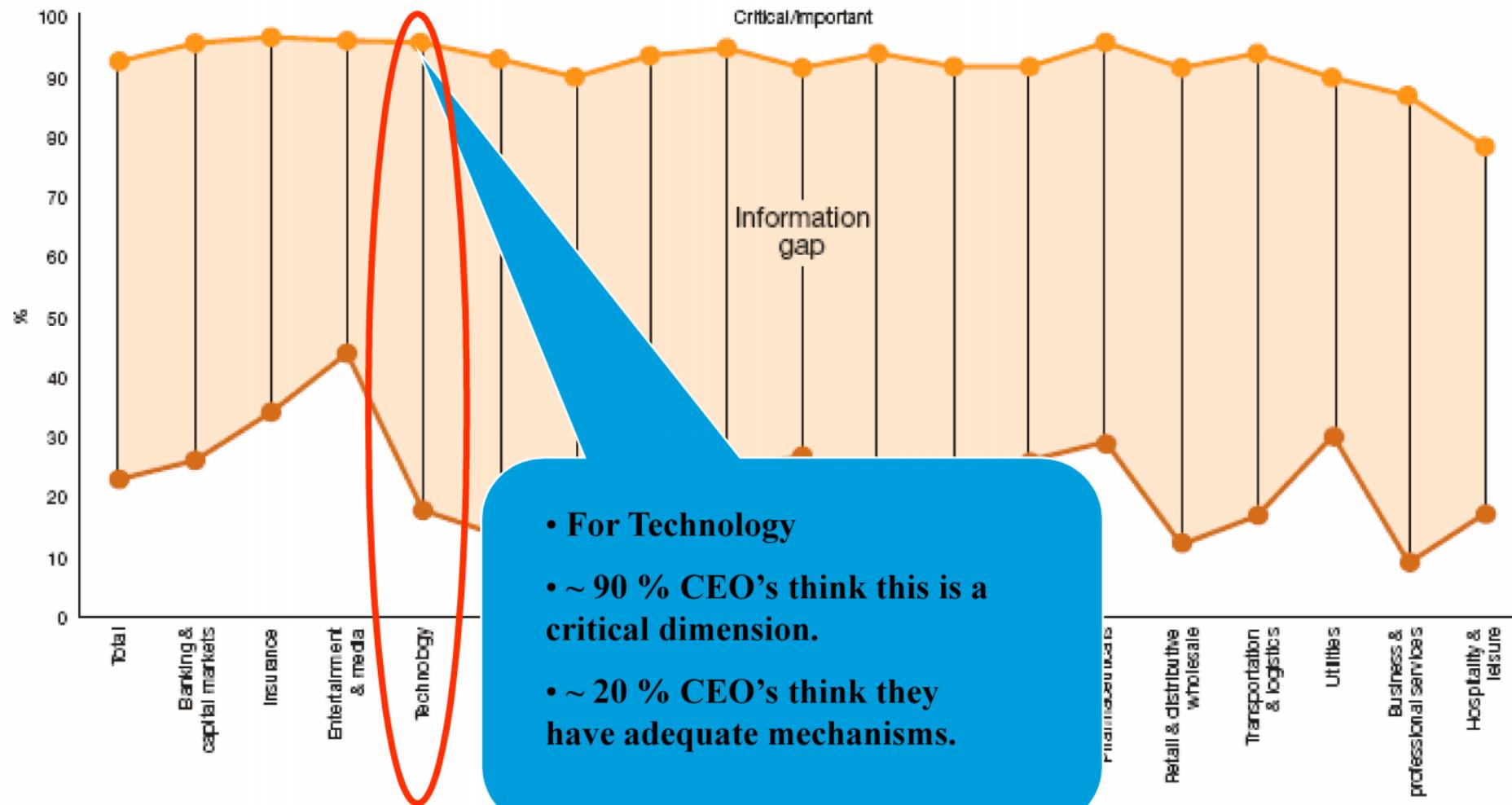
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What it means for businesses...



3.2.3.1

All industries have a wide gap in risk information



Q: How Important are the following in terms of the Information that you personally use to make decisions about the long-term success and durability of your business?

Information about the risks to which the business is exposed.

Base: All respondents by Industry 25-130

Q: How adequate Is the Information that you currently receive?

Base: All respondents where Information is important or critical by Industry 23-119

Source: PricewaterhouseCoopers 12th Annual Global CEO Survey 2009

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2.2.1

Businesses change in response to climate change and expect a return in 12 months



Q: When, if at all, do you anticipate making changes to the following areas of your business to respond to the challenges posed by climate change?
Base: 1,124

Never Beyond 5 years Next 5 years Next 12 months Already making

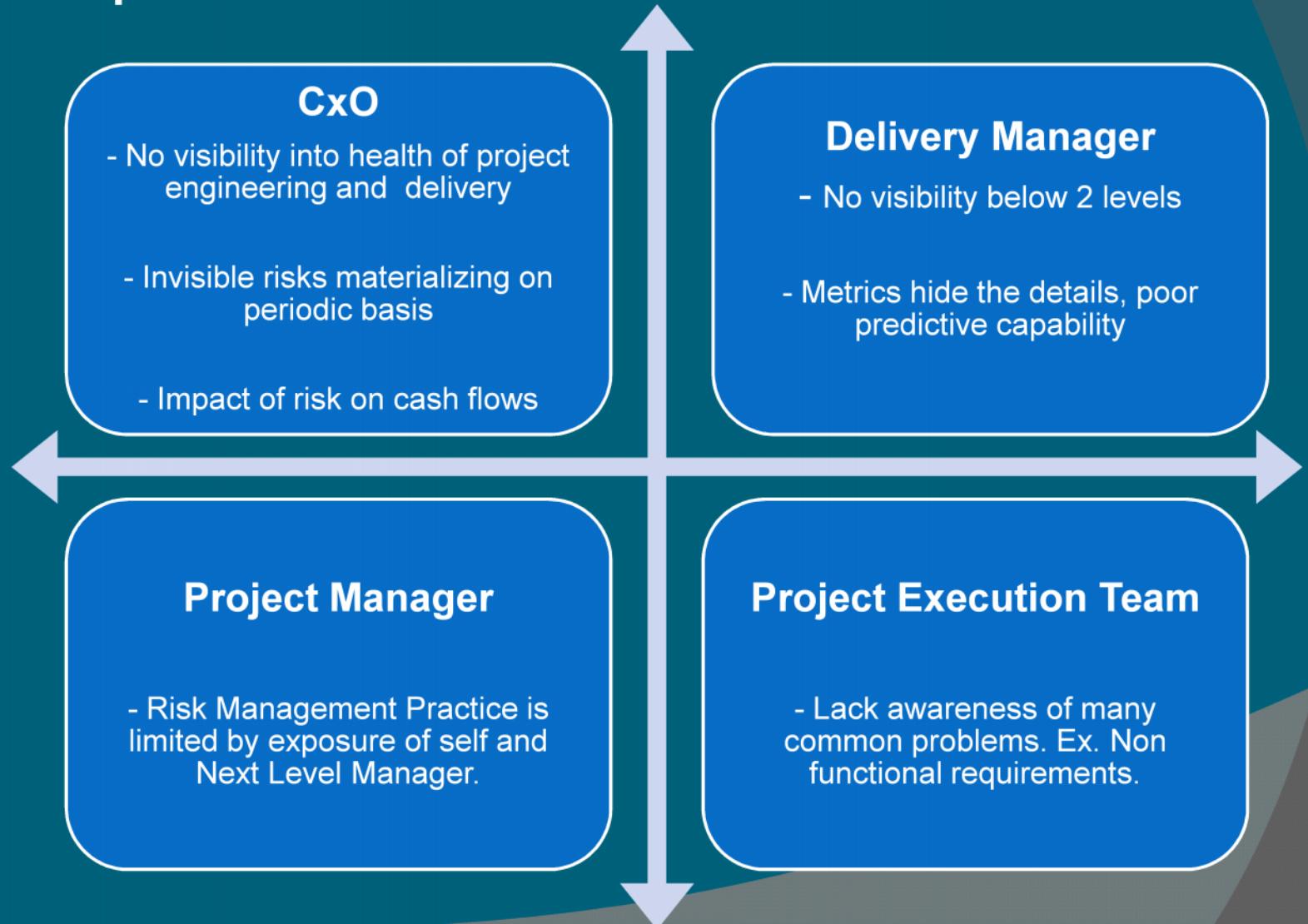
Q: When do you anticipate a return on investment in these areas?
Base: 499-669

Never Beyond 5 years Next 5 years Next 12 months Already making

Context for Risk Management

- How Risk Management is different from other processes ?
 - The flutter of butterfly wings in US can create a tornado in Calcutta [The Black Swan – Nasseem Taleb]
 - Seemingly insignificant things become burning issues.
 - Unpredictability is at the core of this process.
- So what is the solution ?
 - Only way to bring predictability in risk is to continuously scan extensive and continuously expanding Knowledge Base.
 - Keep your eyes and ears open OR let a system be your eyes and ears !
 - Act in time before the minor issues start gaining momentum.

Problem Domain for Software Companies



Problem Domain for Software Companies

- Common occurrence & overlooked reasons
 - Customers exploiting holes in contract
 - Lack of personal capability / experience
 - Unstable / incomplete requirements
 - Unspecified acceptance criteria
 - Poor architecture
 - Non functional attributes not addressed
 - Inadequate reviews in early stages of project
 - Inadequate testing
 - Poor team and project management
 - Communication and reporting issues
- Discovery and tracking can make a lot of difference to profitability.
- With these problems, many projects end with litigation / early project closure.

Areas of risk origin

- Inadequate drafting of contract.
- Poor / Incomplete specifications.
- Missing acceptance criteria.
- Non functional aspects
 - Usability
 - Performance
 - Scalability
 - Fault tolerance
- Customer communication
- Project Management
- These are apart from the Global Financial Meltdown we saw recently.

Approach towards Risk Management

- Senior management to define intent and objectives of risk management
- Choose a framework for Risk Management, say ISO 31000
- Identify scope and exclusive responsibility within the organization
- Allocate resources
- Implement

RMP Offerings by Optimizory

Assessment	Identification and Analysis	Management and Tracking	Reporting
<ul style="list-style-type: none">• Based on rich knowledge base• Question template customization support (based on organization standard)• Participation by all stake holders (customer, PM, Sr. Mgmt, risk analyst, team members)• Multiple assessments throughout life cycle of project• Comprehensive and limited assessments	<ul style="list-style-type: none">• Risk identification based on assessment results and customer feedback• Risk impact and trend analysis• Financial risk impact and trend analysis• Re-validation of financial impact of risk• Visibility in to project's health at minute level	<ul style="list-style-type: none">• Tracking of risks and action items• Risk register creation and monitoring• End to end tracking of all attributes related to risk and their impact on project/Business	<ul style="list-style-type: none">• Real time reporting of organizational risks• Consolidation of risk related to projects under a division/Business unit/organization• Financial impact of risk in projects on organization revenue• Risk trend visualization at various levels

About Optimizory

- We are a first generation enterprise started by technopreneurs, who believe that present business/processes needs significant optimization.

Our Vision

“Innovate for exponential impact on
business performance”

Key Concepts in Project Risk Management



Identify Risks

- Collaborative Approach
- Knowledge Base Driven
- Informed Opinion
- Categorical Assessment
 - Product Engineering
 - Development Environment
 - Program Constraints

Categorical Assessment

- Product Engineering
 - Requirements
 - Stability
 - Completeness
 - Clarity
 - Validity
 - Feasibility
 - Precedence – Prior Experience
 - Scale
 - Design
 - Coding and Unit Testing
 - Integration and System Testing
 - Engineering Specialties
- Development Environment
- Program Constraints

Risk Prioritization

○ Team Risk Assessment

- Team Consensus
- Clarity
- Insights and Visibility
- Removal of Misconceptions

○ Research Sources of Risk

- Similarities between Risks
- Allocate Risks to Risk Sources
- Define Inter-relationships

Risk Analysis

- Qualitative Effects
- Quantitative Effects
- Event Trees
- Statistical Analysis

Action Plan – Plan Risk Responses

○ Negative Risks or Threats

- Avoid
- Transfer
- Mitigate
- Accept

○ Positive Risks or Opportunities

- Exploit
- Share
- Enhance
- Accept

Control and Track

- Risk Reassessment
- Risk Audits
- Variance and Trend Analysis
- Technical Performance Measurement
- Reserve Analysis
- Status Meetings

Brief Demonstration of :



Software Risk Management Platform

Questions and Discussions

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Thank you...