IRI 2024 INNOVATORS SUMMIT

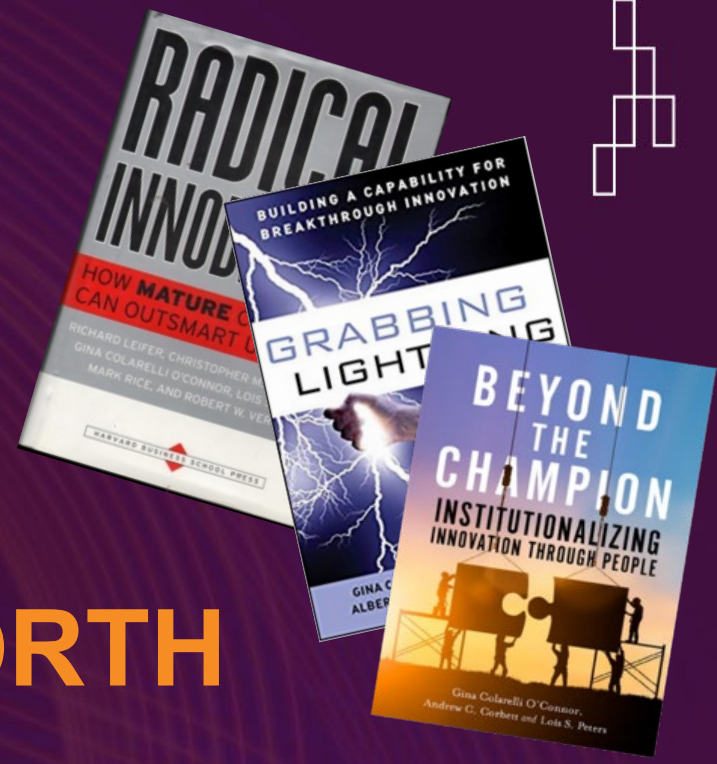
INNOVATION RESEARCH INTERCHANGE

Accelerating Value Creation

A division of the National Association of Manufacturers

BABSON EXECUTIVE EDUCATION

INNOVATION METRICS



IS STRATEGIC INNOVATION WORTH THE EFFORT?

Gina Colarelli O'Connor

Professor of Innovation Management

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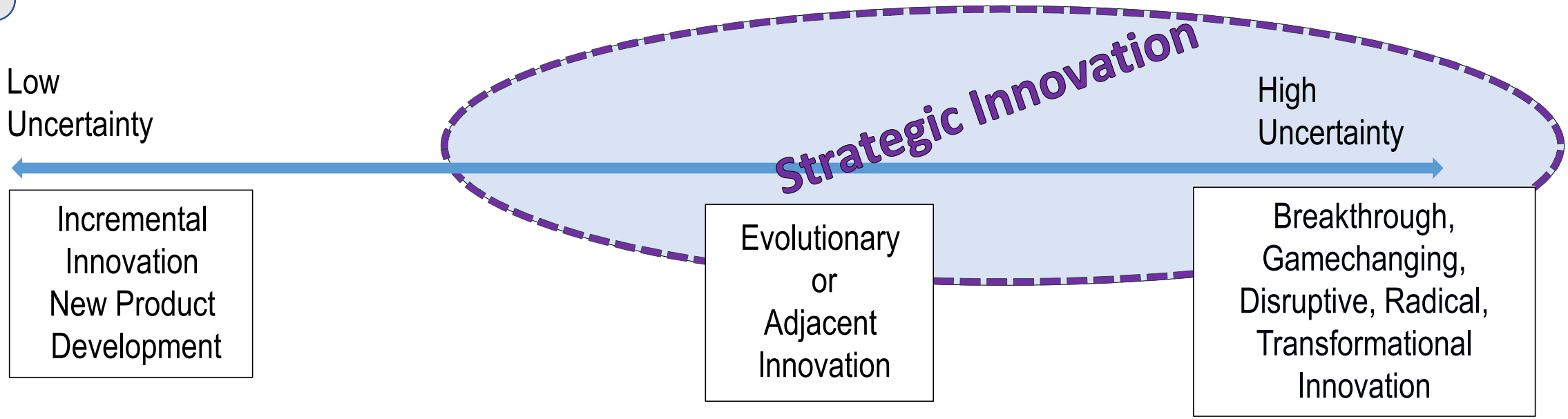
DEFINING STRATEGIC INNOVATION

Strategic Innovation = The discipline that transforms creative discoveries and ideas into new platforms of business that bring significant value to the market and to the organization.

- Creative and Innovative Thinking = Organization Wide
- Invention or Intellectual Property ≠ Innovation
- Innovation > Creativity and Innovative Thinking



WE KNOW MORE THAN WE ARE USING

- ✓ Strategic Innovation (beyond NPD) is difficult but a) fun & b) possible
- ✓ Mature companies can, and do, build this capability.
- ✓ Structural ambidexterity works better than other options; allows design of mgmt system that works for highly uncertain/future focused arenas
- ✓ Stick with it….stops and starts defeat the purpose.
- ✓ Domains of Innovation Intent/Strategic ambition areas/hunting grounds are necessary guideposts
- ✓ Sr. Leadership has not experienced it enough yet… generational learning.
- ✓ **It doesn't cost that much.**
- ✓ **It doesn't necessarily require long time horizons to realize financial returns.**
- ✓ **It pays off big time.**

Part 1

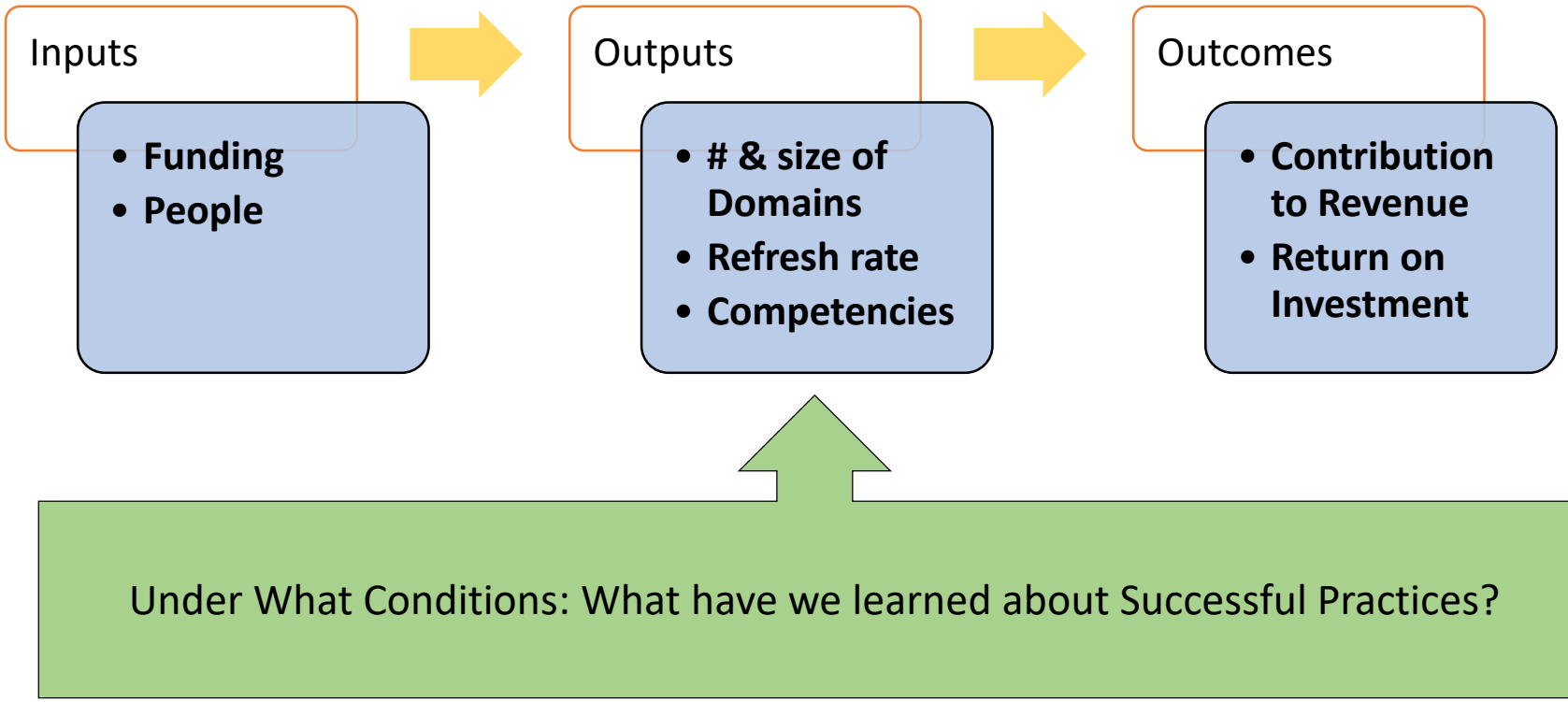
Is it worth the effort?

IS IT WORTH THE EFFORT? → APPROACH

Review of

1. Consultant and professional association benchmarking reports
2. Academic studies, including two from our own data set with the IRI.
3. Individual Case studies

Looking for:

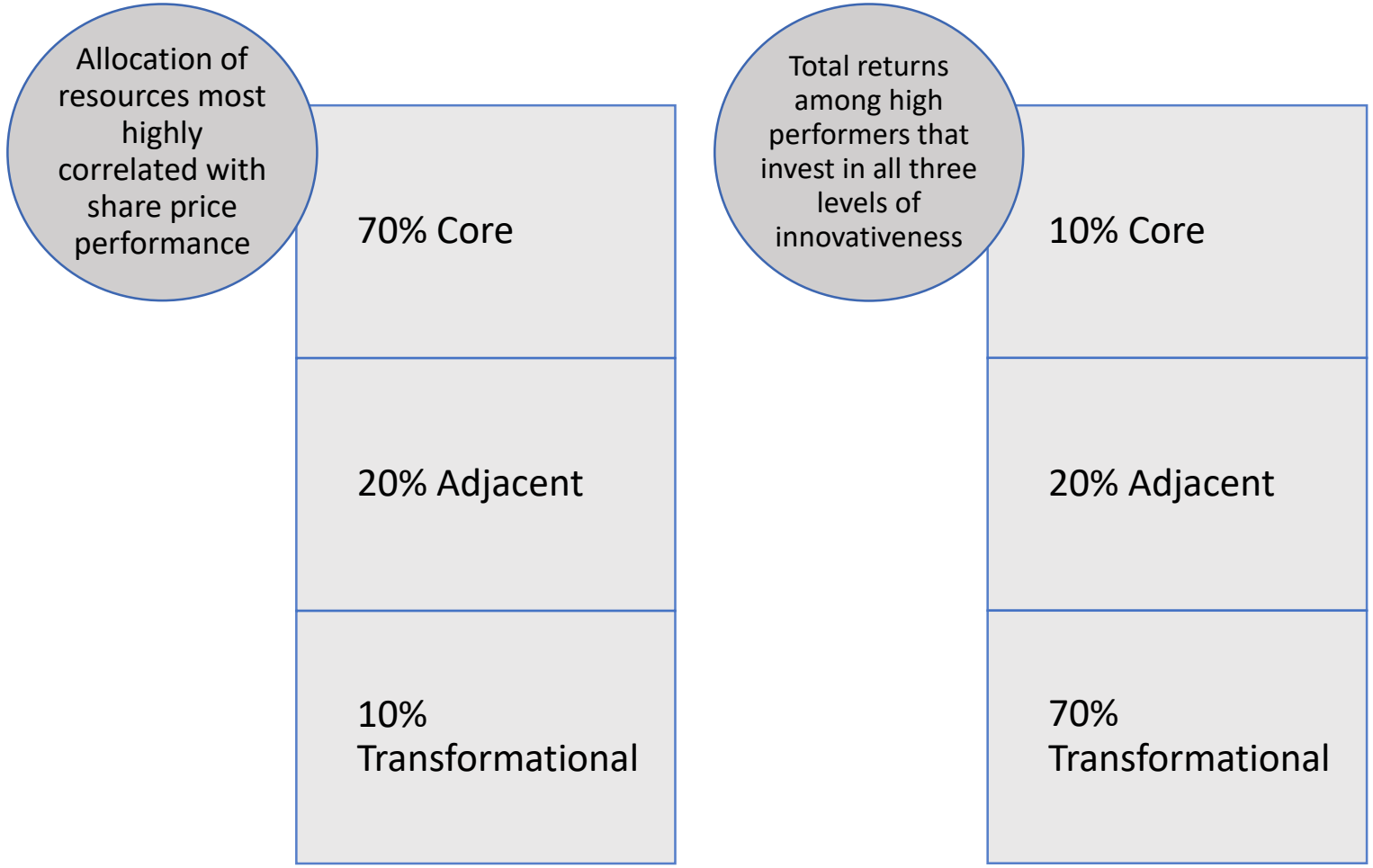


Benchmarking Studies: Consultants' Reports

1. Monitor Deloitte
2. McKinsey
3. BCG
4. A.D. Little

2021-2024

MONITOR GROUP ON INNOVATION PORTFOLIO MGMT



Nagji, Bansi and Tuff, Geoff (2012) Managing your Innovation Portfolio, HBR, May.

Monitor Deloitte.

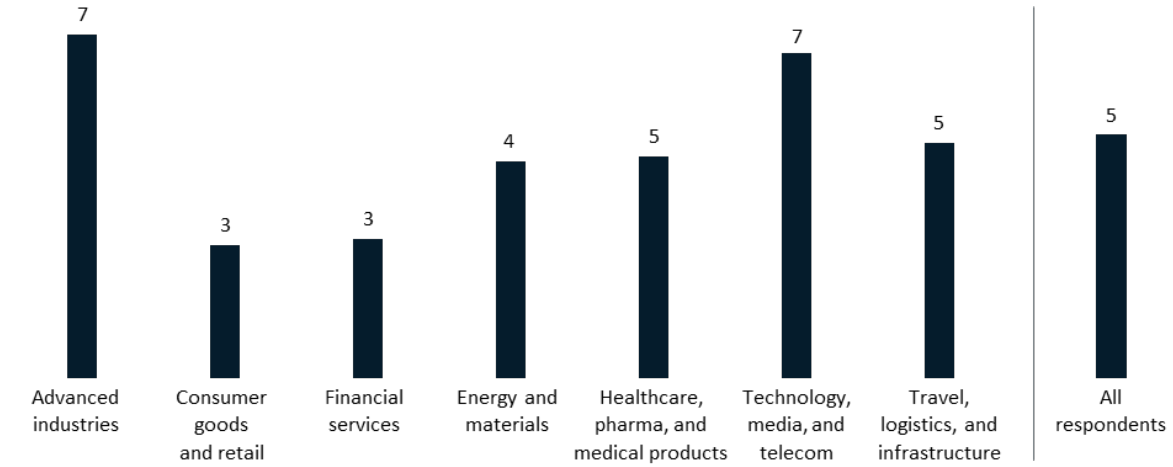
C-SUITE REPORTS NEW BUISNESS BUILDING DELIVERS

McKinsey & Company

INPUT

On average, respondents' organizations are investing 5 percent of revenues into new-business building annually.

Investment in new-business building by respondents' organizations, past 12 months, % share of revenues (n = 969)



Source: McKinsey Global Survey on new-business building, 995 C-suite executives, senior managers, and business unit or division heads, July 19 to September 1, 2022

Note: Advanced industries includes respondents in advanced electronics, aerospace and defense, automotive and assembly, and semiconductors

OUTPUT

Business Building Defined: Creation of new revenues through new products, services or businesses in which new capabilities are required to do so.

Business Leaders reported that their organizations built an average of 1.5 new businesses in 2022, up from one business per year the previous five years, across the range of industries surveyed

McKinsey: New Business Building in 2022 ; Driving Growth in Volatile Times, https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/new-business-building-in-2022-driving-growth-in-volatile-times Last Accessed 4/2/2024

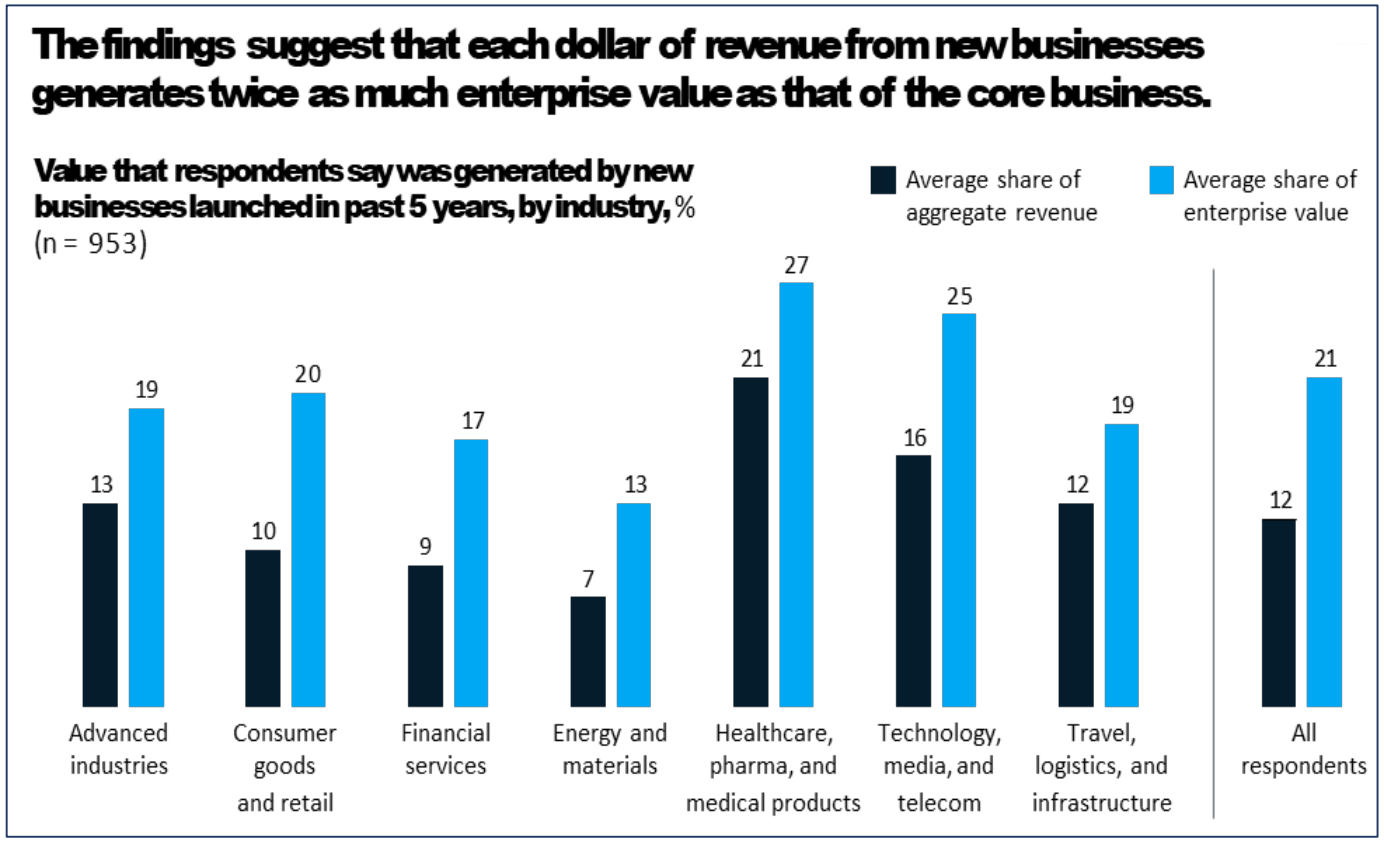
C-SUITE REPORTS NEW BUISNESS BUILDING DELIVERS GROWTH

McKinsey & Company

OUTCOMES

Business leaders report:

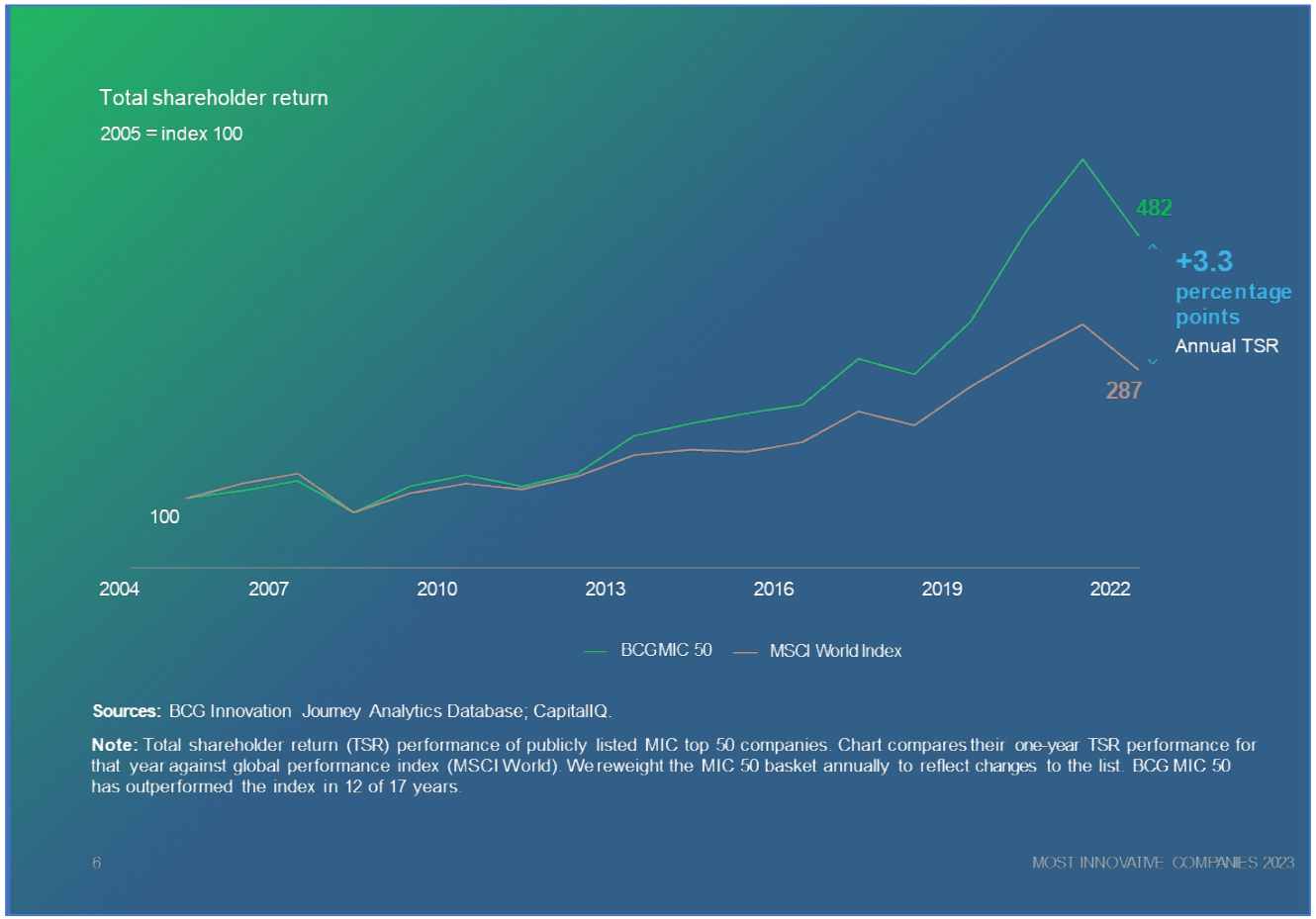
- ✓ On average, 12% of the companies' revenue is generated by new businesses created in the past 5 years.
- ✓ ***Every dollar of revenue from new businesses*** generates almost twice the enterprise value (stock market) versus every dollar of core business revenues.



McKinsey: New Business Building in 2022 ; Driving Growth in Volatile Times, https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/new-business-building-in-2022-driving-growth-in-volatile-times Last Accessed 4/2/2024

Note: Advanced industries includes respondents in advanced electronics, aerospace and defense, automotive and assembly, and semiconductors

OUTCOMES: INNOVATION & TOTAL SHAREHOLDER VALUE



Source: Reaching New Heights in Uncertain Times: Most Innovative Companies, Boston Consulting Group May 2023
https://media-publications.bcg.com/BCG_Most-Innovative-Companies-2023_Reaching-New-Heights-in-Uncertain-Times_May-2023.pdf

BCGMIC = "Most Innovative Companies" based on

- Global Mindshare
- Industry Peer View
- Industry Disruption
- Value Creation (Total Shareholder return, including share buybacks)

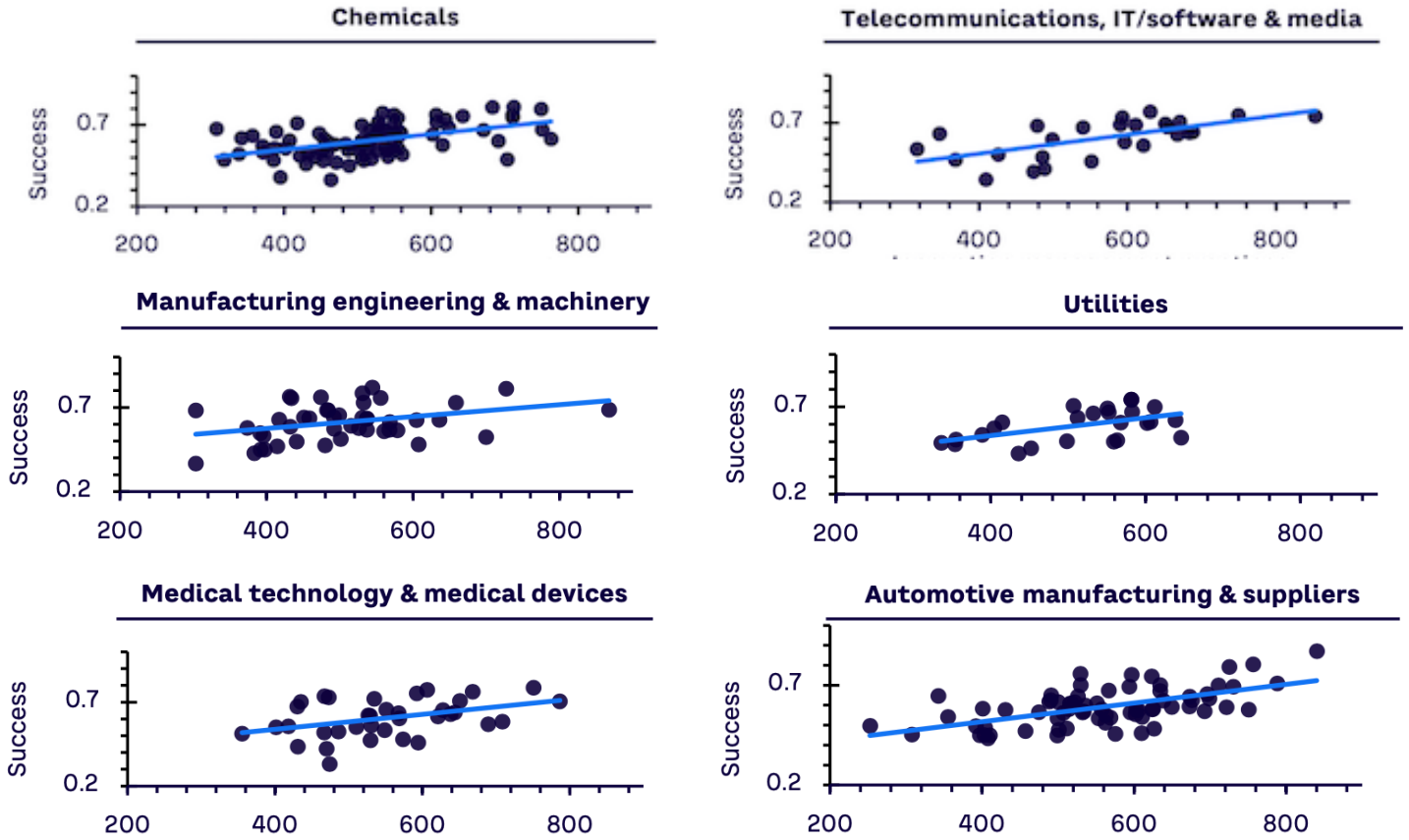
As determined by a survey of corporate executives.

MSCI = Morgan Stanley Capital International.
MSCI World Index tracks performance of 2900 small- to large-cap stocks, from 23 developed & 24 emerging markets, that have a global presence.

BCG BOSTON CONSULTING GROUP

BEST PRACTICES LEAD TO INNOVATION SUCCESS

Correlation between best innovation management practices and innovation success



x axis = ADL best innovation management practices benchmark scoring protocol: 200 (lowest) to 900 (highest);
y axis = Innovation Success benchmarks scoring protocol 0.1 (lowest) – 1.0 (Highest)

Best Practices deliver an average 70% more profit and 30% shorter time to breakeven.

Innovation success: business impact.

Composite score based on

- sales from new products/services/ business models,
- earnings before interest and taxes (EBIT) from new products/services,
- the impact of innovation-related process improvements,
- time to breakeven,
- revenue generated from breakthrough innovation, and
- management satisfaction with innovation performance.

Responses normalized to account for industry differences

Source: 2023 A.D. Little: Results of the 9th Arthur D. Little Global Innovation Excellence Benchmarking
https://www.adlittle.com/en/insights/prism/closing-innovation-gaps/2023
Last Accessed 3/25/2024

SUMMARY RESULTS FROM BENCHMARK REPORTS

- **Inputs and Outputs**: Companies investing ≈5% of revenues into creating new businesses and generating 1.5 new businesses per year. (McKinsey)

- **Outcomes: Companies prioritizing new business building outperform on revenue growth**:
  47% report their businesses growing 5-10% above the market rate, compared with
  31% who do not prioritize it. (McKinsey)

- **Outcomes: ROI is dramatically higher for transformational innovation than core innovation**.
  (Monitor Group, BCG, McKinsey).
  - Adjacent innovation reaps significantly higher than core. (Monitor Group)
  - Every dollar of revenue from new businesses generates almost twice the enterprise value (stock market) versus every dollar of core business revenues. (McKinsey)
  - Transformational innovation provides supra-normal returns to Total shareholder value. (BCG 2023, McKinsey)

- **Successful Practices:** There is a positive correlation between innovation success & management practices. The best practices deliver an average 70% more profit and 30% shorter time to breakeven. (A.D. Little 2023)

Empirical studies

1. Meta Analysis
2. Consumer Packaged Goods
3. Pharmaceutical Industry
4. National vs Corporate Culture
5. Innovativeness vs Quality
6. Importance of Incubation
7. Importance of a Systems' Approach
8. Inputs-Outcomes-Outputs Perspective
9. Communicating with Market Analysts

Study 1:
Firm Innovativeness and its Performance Outcomes: Meta Analysis

Rubera, Gaia and Ahmet H. Kirca Journal of Marketing 2012.

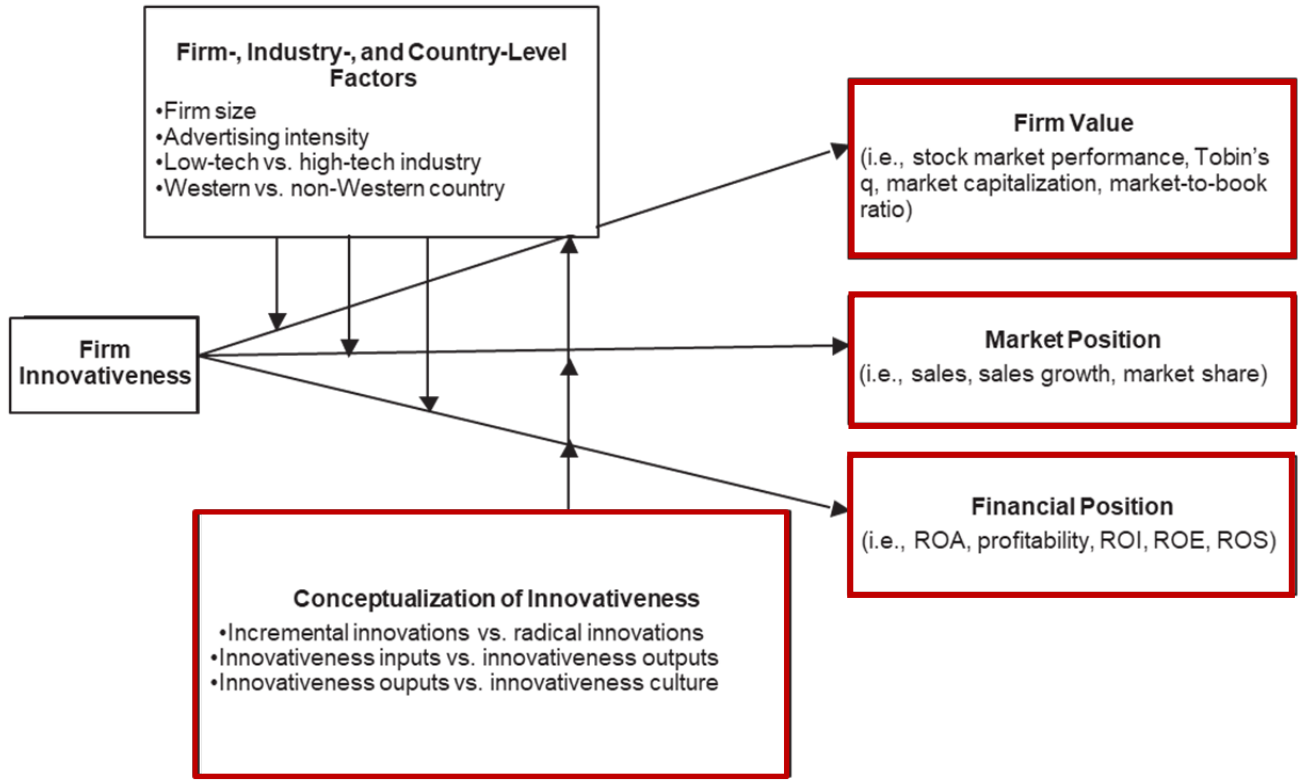
A study of 153 other studies, to understand the common findings among various research approaches and data sets.

RESEARCH QUESTIONS AND APPROACH

- What is the effect of innovativeness on firm performance: Firm Value, Market Position and Financial position?
- How are those relationships influenced by the strength of
  - Degree of innovativeness (radical vs incremental)?
  - Inputs (R&D expenditures, patents)?
  - Innovativeness culture?

- Approach: Analyzed **153 studies** to uncover common findings.

FIGURE 2
Moderators of the Firm Innovativeness–Performance Relationships



Rubera, Gaia and Kirca, Ahmet H. 2012 "Firm Innovativeness and its Performance Outcomes: A Meta-Analytic Review and theoretical Integration Journal of Marketing vol 76 (May): 130-147

Firm Innovativeness and Its Performance Outcomes / 133

CONCLUSIONS & IMPLICATIONS FOR STRATEGIC INNOVATION

- Innovativeness positively influences Market Position, Financial Position & Firm Value

Moderating Influences	Market Position	Financial Position	Firm Market Value
Innovativeness	**Breakthrough**	**Breakthrough**	**Breakthrough**
Inputs vs Outcomes	**Outcomes**	**Outcomes**	**Inputs**
Innovative Culture	No impact	Yes	Yes
Firm size	Large	Large	Small
Advertising	More	More	More
Industry	High tech	High tech	Low tech

- Stock market responds to Inputs rather than Outcomes IN THE SHORT TERM:
  - Investors value innovativeness largely because of its unique potential to ensure future cash flows.
  - **Implication: Avoid temptation to reduce innovation budget to avoid unexpected earnings shortfalls. Virtuous circle of Firm value → Firm Innovativeness → Firm value.**
  - **Implication re how to communicate with market analysts.**

Rubera, Gaia and Kirca, Ahmet H. 2012 "Firm Innovativeness and its Performance Outcomes: A Meta-Analytic Review and theoretical Integration Journal of Marketing vol 76 (May): 130-147

Study 2:
Innovation's Effect on Firm Value and Risk: Insights from Consumer Packaged Goods

Sorescu, Alina B and Jelena Spanjol J of Marketing 2008.

An econometric study of the consumer packaged goods industry and impact of breakthrough vs incremental innovation on firm market value and associated risk. Focus on a claimed NPV for breakthrough innovation projects, defined here as 'new products that are first to bring novel and significant consumer benefits to the market.'

RESEARCH QUESTIONS AND APPROACH

Questions:

1. What is the relationship between innovation and firm performance?
2. How should we measure firm performance?
3. Does the type of innovation (breakthrough vs incremental) make a difference?

Approach: How breakthrough & incremental innovations affect three different facets of firm performance:

- ✓ Normal Profits= The minimum compensation that investors require to purchase stock in a company, i.e. the interest rate investors could earn in a treasury bond plus an additional risk premium.
- ✓ Economic rents = profits earned above those required as compensation for risk and time value of money, e.g. above normal returns.
- ✓ Risk = volatility of daily stock returns.

Each outcome is of independent interest to shareholders and managers; examining one without the others provides an incomplete picture of the true financial value of innovation.

- Data: ProductScan and Compustat on more than 20,000 new products from CPG industries.
- Sample: 22,532 new product introductions between 1985-2003, from 153 publicly traded firms.

Sorescu, Alina B and Jelena Spanjol 2008 "Innovation's Effect on Firm Value and Risk: Insights from Consumer Packaged Goods" Journal of Marketing, vol 72 (March): 114-132

FINDINGS

Type of Innovation	Empirical Relationship with Normal Profits	Economic Rents	Firm Risk
Incremental	Positive	Null	Null
Breakthrough	Positive	Positive	Positive

This number is not generalizable, but the formula for calculating it is.

- Breakthrough Innovation is associated with:
  - Increases in both normal profits and economic rents.
  - Increases in risk, but higher risk is offset by above-normal stock returns.

- On average, each Breakthrough Innovation in the sample is associated with an **increase in firm value of $4.2 million.** With each unexpected breakthrough introduction, the market value of the firm goes up by an amount **equal to the NPV of the project.**

- In contrast, incremental innovation is associated with increases in normal profits only and has **no impact on economic rents or firm risk.**

Sorescu, Alina B and Jelena Spanjol 2008 "Innovation's Effect on Firm Value and Risk: Insights from Consumer Packaged Goods" Journal of Marketing, vol 72 (March): 114-132.

INTERPRETATION

Incremental innovation keeps firms in business, but

Breakthrough Innovation is the key to achieving sustained long term growth.

Study 3:
Sources and Financial Consequences of Radical Innovation: Insights from Pharmaceuticals

Sorescu, A., Chandy, R. and Prabhu, J. Journal of Marketing 2003.

A study of the census of innovations from 1991-2000 in the pharmaceutical industry.

RESEARCH QUESTIONS AND APPROACH

QUESTIONS:

(1) Who introduces a greater number of radical innovations: dominant or non-dominant firms?
(2) How great are the financial rewards to radical innovations, and how do these rewards vary across dominant and non-dominant firms?
(3) Is it only a firm's resources in the aggregate or also its focus and leverage of resources that make its innovations more financially valuable? and
(4) Which are more valuable: innovations that incorporate a breakthrough technology or innovations that provide a substantial increase in customer benefits?

Approach: Pooled secondary source information from a disparate set of sources in the pharmaceutical industry.

255

Breakthroughs introduced by 66 publicly traded pharmaceutical cos

3,891

Total new product introductions

7%

of the total = Breakthroughs (Rare)

Sorescu, Chandy and Prabhu, 2003 "Sources and Financial Consequences of Radical Innovation: Insights from Pharmaceuticals," Journal of Marketing, vol 67, October, 82-102 study of the census of innovations from 1991-2000 in pharmaceutical industry

RESULTS AND IMPLICATIONS

- A majority of BI's come from a minority of firms…so a competency can be developed for Strategic Innovation.
  - *It's not just luck.*
- Seventy-five percent of breakthroughs in the pharmaceutical industry study were introduced to the market by the original inventing companies--25% were licensed or bought from others.
  - *The argument that fast second is better is not empirically supported*.
- Number of patent applications per firm was NOT correlated with BI success.
  - *Technical prowess is necessary but not sufficient.*
- Dominant firms in the industry (highest market share, assets, profits…i.e. the largest) commercialized significantly more BI's than non-dominant firms.
  - *Start Ups and small nimble companies aren't necessarily the winners.*
- Firms that successfully commercialize BI also are the ones with most incremental innovations.
- Breakthrough innovations achieved more than 3 times the NPV of technological breakthroughs alone.

Sorescu, Chandy and Prabhu, 2003 "Sources and Financial Consequences of Radical Innovation: Insights from Pharmaceuticals," Journal of Marketing, vol 67, October, 82-102 *study of the census of innovations from 1991-2000 in pharmaceutical industry*

Study 4:
Radical Innovation Across Nations: The Preeminence of Corporate Culture

Tellis, Gerard J., Jaideep C. Prabhu, and Rajesh K. Chandy. Journal of Marketing 2009

A study of 759 industrial firms from 17 major economies around the world, using survey and archival data, to understand the relative influences of government policy and labor, capital and organizational culture on radical innovation, and of RI on firm's financial performance compared with other predictors, e.g. patents

RESEARCH QUESTIONS AND APPROACH

- Radical innovation is an important **driver of the growth, success, and wealth** of firms and nations.
- Because of its importance, many theories about the drivers of such innovation have been proposed, including *government policy* and *labor, capital*, and *culture* at the national level.
- The authors contrast these theories with one based on the **corporate culture** of the firm.
- Test the theory using survey and archival data from 759 firms across 17 major economies of the world.

Gerard J. Tellis, Jaideep C. Prabhu, & Rajesh K. Chandy (2009) Radical Innovation Across Nations: The Preeminence of Corporate Culture Vol. 73 (January), 3–23

FINDINGS AND IMPLICATIONS

Influences on Radical Innovation at the Firm level

- *None of the National variables influence radical innovation outcomes:*
  - National labor, National capital, Government policy, National culture:
- Corporate influencers on radical innovation:
  - Investment in skilled labor (R&D employees/all employees) (**but not patents**)
  - Internal corporate culture:
    - Willingness to cannibalize; future orientation, risk tolerance

Influences on Firm Value (Market to Book ratio)

- Firm Level:
  - **Radical Innovation**
  - Investment in skilled labor (R&D employees/all employees) (***but not patents***)
- National Level:
  - National capital
  - National population

Company Culture outweighs National Culture influences on RI: global companies transcend country cultures.

Radical Innovation significantly translates into financial value of the firm, by increasing market to book ratio *(even after controlling for patents and R&D spending)*

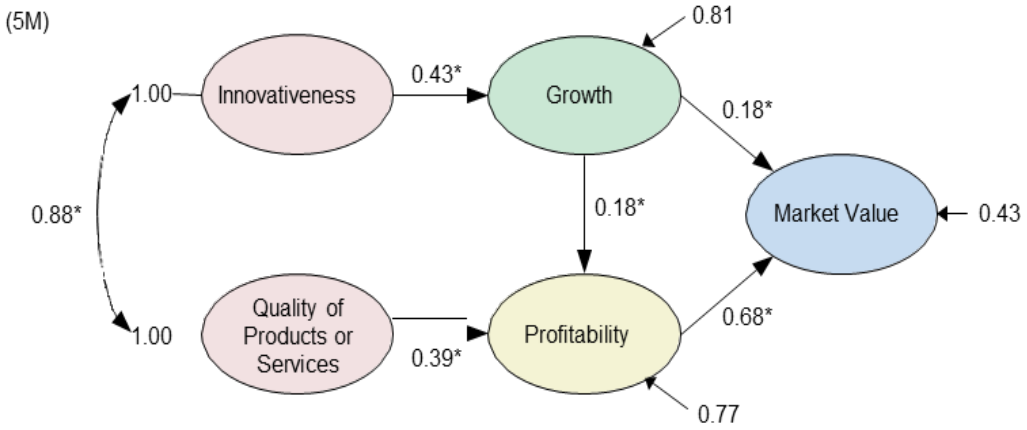
Study 5:

Relationship between Innovativeness, Quality, Growth, Profitability and Market Value.

Cho, Hee-Jae and Vladimir Pucik, Strategic Management Journal 2005

An econometric study of the effects of these key capabilities on one another. Uses the Fortune Most Admired Companies data for 488 companies across a range of industries over a three-year period 1998-2000, supplemented by other secondary data sources.

FINDINGS AND INTERPRETATION



Model 5M: $\chi^2 = 187.34$, $df = 68$, $p = 0.000$, RMSEA = 0.085, SRMR = 0.072, GFI = 0.900

Figure 3. Standardized parameter estimates of the structural equation model (Hypothesis 5): full model (5F) and mediation model (5M). *Note*: Standardized parameter estimates of the measurement model are summarized in Table 5.

- ✓ **Innovativeness**
  - ✓ Impacts Firm Market Value by causing Growth.
  - ✓ Does not directly affect profitability....
  - ✓ But Growth does.
- ✓ **Quality**
  - ✓ Does not directly affect Growth or Firm Market Value.
  - ✓ Directly affects profitability.
- ✓ **Profitability and Growth** affect Firm Market Value

Cho, Hee-Jae and Vladimir Pucik 2005 "Relationship between innovativeness, Quality, Growth, Profitability and Market Value. Strategic Management Journal vol 26, pp 555-575.

Study 6:
Beyond Invention: the Additive Impact of Incubation Capabilities to Firm Value.

Markovitch, Dmitri G., O'Connor, Gina C & Harper, Pamela J. R&D Management 2017

An econometric study of a sample of 141 of Fortune Magazine's list of 1000 Most Admired Companies (2009), examining the relationship of R&D activities and Incubation capabilities to firm market value.

QUESTIONS AND APPROACH

Questions:

1. What is the relationship between R&D competencies, both exploratory and applied, and firm market value?
2. How does the presence of an incubation capability moderate those relationships?

Approach:

- Secondary data collected from company websites and various databases.
- Econometric model examining Breakthrough Innovations from **141 companies from 1999-2008**.
- **23% of firms had an incubation capability in place** (based on media communications and Executive titles or reference to an Incubation team on the website).

Markovitch, Dmitri G., O'Connor, Gina C & Harper, Pamela J. 2017, "Beyond invention: the additive impact of incubation capabilities to firm value" R&D Management Vol 47, no. 3 (June): 352-367.

INTERPRETING RESULTS

- All else equal, Increased investment in Applied R&D is beneficial to Firm Market Value
- **Exploratory R&D + Incubation together** are positively associated with Firm Market Value…**But neither is alone.**
- Applied R&D + Incubation together are negatively associated with Firm Market Value…added costs without being value-enhancing.
- **Incubation investments lead to positive returns when they leverage Exploratory Research investments.**

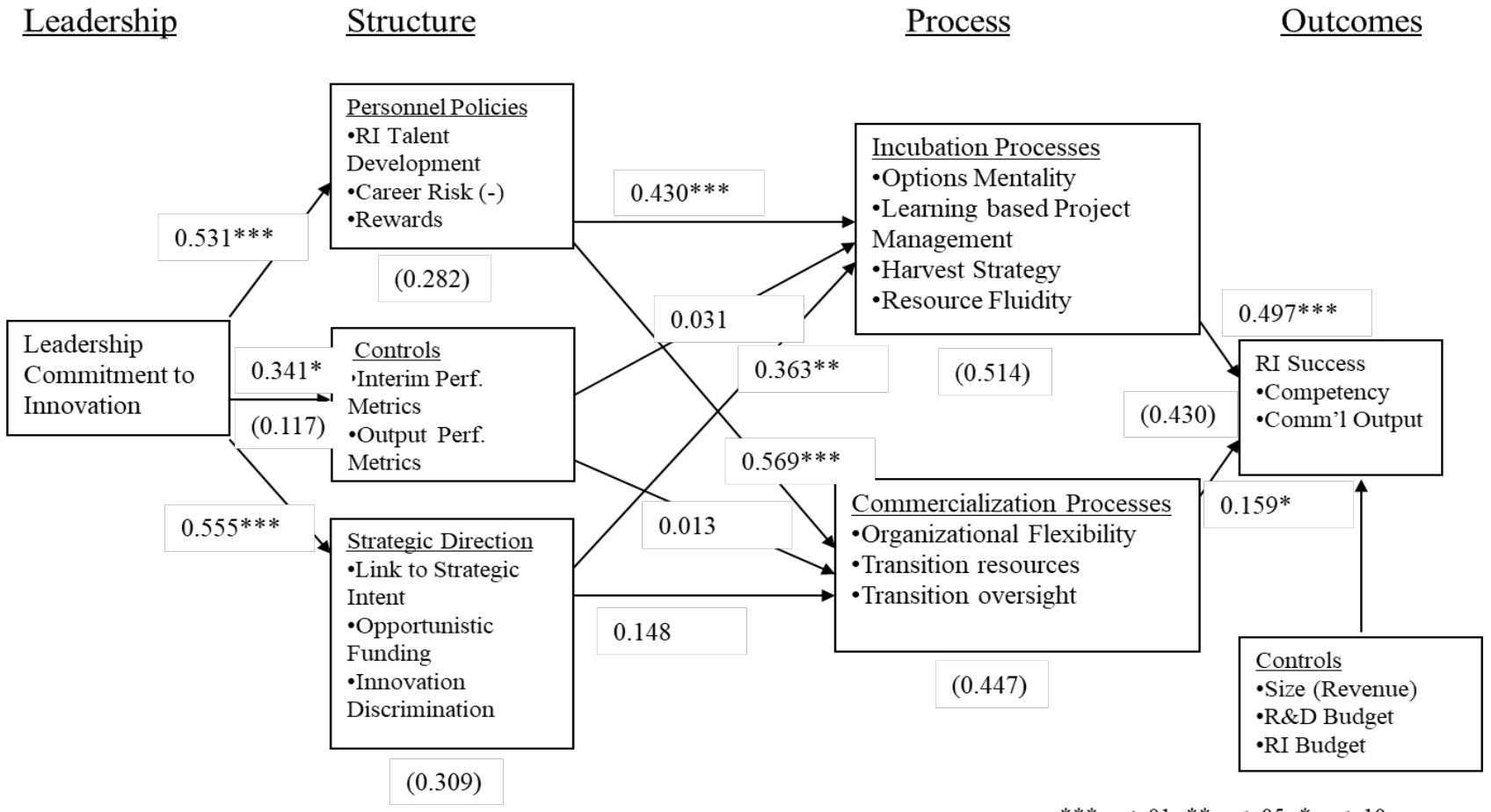
Rather than Divesting of Exploratory R&D,
add Innovation Capability to commercialize it.

Study 7:
Developing a Capability for Breakthrough Innovation: A Systems' Approach.

Choi, Byung Chul, O'Connor, Gina C and Ravichandran, T. working paper

A survey of R&D and New Business Development Managers of 85 IRI industrial companies. Examines how leadership commitment, organizational controls and policies, and Incubation/ Acceleration Capabilities influence Breakthrough Innovation outcomes.

MODEL & RESULTS



Choi, Byung-Chul, Gina Colarelli O'Connor and T. Ravichandran, "Developing a Capability for Breakthrough Innovation: a Systems' Approach," working paper.

RESULTS AND IMPLICATIONS

- Management system approach (Leadership + Structures/Policies + Processes/Capabilities) explains 43% of the variance in Breakthrough Innovation outcomes.
  - *In order to get the outcomes, the whole system is needed. Can't take shortcuts.*
- Incubation capabilities explain more of the variance in BI outcomes (49.7%) than commercialization/acceleration processes (15.9%)…3 times as much
  - *Yet it's absent in most firms.*
- Leadership's strategic direction in incubation is key (36.3%)... 2.5 times as important as in commercialization/acceleration.
  - *Incubation is where strategic choice points emerge.*
- Commercialization/acceleration capabilities are more heavily impacted by personnel policies (56.9%) than by strategic levers (14.8%).
  - *New Business Creation personnel can get burned.*
  - *Managing innovation talent in orgs is key, yet no career paths for new business creation personnel.*
- Leadership's commitment to BI is critical to everything.

Choi, Byung-Chul, Gina Colarelli O'Connor and T. Ravichandran, "Developing a Capability for Breakthrough Innovation: a Systems' Approach," working paper.

Study 8:
Achieving Breakthrough Innovation Outcomes: An Inputs-Outputs Perspective

O'Connor, Gina C and Reynoso, J. working paper

Survey conducted with IRI members, 2006-2007, 85 respondents

Data on:

- **Firm size, industry**
- **R&D and Breakthrough Innovation (BI) Investments**
- **Organizational Group for BI**
- **Management Practices for executing BI**
- **Output and Outcome measures**
- **Industry characteristics (Controls)**

QUESTIONS

1. Inputs: How much investment do leaders make in SI, as a % of revenue or net income, over approx. 5 years?
2. Outcomes: What is the multiple of SI investment that leaders in innovation have demonstrated?
3. What Practices are necessary for a healthy conversion of inputs to outcomes?

Aligns with Transformational, Adjacent and Step-out Core

Breakthrough Innovation defined in the survey as innovations with the potential to result in either:

- ***New to the world*** *performance features*
- *Significant* ***improvements (5x-10x)*** *in known performance features*
- *Significant* ***reduction (30-50%)*** *in cost.*

While these figures are illustrative and may vary by industry, the focus of this survey is on strategic or game changing innovations.

RESULTS AND IMPLICATIONS

- **Significant Incremental Revenue growth from SI**:
  - More than 70% of the companies derived at least 6% of revenue from SI projects initiated in the past 5 years;
  - Nearly 30% had more than 10% of total revenue come from SI;
  - 13% had more than 20% of revenues from those initiatives.

Average 8%

- **Return on Investment in SI**: Companies investing anywhere from .25-1% of sales in SI experienced 10x return on their SI investment. (Investment and revenue averaged over three years, no lag.)
- **Dedicated SI Group helps**: Level of uncertainty on ROI drops for firms with an SI group, beyond R&D, 2+ years old. **Six years + shows dramatic increase in outcomes.** SI Revenue and ROI Trends disappear when firms without hubs are included.
- **SI Groups are not large**: 68% of co's with a dedicated group had fewer than 25 people. Staff depends on number of Domains. Budget flexibility matters in addition to lean but consistent team. Contract work, field visits, partnership arrangements, prototyping support, not just personnel.
- **Persistence matters**: Firms with SI hub at least 2 years old AND steady higher investment show dramatically higher return on investment than companies with a hub and <1% of Revenues invested, or with no hub at all. **Combination of budget and people makes a big difference**

Study 9:
Do innovations really pay off? Total stock market returns to innovation.

Sood, A., & Tellis, G.J. Marketing Science 2009

An econometric study of stock market valuation of major innovations (those based on a new technology) over the course of their initiation, development and commercialization in 69 firms over a period of 30 years. Examines the role of announcements regarding innovation projects on stock price.

QUESTIONS AND APPROACH

- ✓ Assumption: Earnings-focused short-term orientation of management is why spending on risky, long-term innovation projects is intermittent & short lived.
  - ✓ Assume that stock markets react positively to announcements of immediate earnings but negatively to announcements of investments in innovation that have an uncertain long-term pay off.
- ✓ Authors challenge that the market's true appreciation of innovation can be estimated by assessing the **total market returns to the entire innovation project**.
- ✓ Approach: Econometric model based on
  - ✓ 5,481 announcements from 69 firms
  - ✓ five markets and 19 technologies
  - ✓ between 1977 and 2006.
- ✓ Examined innovation projects over three phases & announcements pertaining to these events:
  - ✓ Initiation: Alliances, funding including grants, advanced orders, funded contracts, expansions for new innovation projects.
  - ✓ Development: Prototype development and demonstration, new materials, equipment, processes, patents, pre-announcements.
  - ✓ Commercialization: Product launch, initial shipments, new applications, awards/external recognition.

Sood, A., & Tellis, G. J. (2009). Do innovations really pay off? Total stock market returns to innovation. Marketing Science, 28(3), 442-456.

RESULTS AND IMPLICATIONS

- **Supra-normal returns: 10.3%** (average across all product categories, across initiation, development & launch)
- **Total market returns to an inno project are > 13 times the returns from any single average inno event.**
  - ✓ Markets respond promptly and substantially to announcements about innovation at all stages of an innovation project. Limiting calculations of returns to shareholder value to announcement of one event undervalues innovation.
  - ✓ **Make sure to announce each event!**
- Returns are **highest for developmental activities, so make sure to announce progress**.
  - ✓ Supra-normal returns to **initiation announcements** are 0.6%.
  - ✓ Supra-normal returns to **development activities** are 0.9%. ← Highest
  - ✓ Supra-normal returns to **commercialization/launch activities** are 0.3%.
- **Returns to initiation occur, on average, 4.7 years prior to launch**.
  - ✓ Investors don't need to wait for the innovation's launch if they want to gain from a successful strategic innovation project.
- Absolute value of a negative announcement (delays, failure to meet expected performance levels, denial of patents, deferral) is greater than returns to positive announcements.
  - ✓ **Avoid exaggeration in Time 1 lest you cannot show progress in Time 2.**
- Number of prior announcements, or time since last announcement, has no effect on market returns to innovation
  - ✓ **Firms cannot game the system by over-announcing or through multiple announcements of a single event.**

Case Studies

1. DSM
2. GE
3. Grundfos
4. IBM
5. Mastercard
6. Moen
7. W.L. Gore

SUMMARY ANSWERS FROM CASES

Inputs:

- Average # of Domains: 1 per $2B in revenue (wide Std Deviation)
    - Not to exceed 5-6 at large BU and 5-6 at corporate level.
- Personnel: Add/circulate subject matter expertise people as domains progress but keep steady core team in incubation. # of Personnel/Domain maxed out at 50-60 in incubation.

Outputs:

- Turnover in Domains: About 50% are fast tracked or sunsetted. Replace sunsetted domains to maintain similar portfolio size over time. (GE, DSM, IBM, Grundfos, Moen)

Outcomes:

- Entry into new lines of business that adds top line revenue in higher margin categories.
    - GE, 5-7 years
    - DSM, began generating revenue within 5 years. The three successful businesses took about 10 years to mature.
    - IBM's EBO's accounted for 24% of revenue within 6 years. Launched three new business lines over a decade, each >$1B/yr.)

Note: Only ONE lag period of 5 years if portfolio of domains is maintained and orphans used to get started.

TAKE AWAYS: IT'S WORTH THE EFFORT!

Inputs

- Funding (1-5% of Revenues)
- People (New Biz Creation team size depends on portfolio size, maturity)
- Organizational hub & mgmt. system

Outputs

- # Domains: Approx 1/ $2 Bn of revenue
- Refresh rate: 5 yrs.
- Competencies: D, I, A; New Markets, New Science/Tech
- 1 New Biz /2 years, maturing over 5-10 yrs.

Outcomes

- Market: Contribution to Revenue 8-20+%
- Financial:10x ROI
- Firm Value: 2-3% per annum higher stockholder return, 10% supra-normal returns over project dvlpmt life cycle.

Under What Conditions: What have we learned about Successful Practices?

Functional Innovation Council, Portfolio Approach, Persistent, predictable funding, Appropriate HR practices; Clear Objectives, Metrics tracked, Accountability for New Stream Responsibilities; Communication with Market Analysts

Part 2

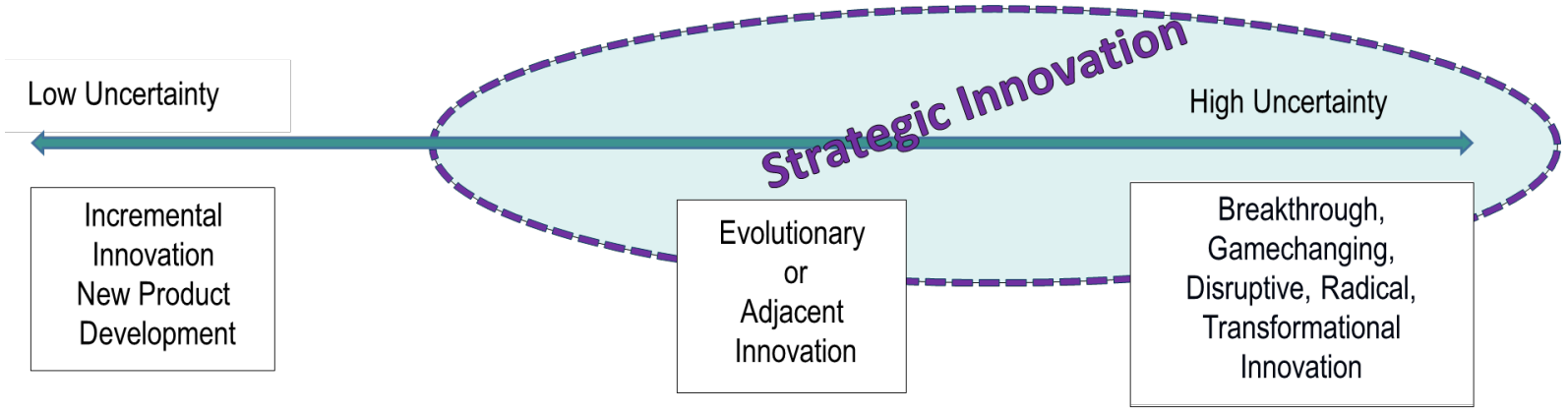
How do we

a) Convince our leaders to persist, and

b) Achieve these outcomes in our companies?

QUESTIONS FOR YOU

1. How long has your organization been working to build a SI capability?
2. What has worked and what hasn't?
3. What gets in the way?
4. Ideas for how to secure and maintain support, and Justify ongoing investments in Strategic Innovation? How can you use the info just presented?



Strategic Innovation = The discipline that transforms creative discoveries and ideas into new platforms of business that bring significant value to the market and to the organization.

SUCCEEDING AT STRATEGIC INNOVATION: EIGHT PRINCIPLES

1. Organizations need a **common language for innovation**
2. **Innovation Intent** Development is a key leadership responsibility
3. **Strategic Innovation needs to be a function;** not a process, not a culture, but a complete, rationally designed management system
4. Tune the Innovation Function's activities to the **organization's capacity to absorb** new businesses
5. There are **three organizational competencies** to develop and maintain:
   ✓Discovery, Incubation, Acceleration
6. Operate at the opportunity level, domain level and **portfolio level**
7. Project/EBA leaders must proactively manage **four dimensions of uncertainty**
   ✓Technical, Market, Resource, Organizational
8. To develop sustained expertise, organizations need to **institute permanent Innovation Roles**

MEASURING STRATEGIC INNOVATION: STAY DISCIPLINED!

How do you measure innovation success?

"Plotting the right innovation program and staying on track require a shared understanding of what it means to succeed. But metrics used to evaluate innovation outputs do not consistently tie back to innovation goals. Forty-three percent of CEOs say they measure the return on innovation investment by looking at profits, despite 50 percent having a vision for transformational (versus incremental) innovation.

"To make sure your innovation metrics match your innovation strategy, consider what is being measured, qualitatively and quantitatively, as an innovation output (e.g., profit vs customer satisfaction score [vs *progress on Domains of Innovation Intent*]). Metrics that are not aligned with top-line innovation goals may create friction along the journey toward long-term innovation."

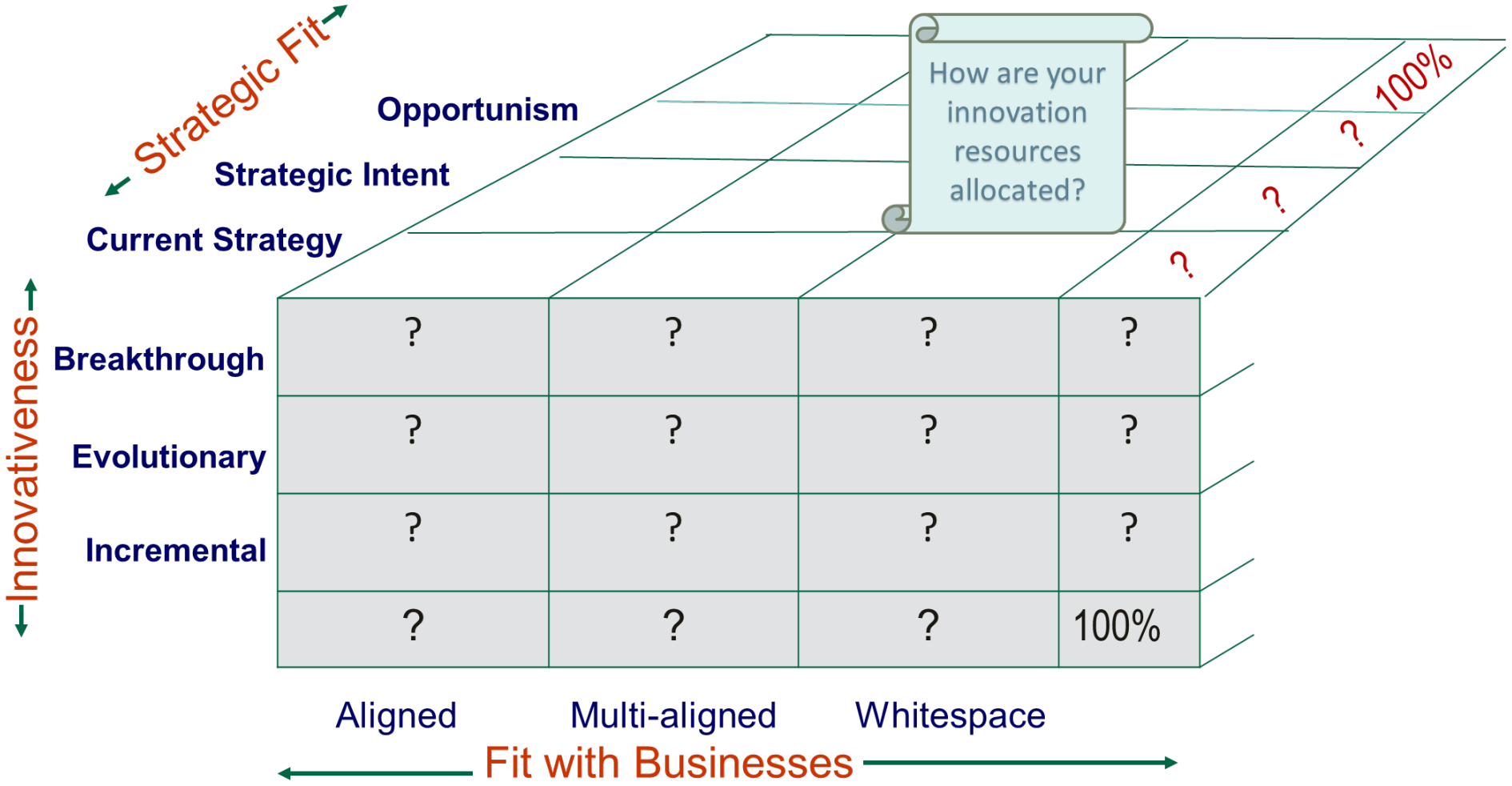
Enterprise innovation: The vision-execution gap: (2022 KPMG U.S. Innovation Study)
Source: https://www.innovationleader.com/research-reports/benchmarking-innovation-impact-2023/

NPD METRICS THAT MATTER

- Market
  - Market share gains
  - VOC feedback
  - Unit sales
  - On line commentary
  - Competitive response
- Financial
  - Net Present Value
  - Return on Investment
- Operational
  - Time to Launch
  - Rework

Low levels of uncertainty align with operational excellence culture & outcome based metrics.

INPUTS: SI AS PART OF THE LARGER INNOVATION PORTFOLIO



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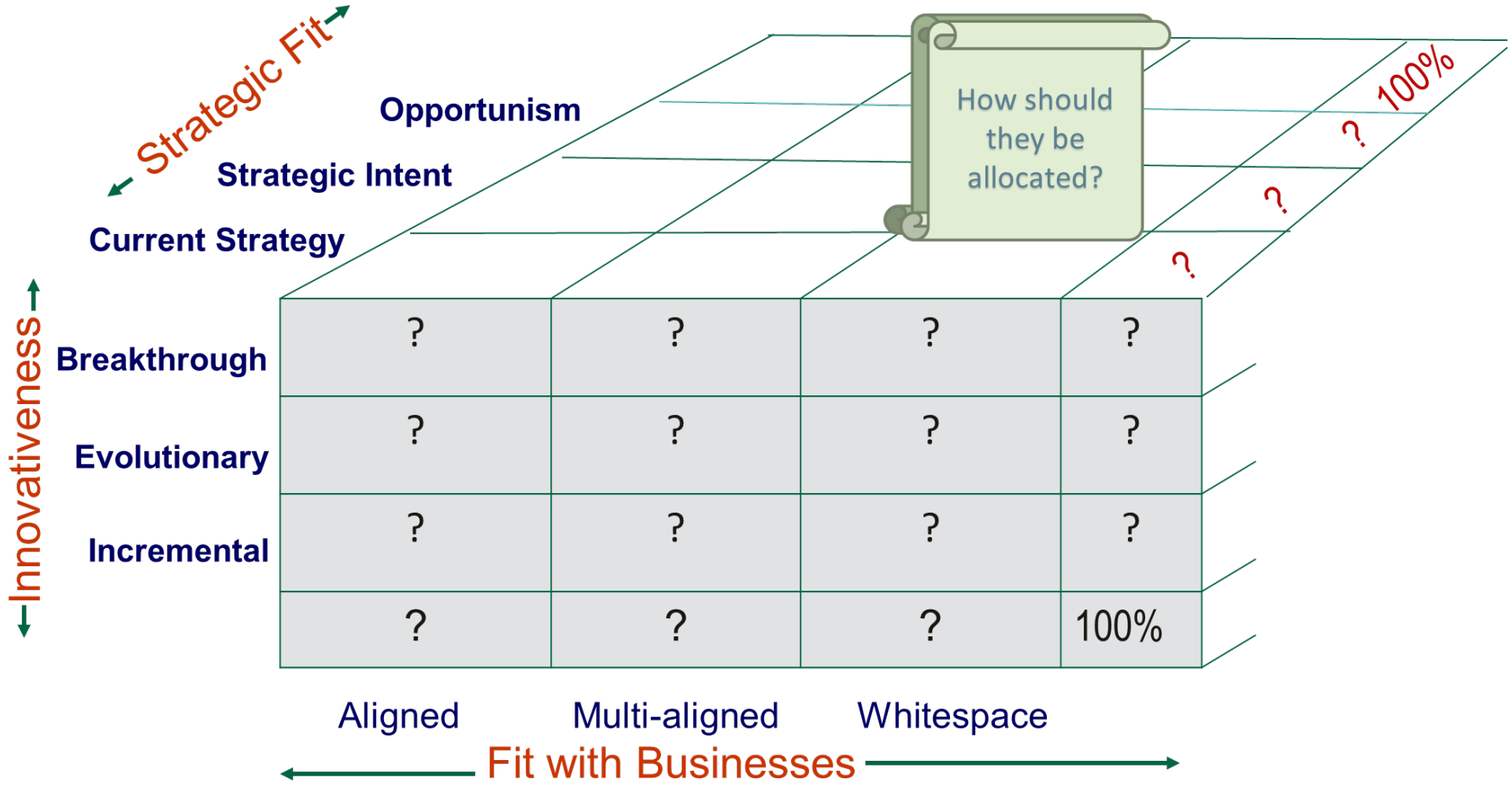

MEASURING SUCCESS AS SI COMPENTNCY EVOLVES: OBJECTIVES

Category	Shorter Term: 0-3 years Key Achievement Indicators: Outputs	Longer Term: 3-5 years+ Key Performance Indicators: Outcomes
Strategic	Influence	Impact on Company Growth/Renewal
Portfolio	Investment Flow and Competency Development (Activity and pacing with quality over quantity)	Portfolio Health: Size, Diversity, Churn rate, Pacing, Cross Portfolio Learning, Project Quality/Value
Domain	Learning Driven Milestones (Opp'y landscape populated, Uncertainty reduction through market experiments, strategic partnerships, right team in place, early revenue, emergent strategy)	Emerging & New Business Platforms (Commitment to revenue & sales forecasts, New Markets, New Customer inquiries, repeat purchases, pathway to profit)

TO DO: SMALL GROUPS

1. Consider INPUTS for Strategic Innovation—Handout 1. How far off of your INPUT Objectives are you today?
2. Consider OUTPUT and OUTCOME Objectives for Strategic Innovation—Handout 2
3. Consider OUTPUT and OUTCOME Key Results—Handout 3

Report outs

ACTIONS

1. What needs to happen to ensure results are tracked?
   - ➢ Most lack the discipline!
2. What are your next steps?

TAKE AWAYS

- ✓ Communicate empirical results to help convince leaders.
- ✓ Develop/evolve your organization's Strategic Innovation Capability by learning and instituting the 8 principles of SI in a way that fits your organization's context.
- ✓ Set **Objectives**, create a scorecard of key results and keep records!
- ✓ Measure **Inputs, Outputs and Outcomes.**
- ✓ Maintain the discipline that will enable the SI group to persist.

Thank you

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