



MANUFUTURE'2007

Constructing a Sustainably
Competitive Europe

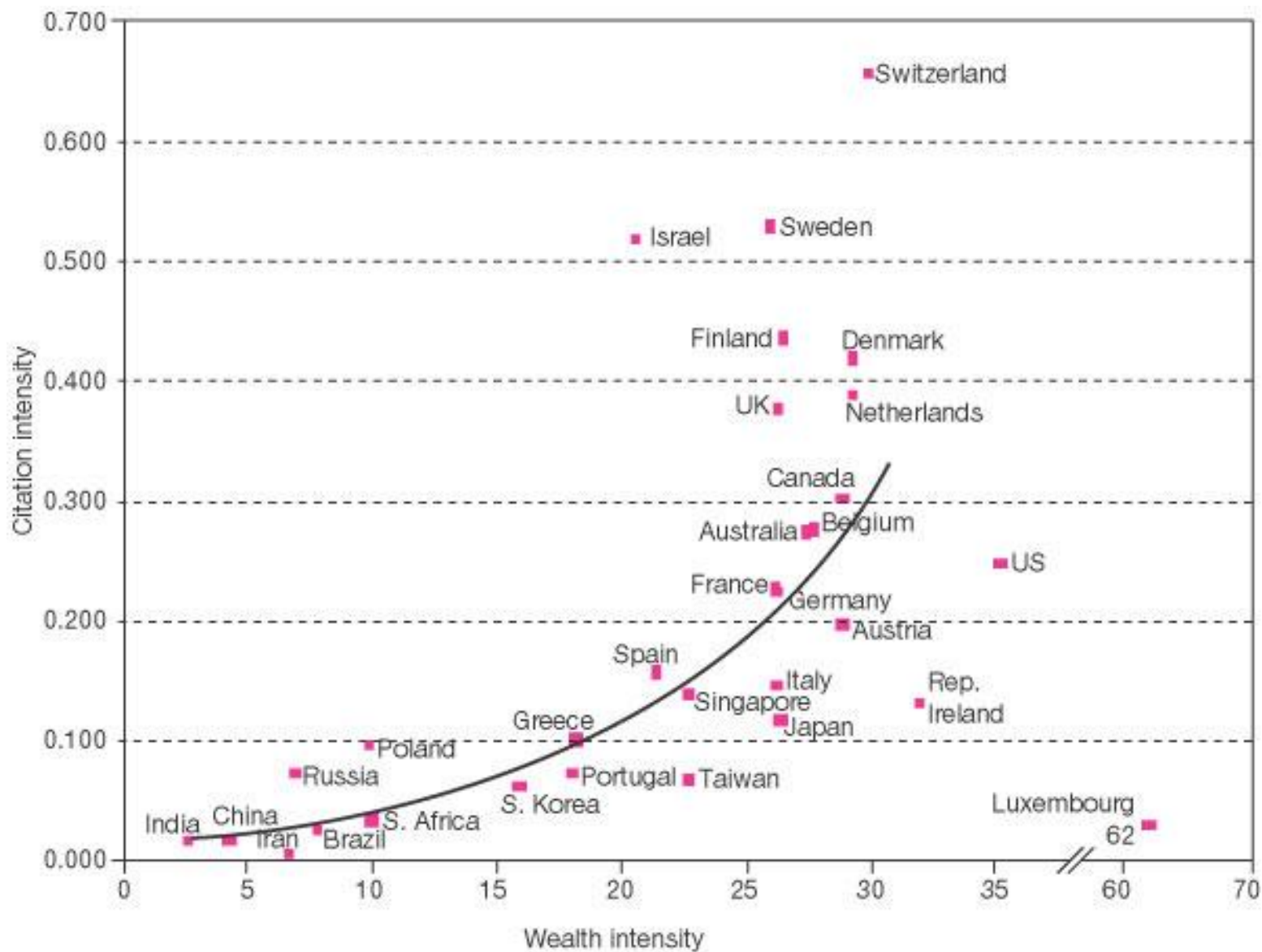
Corporate R&D and Economic Impact

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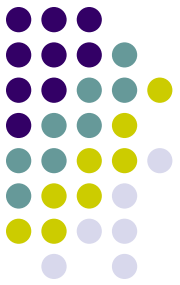
Comparing Economic & Scientific Wealth – Ratio of Citations to GDP (David A. King)



Common R&D Perceptions / Misconceptions

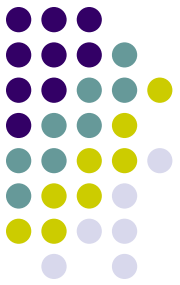


- More R&D means more profits ... or *not*.
- It's the government's job.
- ...or is it the private sector's...?
- What is R&D vs. Innovation?
- Is the real goal R&D... or is it *growth*?
 - Profits & profitability!



The Managers Dilemma

- How much do we spend?
- Where?
- How do we manage the uncertainty?
- ...and retain fiduciary responsibility?
- What about the customer? Who drives R&D?



The Managers Dilemma

- When do we realize a payoff?
- How much?

MARKET BUSTERS

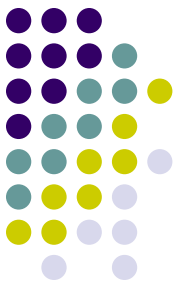
40 STRATEGIC MOVES
THAT DRIVE EXCEPTIONAL
BUSINESS GROWTH

RITA GUNTHER McGRATH

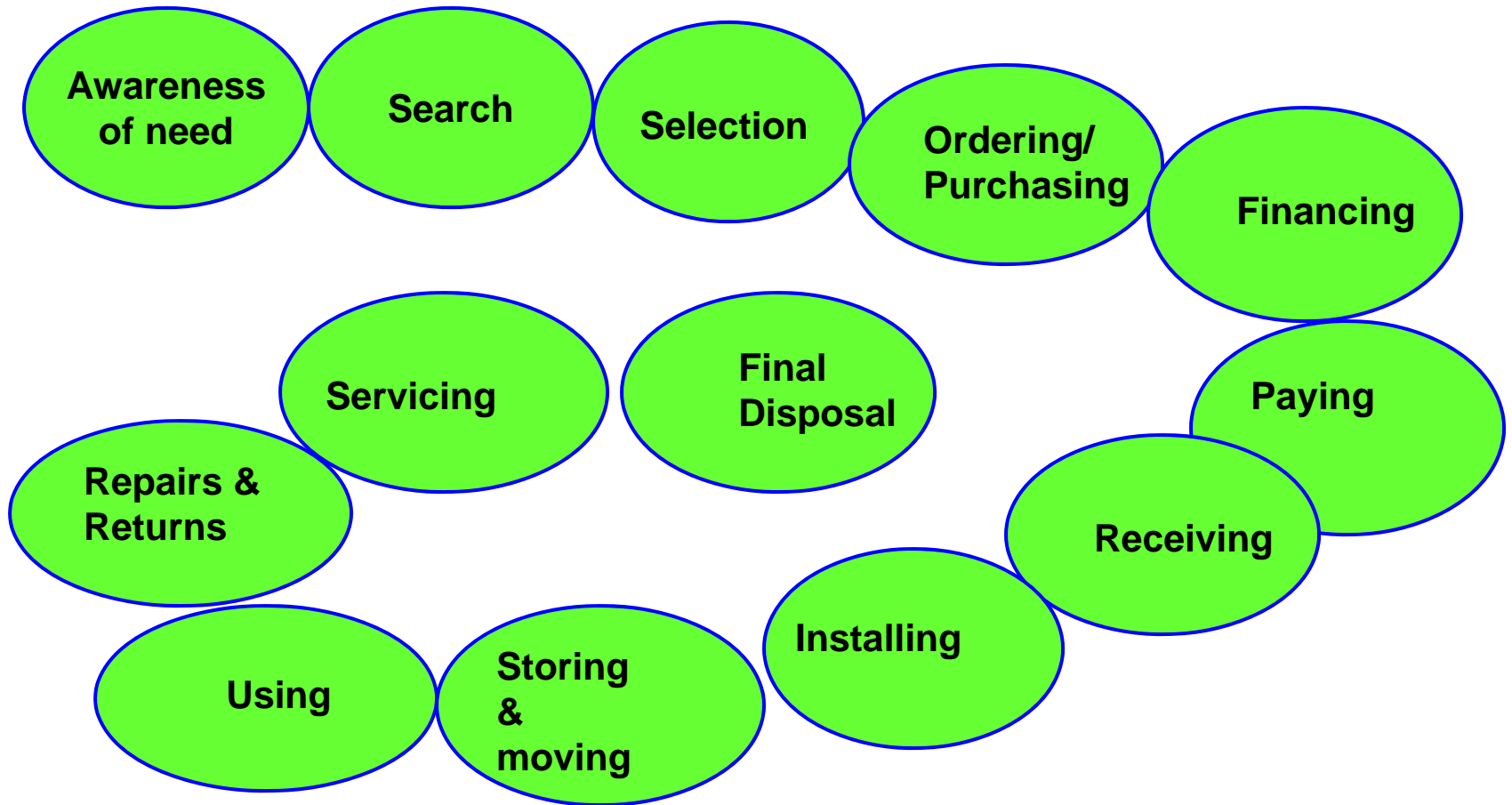
IAN C. MacMILLAN

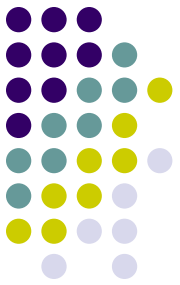
HARVARD BUSINESS SCHOOL PRESS





Tool 1: Revolutionize Consumption Chain





Tool 2: The Attribute Map

	Basic	Discriminator	Energizers
Positive	Non-negotiable	Differentiator	Excites
Negative	Tolerable	Dissatisfiers	Enrages Terrifies Disgusts
Neutral	So what	Parallel	No such beast

Strategy 3: Radically Change Key Metrics



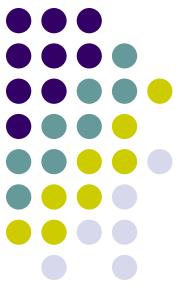
Every business has some 8-10 key success factors that drive their competitiveness and profit growth

- can you reconfigure KSF's for your division? (Probably)
- more important can you reconfigure KSF's for your customers?

Critical question: Can you help your customer boost profits?



- Changing what were capital expenses to operating expenses
 - GE Locomotive
- Changing uncertain expenses to certain expenses
 - Direct Leasing
- Increasing revenues
 - Alcoa to auto



Alcoa transformed their focus from sheet metal vs. aluminum vs. steel to ‘impact on auto sales’

Performance:

- Acceleration
- Handling
- Noise, Vibration & Harshness (NVH)

Safety:

- Occupant & Pedestrian
- Energy Absorption / Crash Management
- Vehicle Compatibility
- Crash Avoidance

Comfort & Convenience:

- Improved Space
- Ease of Access
- Thermal Management

“Creating the driving experience that helps you sell more cars”

Helping Customers Enhance Performance Through Key Metrics



- Firm: Cemex
- Dilemma: Unpredictable demand in the ready-mix concrete business
 - The customer is ready, workers are waiting, and there isn't any concrete!
 - Concrete arrives and the customer is not ready



Modes of Growth



- Acquisition
- Innovative growth
 - Incremental
 - MarketBusting
 - New business creation
- Funding growth
 - Problems of Uncertainty
 - Problems of Resourcing (at some level)

Real Options Reasoning (ROR)



Three major properties of an uncertain investment opportunity enhance its value

- Upside potential
- Downside controllability
 - Low cost of failure and/or
 - Ability to bail out yields
 - The right, but not the obligation to invest further
- Profit sustainability

High Upside is Crucial



- Means high potential gains
- If you complete development and the upside is not attractive, you have the option to abandon
 - All that is lost is the cost of development
- If you complete development and the upside is attractive, you have the option to invest more
 - The higher the upside the greater the potential gain



Control of Downside is Crucial

- If you cannot control downside you lose the option-like value of upside

Ability to Discontinue is Crucial



- If your initial investment locks you in to follow on investments you lose the option value

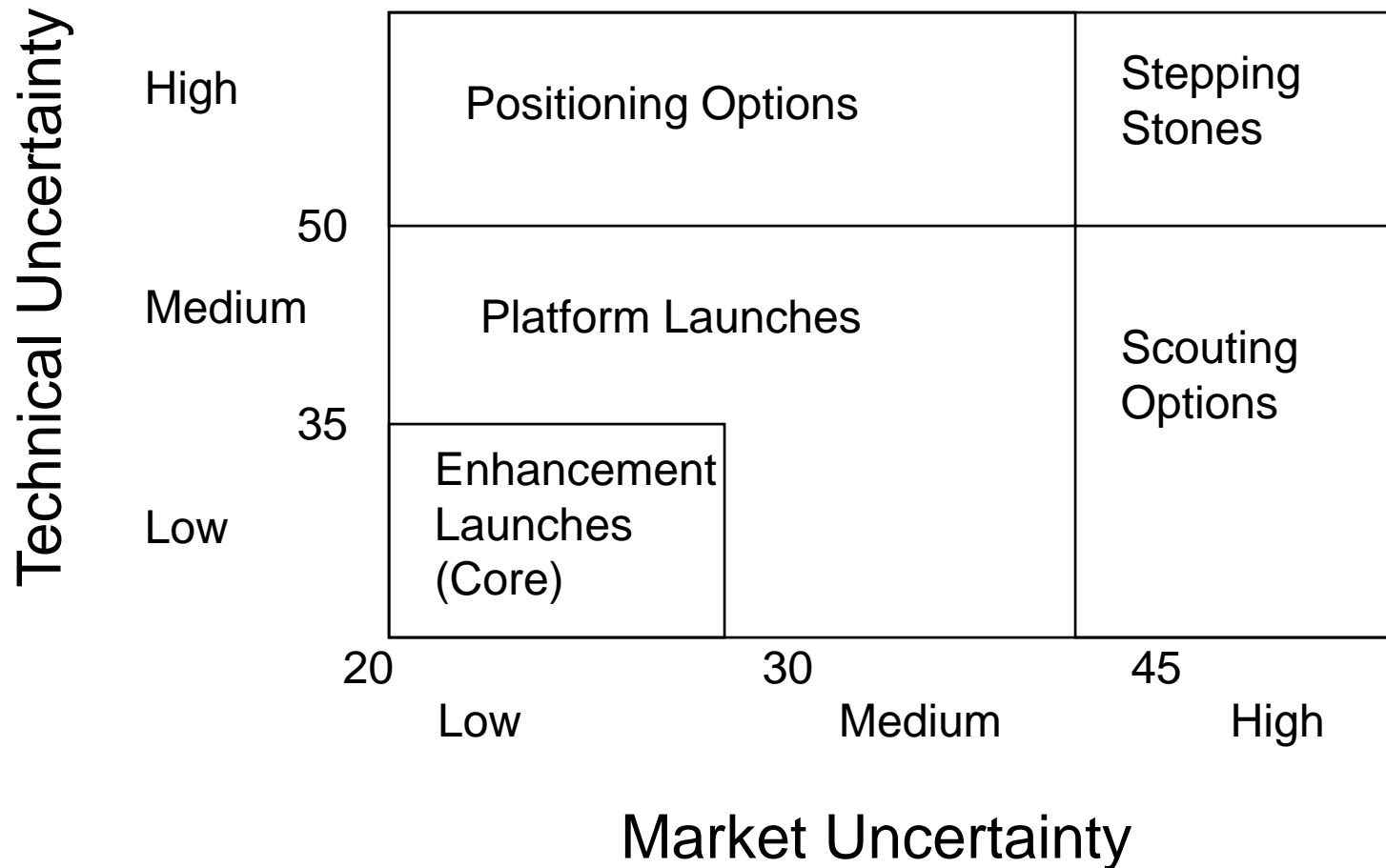
A core problem: Managing all projects the same way



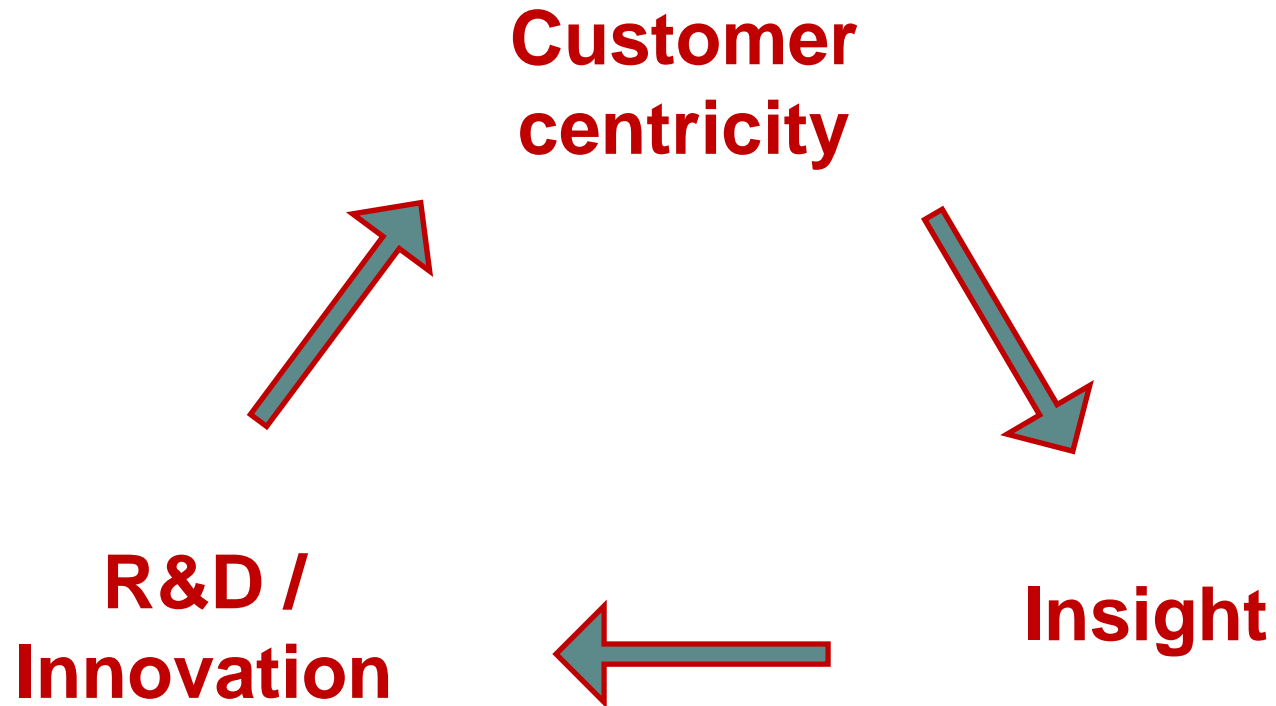
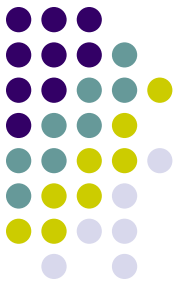
- Option value and option thinking becomes critical
 - The right, but not the obligation to invest further – you **must** be able to bail out
 - Contained downside, massive upside
 - Use a portfolio
 - Failures can add value!

Source: McGrath & MacMillan *The Entrepreneurial Mindset*
Harvard Business School Press, 2000.

Creating Focus and Alignment: A Project Portfolio



Insight as Strategic Imperative



Tools



- Consumption Chain analysis
- Attribute Map
- Key Metric analysis
- MarketBusting Products / Services
- Real Options Discipline