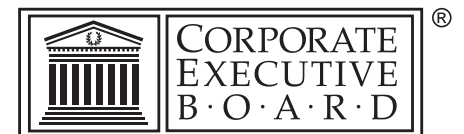


# RISK INTELLIGENCE

*Learning to Manage What We Don't Know*

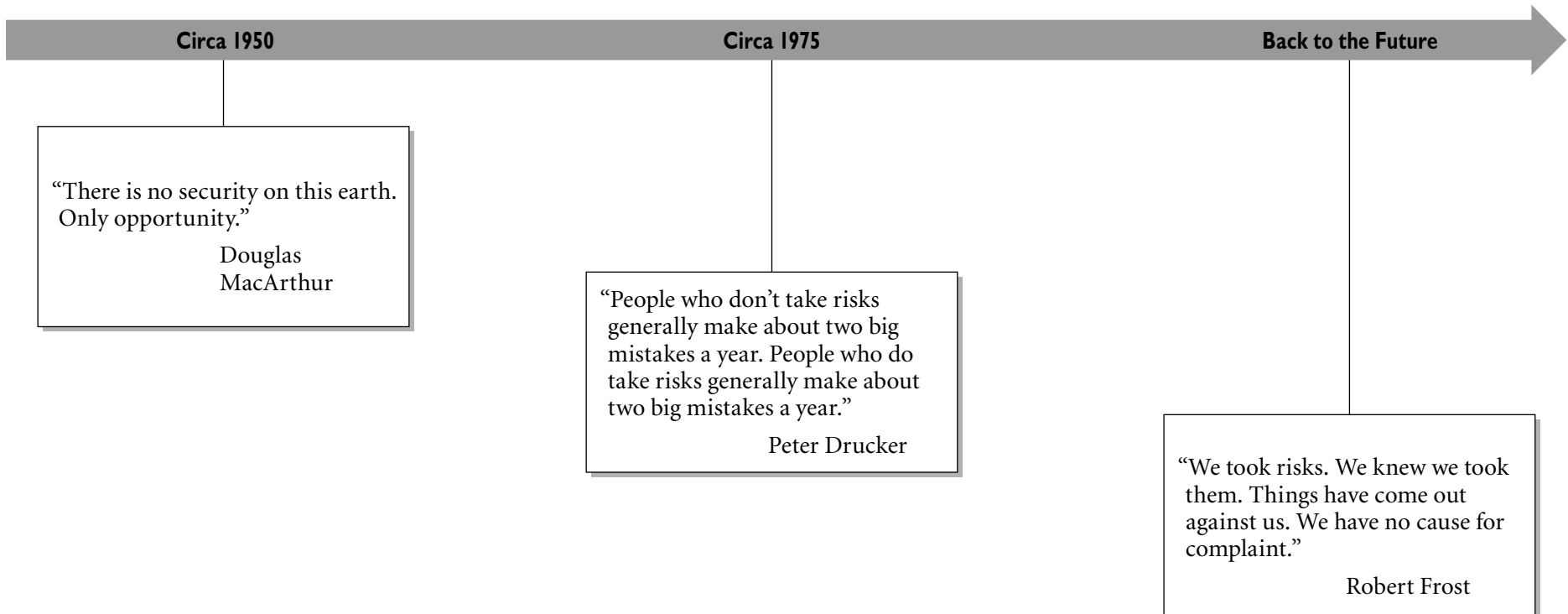


# THREE AGES OF RISK

***From seeing risks as generally matching rewards...***

***...and risk avoidance as little safer than risk taking...***

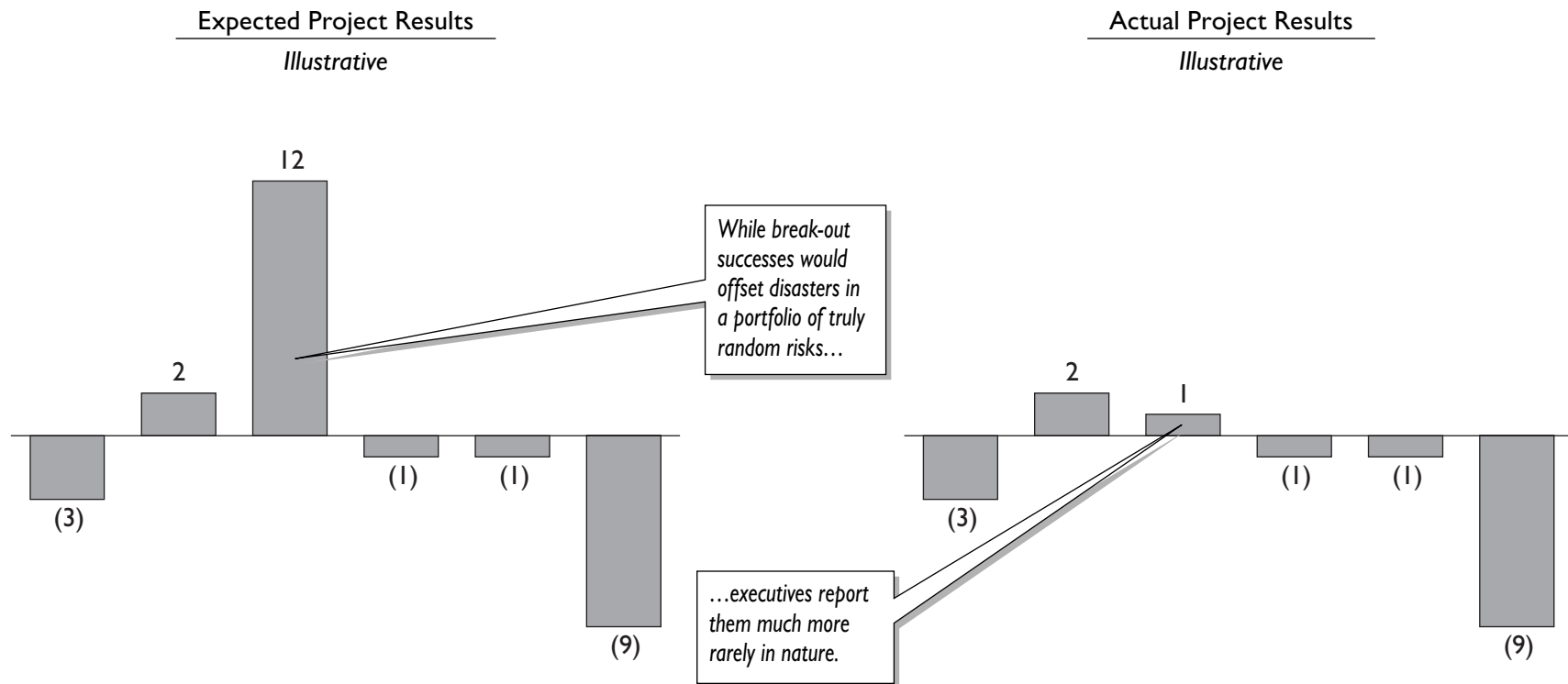
***...business has returned to the darker pre-war view that what can go wrong will do so***



# NOT BREAKING EVEN

**And it's no surprise, considering what we expect from well-diversified portfolios of projects...**

**...versus what we so often get**



# BUSINESS RISKS LEARNABLE NOT RANDOM

*The trouble is that most business risks are not random but learnable...*

*...so we may well extract below-expected returns on projects with learnable risks we have no advantage in assessing*

## Types of Business Risks

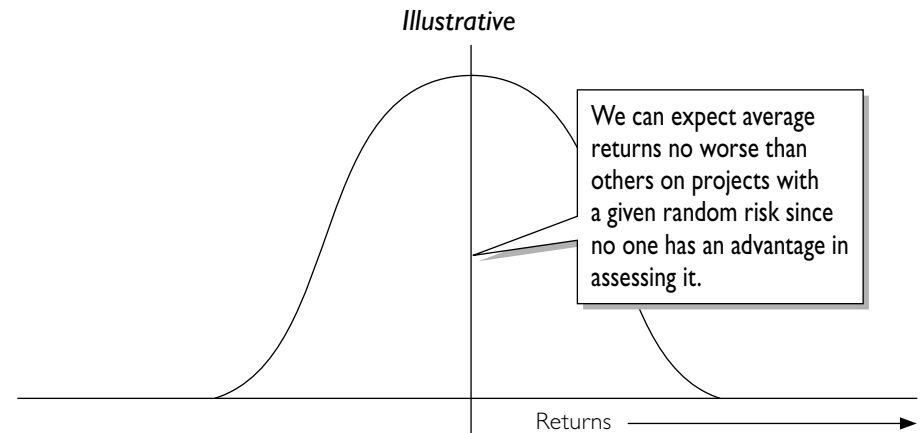
### Production, or supply-side, risks

- Operating risks such as:
  - Control and compliance failures
  - Partner coordination failure
- Supply chain risks such as:
  - Supplier failure or political rupture
  - Key cost volatility
- Technology risks such as:
  - Infrastructure breakdown
  - Information security breaches
- Workforce risks such as:
  - Capacity loss or disruption
  - Key staff loss or defection
- Asset risks such as:
  - Fraud or theft
  - Counterparty credit losses

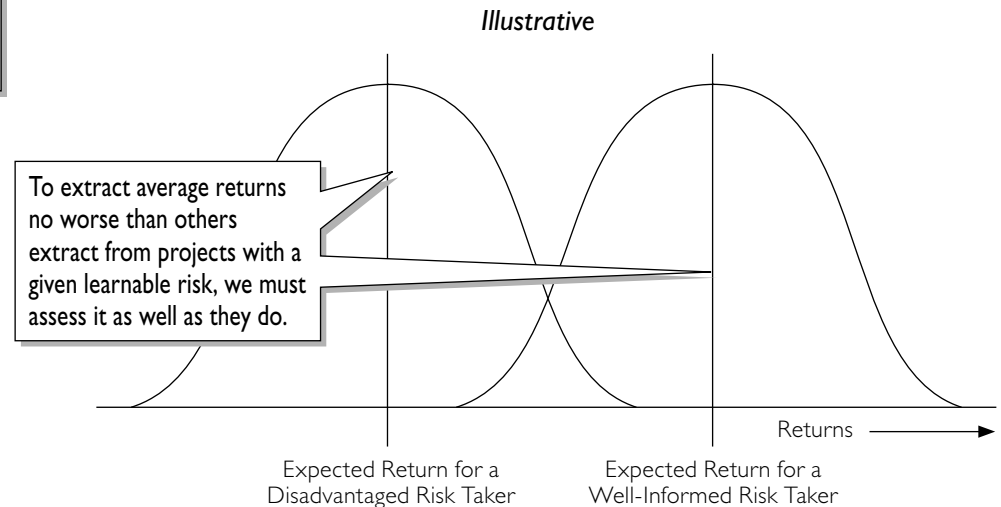
### Marketing, or demand-side, risks

- Security or political risk such as:
  - Market-disrupting events
  - Geopolitical volatility
- End-market or customer risks such as:
  - Brand or reputation erosion
  - Customer consolidation
- Competitive risks such as:
  - Disruptive technologies
  - New entrants to the market
- Regulatory and legal risks such as:
  - Legislation and litigation
  - Official corruption
- Financial or economic risks such as:
  - Financial market volatility
  - Recession

## Return Probabilities from a Project with Random Risks



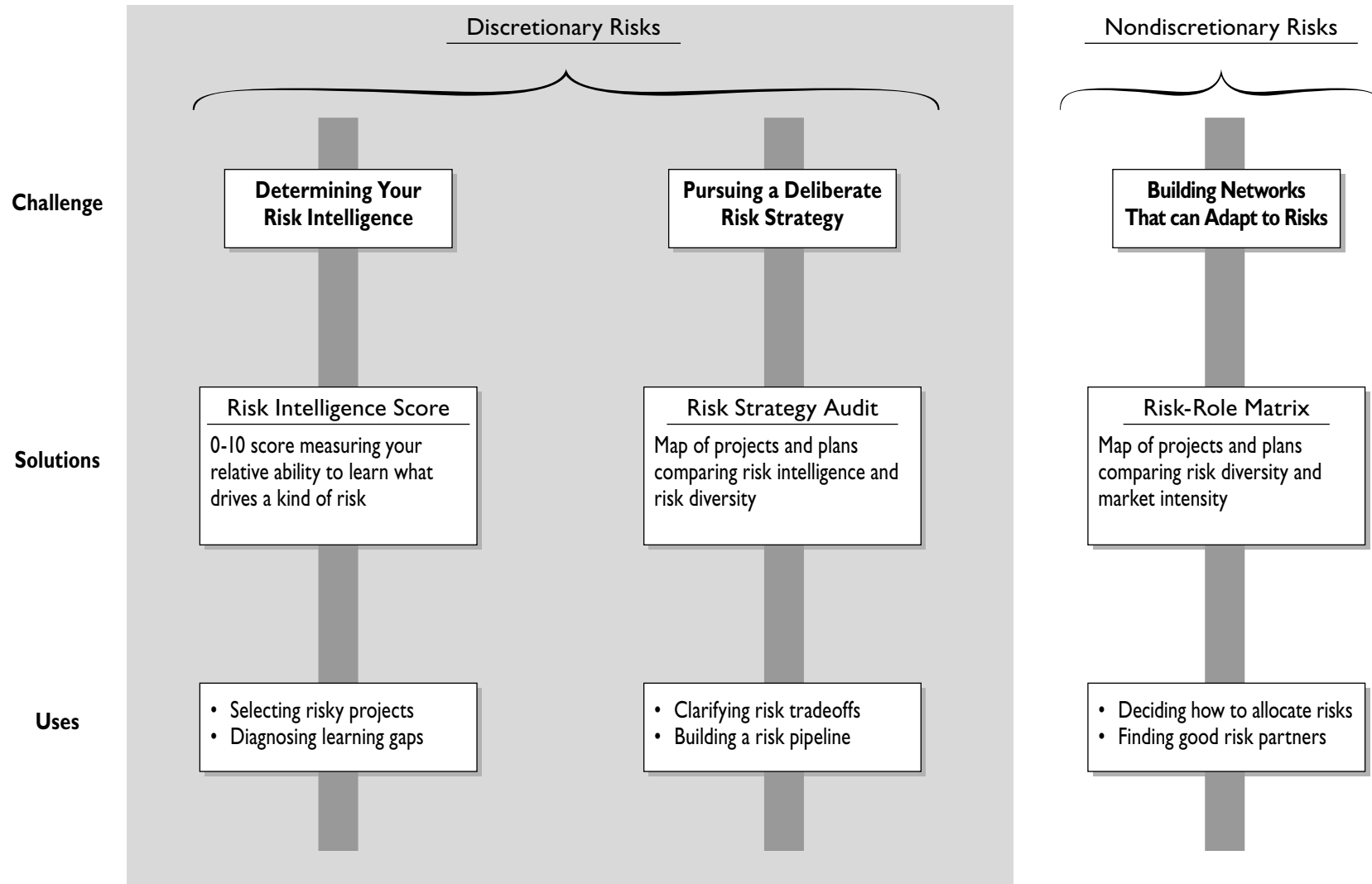
## Return Probabilities from a Project with Learnable Risks



- Learnable risks reflect lack of knowledge not unpredictability
- Only business risks based on market prices are completely unpredictable

# LEARNING TO MANAGE THE UNKNOWN

**How should the kind of risks underlying a project affect our decision to pursue it, avoid it, or manage it with partners?**



Source: Apgar, David, *Risk Intelligence*, Harvard Business School Press, 2006.

# SCORING YOUR RISK INTELLIGENCE

*You can score your relative ability to learn about what drives a risk*

## Risk Intelligence Score

<b>For each project, put 0 if less than competitors, 1 if same, and 2 if more</b>	
• How often do you acquire information related to the main project risk?	1
• How surprising does the information tend to be?	0
• How relevant is the information to the possible causes of the risk?	2
• How diverse are your sources of information?	0
• How easy is it for others to use this information?	1
<b>Total</b>	<b>4</b>

## Relevance Versus Surprise

Key elements of relevance and surprise capture value of any piece of information for avoiding mistakes about what's really driving a risk.

## Definitions and Examples

**Surprise = Improbability or memorableness of typical experience**

- **High:** Toyota's just-in-time system confronts production line with constant surprises
- **Low:** AT&T's lack of a galvanizing recent technology success in the 1990s kept it out of Internet businesses it might have managed well

**Relevance = Dependence of surprise on truth or falsity of risk assumptions**

- **High:** Pfizer's experience with Lipitor highly relevant to good cholesterol booster torcetrapib
- **Low:** Low relevance of AT&T's long-lines experience to risky prospects for new portability market delayed McCaw acquisition too long

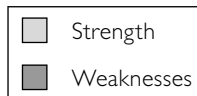
# THREE TYPES OF RISK INTELLIGENCE

**Knowing the risk intelligence patterns of staff and colleagues...**

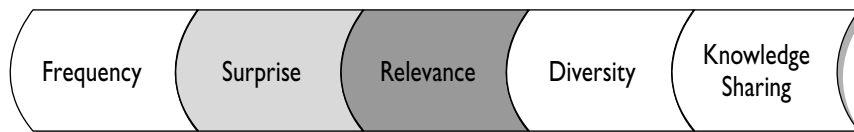
**...lets you put together better balanced and higher performing teams**

Risk Intelligence Patterns

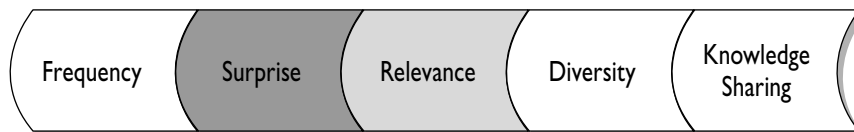
Three Characteristic Gaps



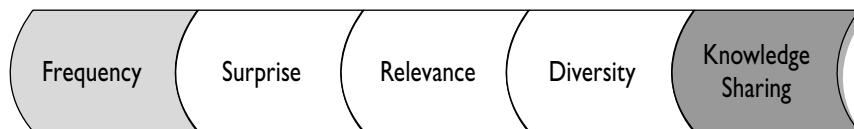
## Impressionist



## Encyclopedist



## Amnesiac



- Impressionists are decisive, drawing on formative experiences, but apply them where they're not relevant.

- Encyclopedists have widely relevant knowledge but it tends not to be "hard won" from experience and provides a weak basis for decision.

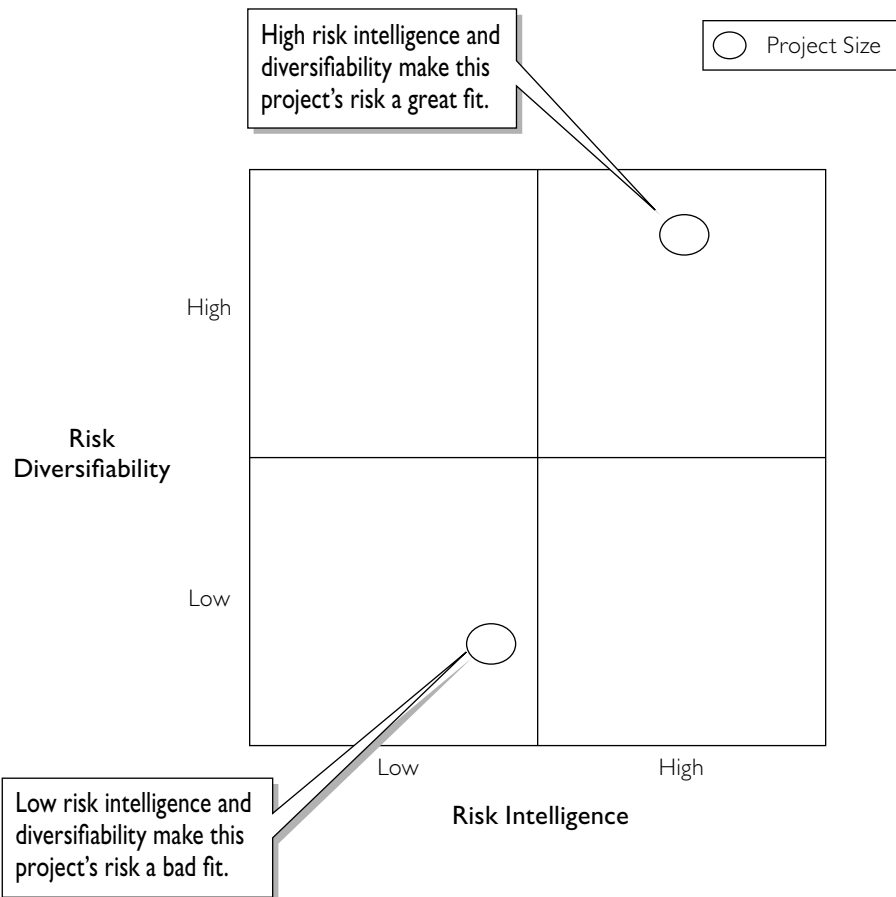
- Amnesiacs have lots of memorable, widely relevant experiences but tend to have trouble prioritizing and communicating them.

- Teams of all three are formidable.

# MAKING YOUR RISK STRATEGY VISIBLE

**You can chart your projects on a risk strategy matrix to see what learning challenges their risks pose for your organization**

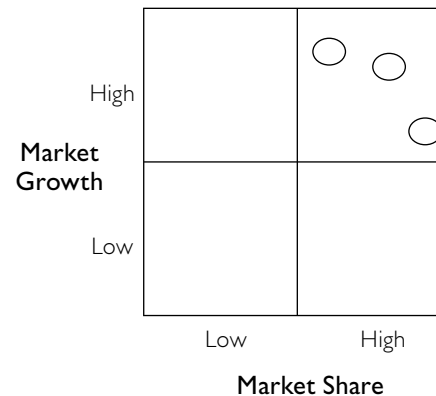
Risk Strategy Matrix



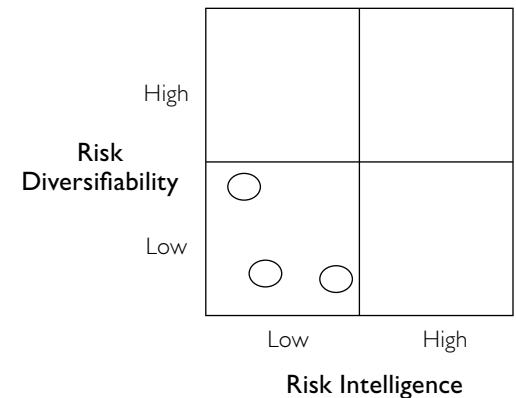
- Major risks of each activity, project or division represented by circles
- Your risk intelligence for each risk captured along horizontal
- Diversifiability of each risk or its lack of correlation with the firm's other risks captured along vertical
- So risks that you assess well and that your other risks diversify appear in upper right
- Complements BCG "growth-share matrix"

XYZ Ventures Partnership Circa 2000

**Nice growth...**



**...pity about the risk**

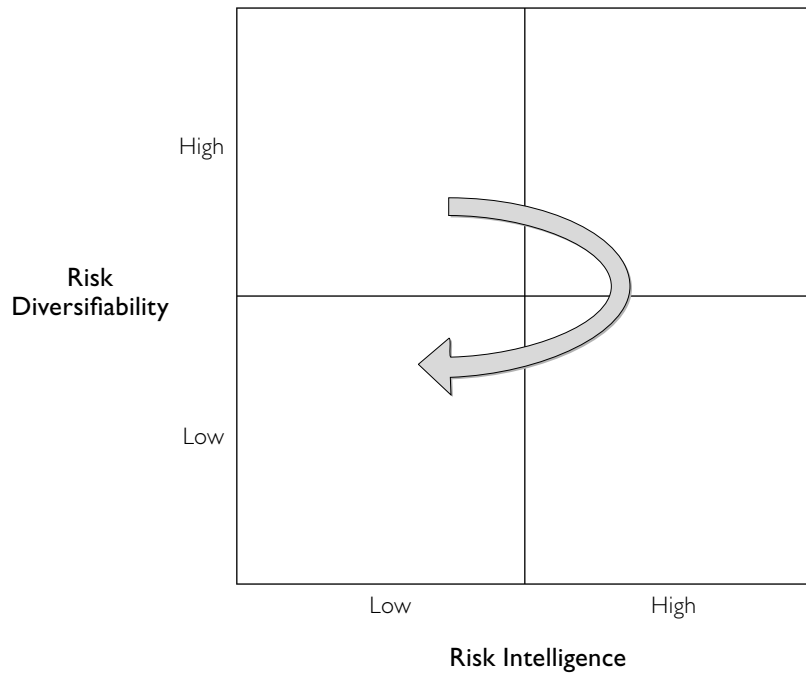


Source: Apgar, David, *Risk Intelligence*, Harvard Business School Press, 2006.

# BUILDING A RISK PIPELINE

## Risk strategy matrices illustrate risk pipelines...

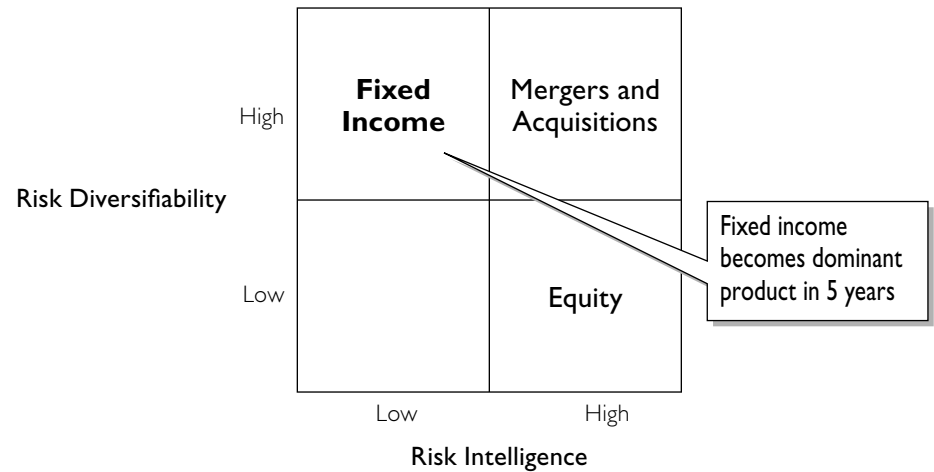
- Experiments with new, unfamiliar risks start in the upper left
- The ones on which we focus move right



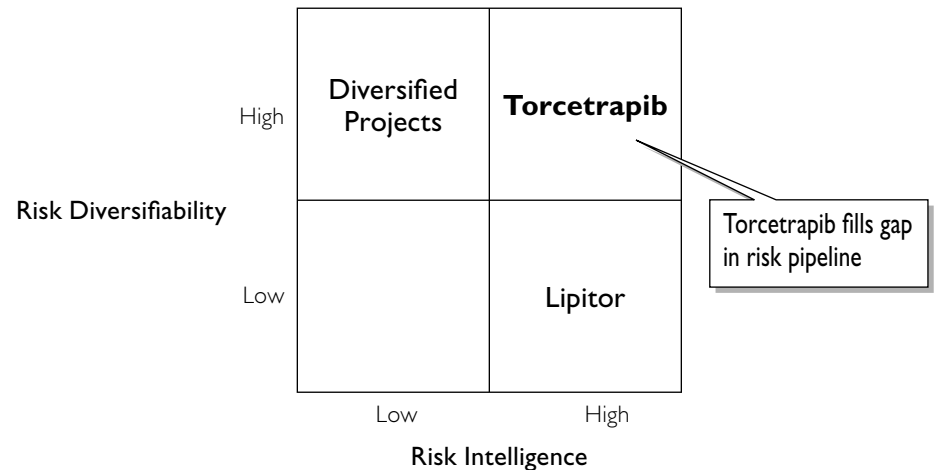
- The ones that succeed move down as their risks become harder for us to diversify
- Those we harvest under cheaply financed attacks from challengers move left

## ...that reveal learning gaps and bottlenecks in the firm's plans

Lehman Brothers Circa 1990



Pfizer Circa 2004



Source: Apgar, David, *Risk Intelligence*, Harvard Business School Press, 2006.

# RISK INTELLIGENCE AT AT&T

**Different information disadvantages delayed AT&T's entry into wireless, discouraged it from promising Internet opportunities, and hurt its ability to penetrate cable...**

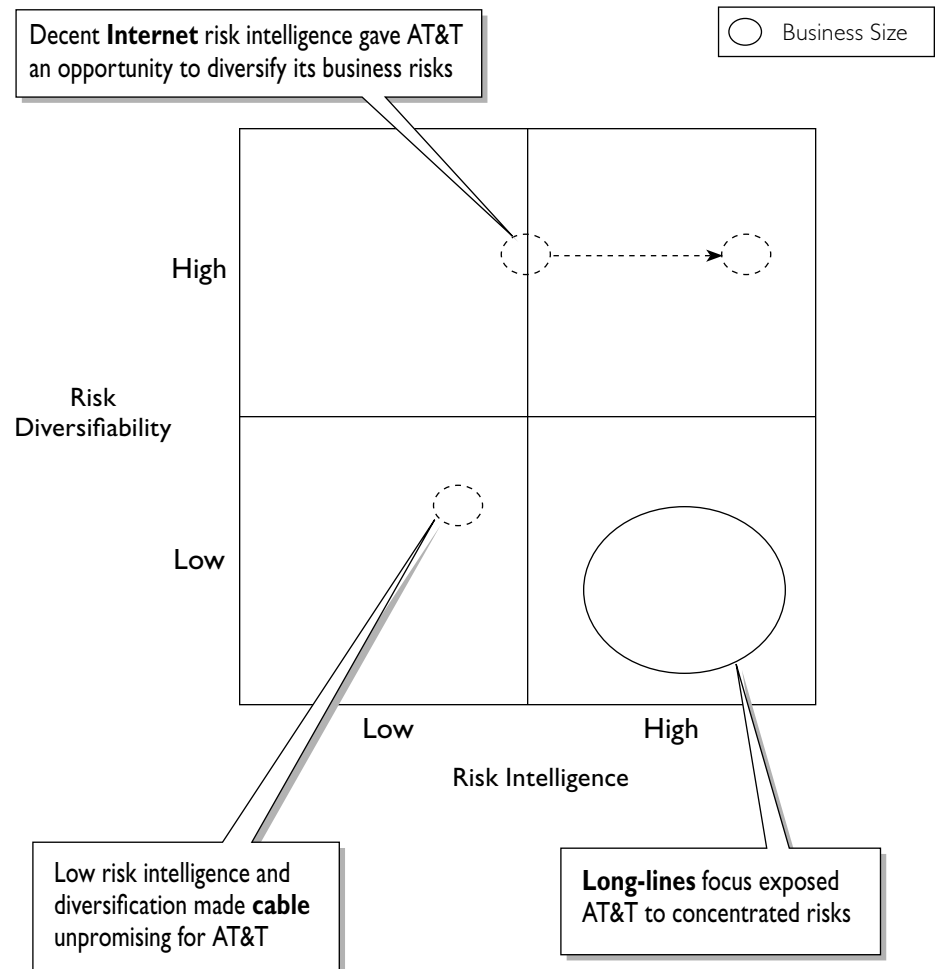
**...to leave the firm highly exposed to the risks of the long-lines business**

Estimated AT&T Risk Intelligence Scores

	Wireless (1984)	Internet (1995)	Cable (1999)
Frequency	1	2	0
Surprise	1	0	2
Relevance	0	1	1
Diversity	0	1	1
Record Keeping	2	1	0
<b>Total</b>	<b>4</b>	<b>5</b>	<b>4</b>

AT&T's shifting risk intelligence disadvantages

Hypothetical AT&T Risk Strategy Audit



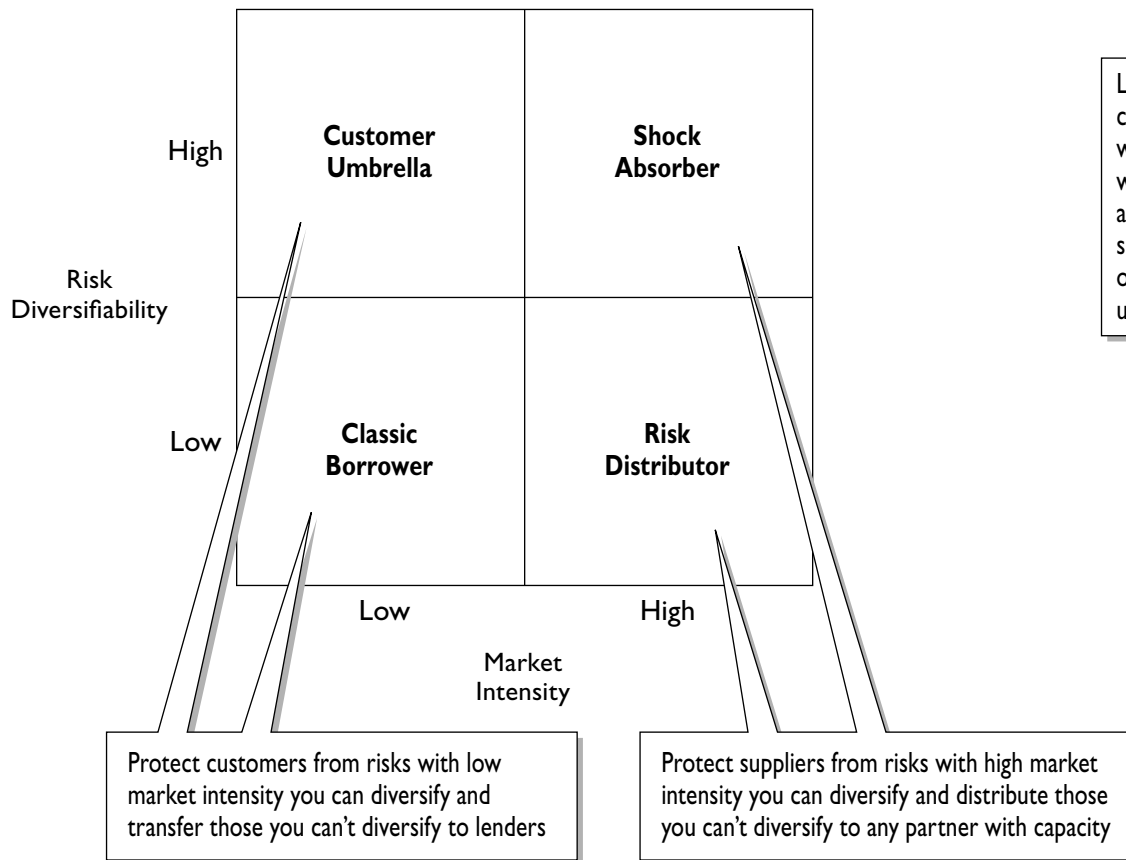
Source: Apgar, David, *Risk Intelligence*, Harvard Business School Press, 2006.

# PUTTING YOUR RISK NETWORK TO WORK

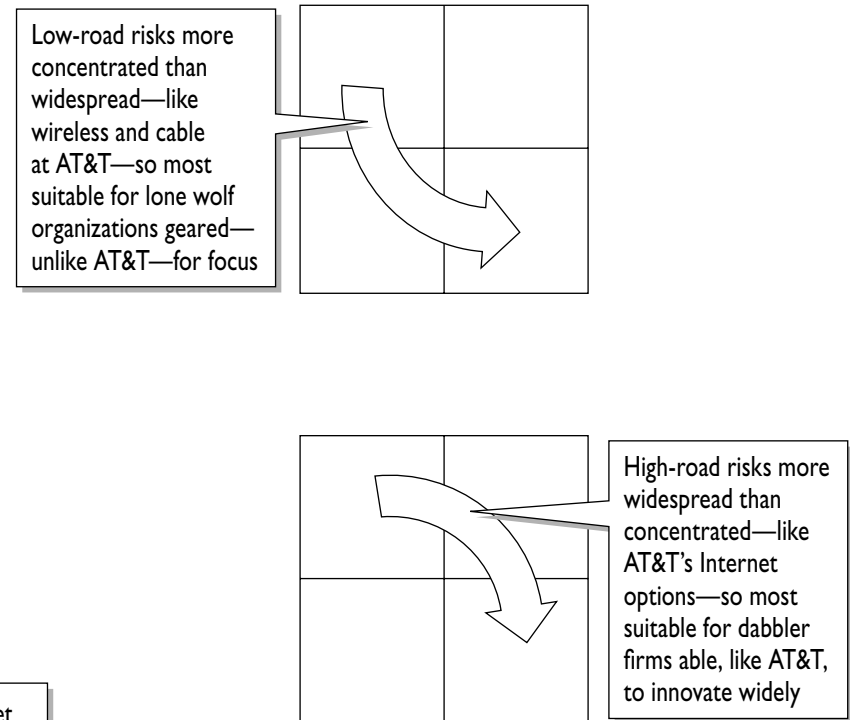
**The nature of your risks determines the role you should play in your risk network...**

**...and their risk-role evolution shows which you're best suited to pursue**

Risk-Role Matrix



Hypothetical AT&T Risk Strategy Audit



# NEXT STEPS

- ① List your major recurring project or initiative risks
- ② Score your organization's risk intelligence for each
- ③ Estimate whether each one is highly, somewhat, or not at all correlated with the others
- ④ List your major project or new business alternatives
- ⑤ Assess the major risks for each alternative
- ⑥ Audit your risk strategy
- ⑦ Make a risk-based selection of alternatives

**Risk List Example**

- ✓ Assessing customer needs
- ✓ Assessing innovation complexity
- ✓ Assessing new technology feasibility
- ✓ Assessing competitor capabilities
- ✓ Assessing counterparty intentions
- ✓ Forecasting talent needs