



# Risk Management: Value Added?

## *Developmental Stages in Risk Management (ontogeny recapitulates phylogeny)*

- *All we have to do is get the numbers right*
- *All we have to do is tell them the numbers*
- *All we have to do is explain what we mean by the numbers*
- *All we have to do is show them they have accepted similar risks in the past*
- *All we have to do is show them that it's a good deal for them*
- *All we have to do is treat them nice*
- *All we have to do is make them partners*
- *All of the above*

(Fischhoff, 1995)



# What Is Risk Management?

- **Risk Management** is the art or practice of controlling risk. This process includes planning, identifying, assessing, handling, monitoring and communicating about risks in a continuous process.
- **Continuous Risk Management**—Continuous Risk Management is an engineering practice with **processes, methods, and tools** for managing risks in a **program**. It provides a disciplined environment for proactive decision-making to:
  - **Assess continuously what could go wrong (risks).**
  - **Determine which risks are important to deal with.**
  - **Implement strategies to deal with those risks.**

**“Successful program managers are good risk managers.” Barry Boehm, 1989**



# The Objective of Risk Management

**Increase your ability to successfully accomplish an activity within the:**

- **Cost estimated or provided**
- **Time estimated or provided**
- **Performance parameters specified**
- **With maximum safety, reliability, etc.**

**“Predictions are hard, especially about the future.” Yogi Berra**



# Does Risk Mgt Have Any Value?

## DEMAND:

Management wants to see *Hard Numbers* proving that a risk management process is a good investment.

## REALITY:

There aren't any hard numbers.

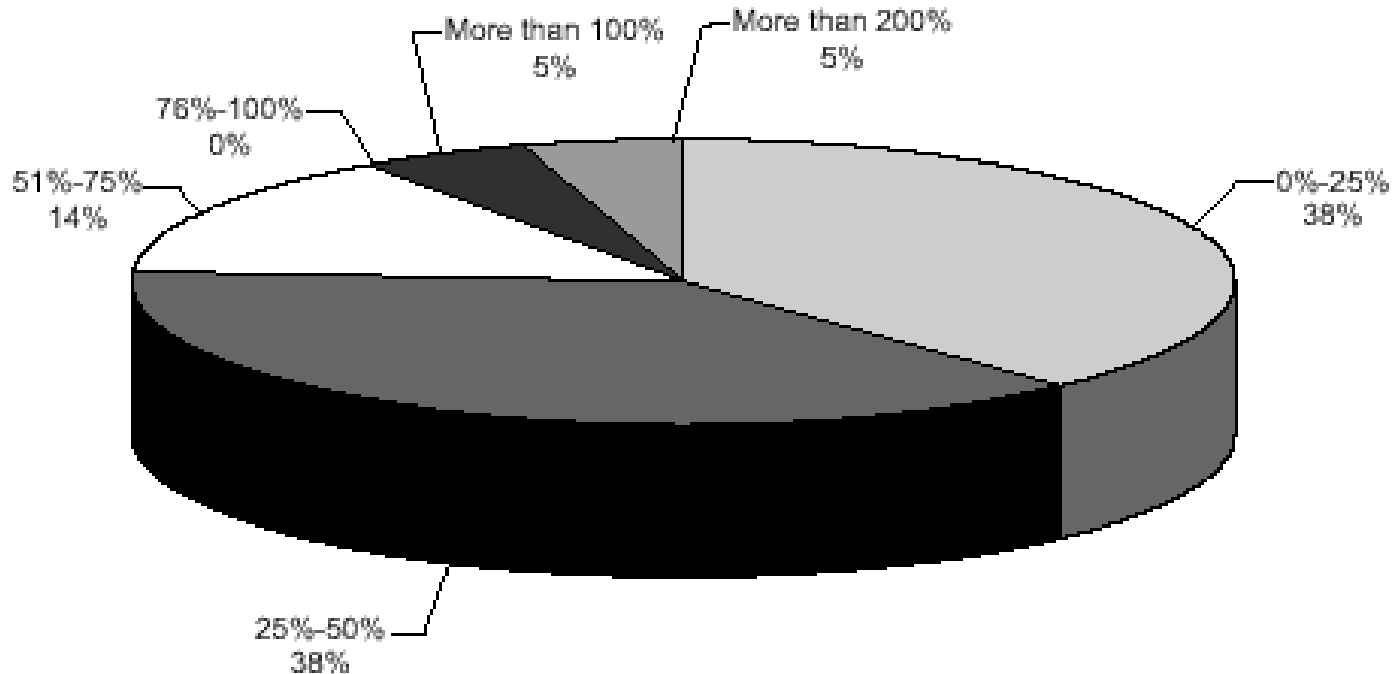
There aren't going to be any hard numbers.

You wouldn't be able to apply them if you had them.

No one would believe you if you did.

## So Now What?

# There Aren't Any Real Numbers



**The problem is, how do you go about proving a negative? In other words, how do you prove that by taking action  $x$ , some event  $y$  won't happen? Might that event not happen all by itself, without any intervention? In that case, aren't the resources spent on trying to mitigate the event's likelihood, consequences, or both being wasted?**



# Current ROI Measures

- **Without repeatable ROI data, testimonials are only way to judge perceived benefits.**
- **Reliance on testimonials is built on trust and perception.**
- **Trust erodes over time unless perceptions are validated by real, repeatable data.**
- **Very few (if any) organizations are collecting useful risk management data.**

# Don't Expect Any Real Numbers

- **What needs to be collected (Note the each organization probably considers this to be Proprietary Data):**
  - **Productivity of each area**
  - **Design Cycle Time**
  - **Real development costs**
  - **Defect/Error/Mistake rates**
  - **Process improvement investment**
  - **Etc.**
- **Fidelity of estimates is usually Very low.**
  - **Cost of Risk Management activities per year**
  - **Risks avoided, Problems avoided, Better designs, Other**
- **What is Risk Management anyway?**



# Definition of Risk Mgt ROI

## Cost of Risk Mgt:

- **Number of hours required to develop the organizational/project risk management process.**
- **Number of hours required to maintain and accomplish risk management process improvement.**
- **Cost of risk management tools (software, hours required to develop checklists, etc.)**
- **Number of hours required to perform risk management procedures for each project.**
- *Cost of accomplishing risk mitigation actions for each project.*





# If You Had Real Numbers, Could You Use Them?

**"Projects performing risk management could hit their cost and schedule targets much better than those projects that did not. A 17% difference in the cost performance index and around 15% in the schedule performance index existed between projects that diligently practiced risk management and those that did not. The results convinced senior management to throw their wholehearted support behind the practice of risk management in the company."**

- **What Do The Numbers Mean?**
  - **Waste in current process?**
  - **Dependence on “smart people”?**
  - **What is “productivity”?**
  - **Time-to-market return?**
  - **Procurement rules?**



# Nobody Would Believe The Numbers Anyway

- **No guarantees:**
  - **Process Improvement, done incorrectly, could produce a negative ROI.**
- **People believe what they want to believe.**
- **Existing papers and articles aren't “convincing enough”, those facts don't fit “Our Organization”.**



# How Do You Make A Risk Mgt Process Case?

- **Objective should not be to defend the ROI numbers, but to obtain support for risk management process improvement.**
- **Use the ROI numbers as supporting information.**
- **Avoid using ROI numbers as the central point of your argument.**



# Making the Risk Management Process Case

**When no hard numbers exist, use following:**

- **Establish goals and measures**
- **Show ROI as goals are met**
- **Use anecdotal evidence from organizational history, outside papers and articles**
- **Use Peer Pressure - Competitor is Level 3/4**
- **Value of Risk Management - Bottom line:**

**This Makes Dollars and Sense.**



# Making the Risk Management Process Case

- **Identify current implementations of Risk Management not thought of as RM activities**
  - **Trade studies, design trade-offs, CMMI implementation**
- **‘Risk Management’ may be a buzz word**
  - **If so, use another term**
- **Show how RM fits into Program Management**
  - **Equate to financial management, configuration management – **only proactive management process****
- **Things aren’t getting done**
  - **Show that a large amount of testing and rework effort has historically been required**



# Provide Believable Reasons for Investment

- **External reasons**  
**Customer complains, no recurring contracts received.**
- **Resource problems**  
**Can't hire people fast enough, can't find people with the proper training, technology is not where we thought it was.**
- **Disconnects within Elements or at the Interfaces**  
**“This change request is full of errors, yet everyone signed off on it! How can that be?”**
- **Historical Problems**  
**Wish we had found these problems before test. But who has time?**



# Getting Started

- **What's it worth to solve problems before they occur?**
- **Phrase risks/potential problems as costs**
  - **“Two weeks of testing adds \$50K.”**
- **Solve the right problem**
  - **Keep problem from happening again**
  - **Proactive risk management avoids future problems**
- **Get help!**
  - **Don't waste time and resources struggling**
- **Start small**
- **Learn from your successes and failures**