Valuing Design

Alice M. Agogino
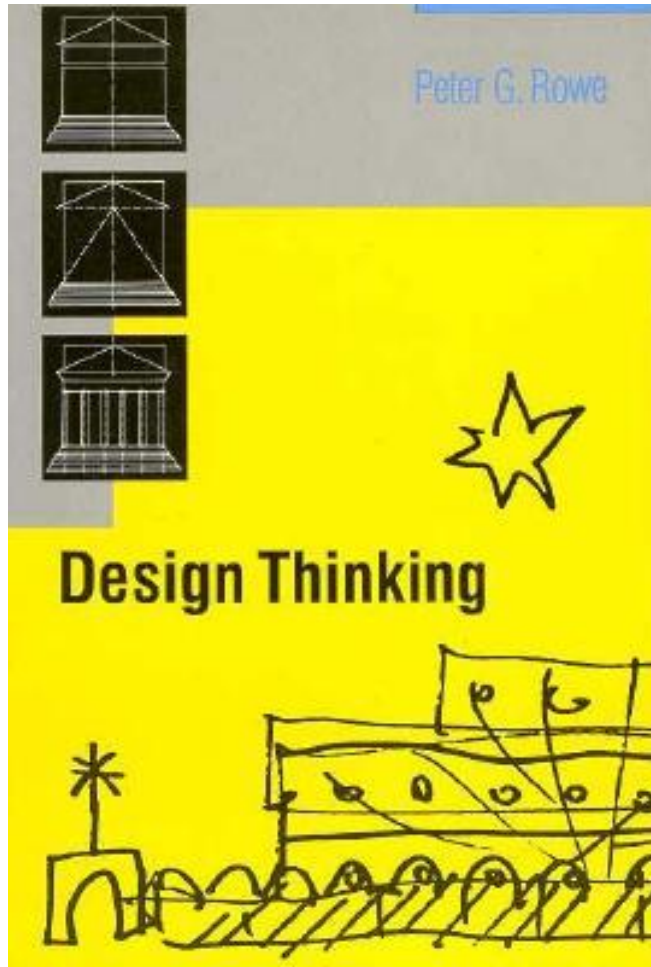**UC Berkeley**
Renault-Nissan Hackathon
September 11, 2017

Rittel's Inspiration to Design Thinking

Peter G. Rowe
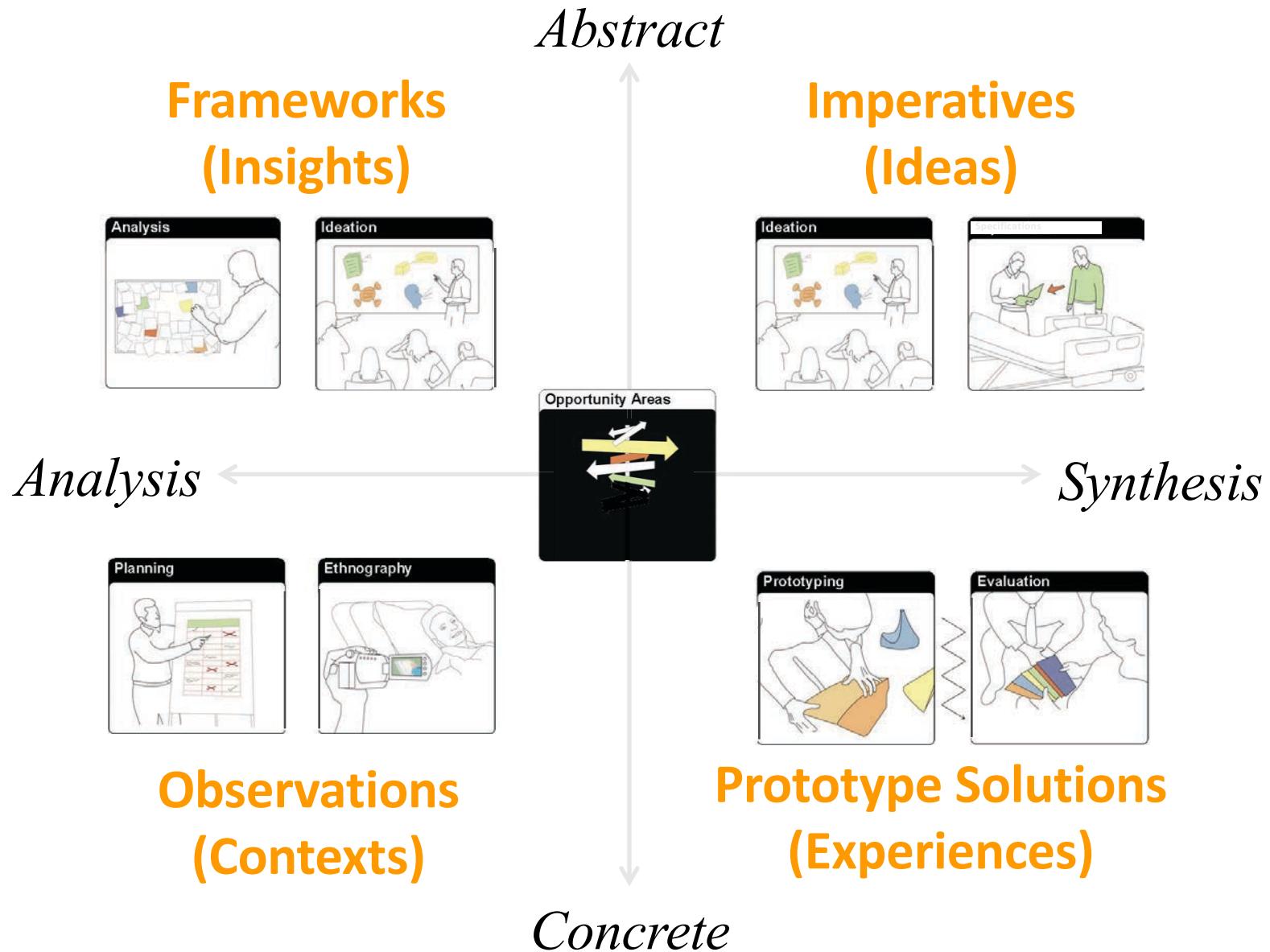Design Thinking

- **Peter Rowe** summarizes well-defined, ill-defined, and **wicked problems** from Horst Rittel (1973).
- Peter Rowe, 1987: **Design Thinking:** Underlying structure of inquiry common to all designing. Limitations of a procedural view.
- Design Thinking symposium, Delft University of Technology, 1991.
- Buchanan, Richard, "Wicked Problems in Design Thinking," *Design Issues*, vol. 8, no. 2, Spring 1992.
- Brown, Tim, Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation, 2009.

Design Thinking – UC Berkeley

Abstract

**Frameworks
(Insights)**

**Imperatives
(Ideas)**

Analysis | Ideation

Ideation | [ ]

Opportunity Areas

Analysis

Synthesis

Planning | Ethnography

Prototyping | Evaluation

**Observations
(Contexts)**

**Prototype Solutions
(Experiences)**

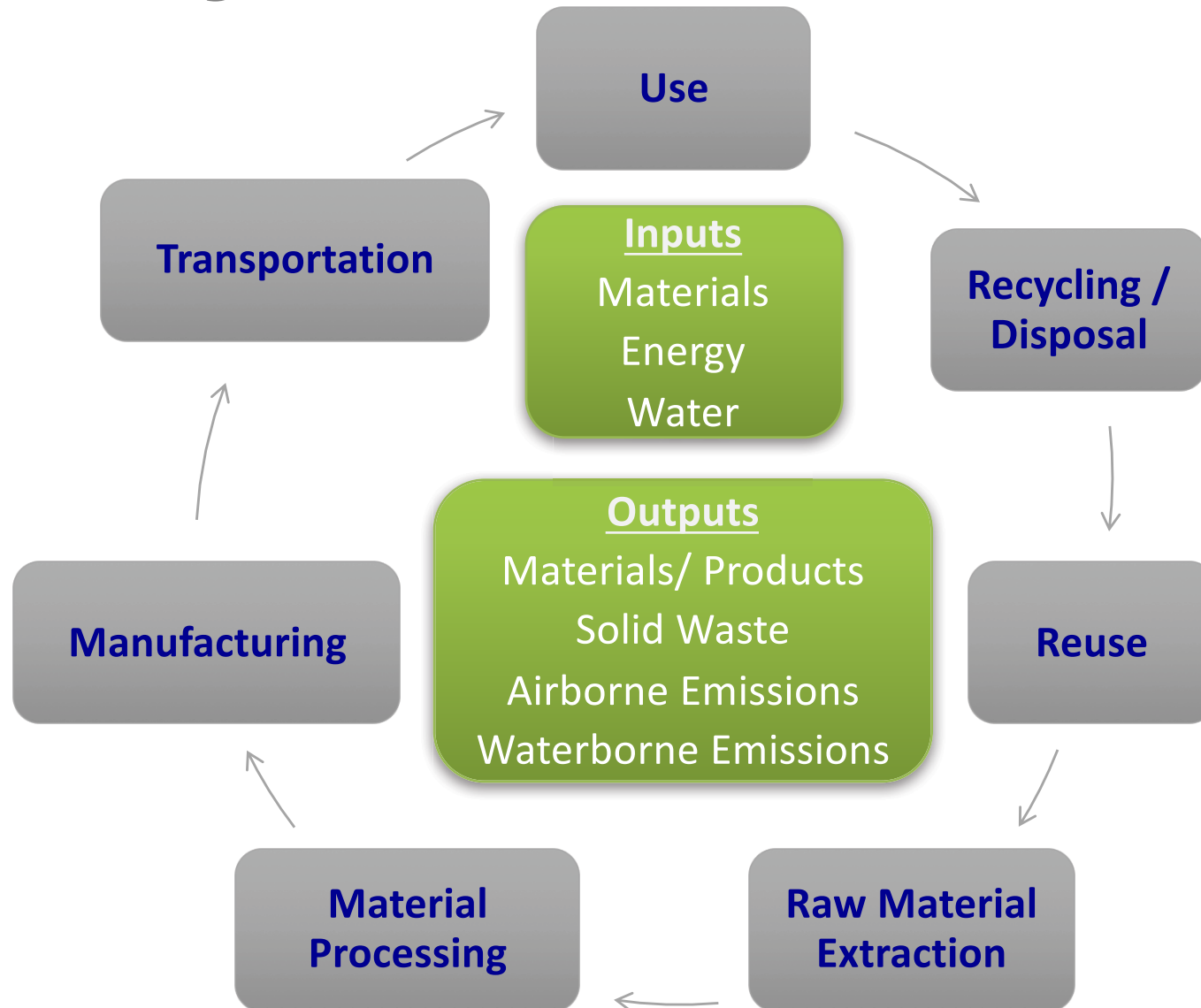*Concrete*

What Defines a Good Product?

- It gets used
- It satisfies people's needs and wants and   increases the quality of their lives
- It doesn't stand alone but is
  part of an infrastructure
- It meshes with the culture
- It's sustainable over the
  product life cycle

Good Design Meshes with Culture

Sustainable Over Product Life Cycle

6

Drivers for Sustainable Design

- Population growth
- Energy and water demand
- National and world security
- Resource justice: Today, 16% of the population is using 80% of the planets resources
- Climate change and pollution
- Reducing waste saves money and landfill
- Business drivers – responsible business practices
- Regulations and policies
- Supply chain quality
- Environmental impact ratings

Societal & Environmental Impact

Engineering Ethics:
What Does Your Professor Say?

"What we design? For whom do we design? How we manufacture? What resources we use? What will be the impact on society and the environment? These are all ethical and social justice questions that are important in product design."

Alice Agogino, Professor
Mechanical Engineering
Minner Fellow

UC BERKELEY
ENGINEERING ETHICS WEEK
PROFESSIONAL AND SOCIAL RESPONSIBILITY
Monday, April 7 - Friday, April 11

ESS ENGINEERING STUDENT SERVICES   **Berkeley Engineering**   coe.berkeley.edu/ethicsweek

Metrics for Valuing Design

- Usage
- Societal Impact (environmental, emerging regions)
- Process (multidisciplinary team work, human-centered design)
- Performance Ratings (J.D. Power, Consumer Reports)
- Expert Evaluation (IDEA/ Business Week, Consumer Electronics awards)
- Financial (stock performance, revenues, sales)
- Creativity (novelty, variety)
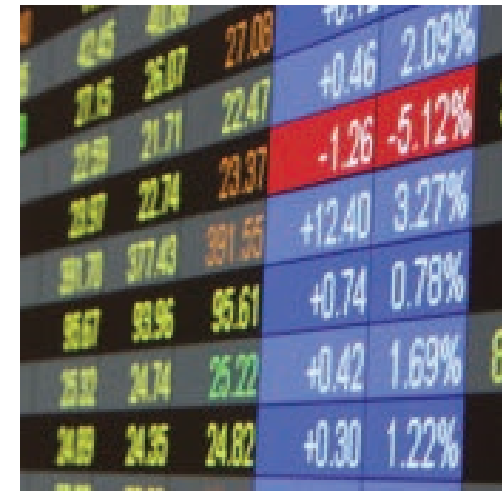
Nicholas
Kirkwood
Ankle Boots

Nest:
Gizmodo –
most popular
of 2013

usage

usage

Forbes Top Brands, 2017 – https://www.forbes.com/powerful-brands/list/

What is Brand's Value?

**Total worth -
$183 billion**

**Brand alone -
$56 billion**

What is Brand's Value?

The foundation of brand is trust.
Customers trust your brand when
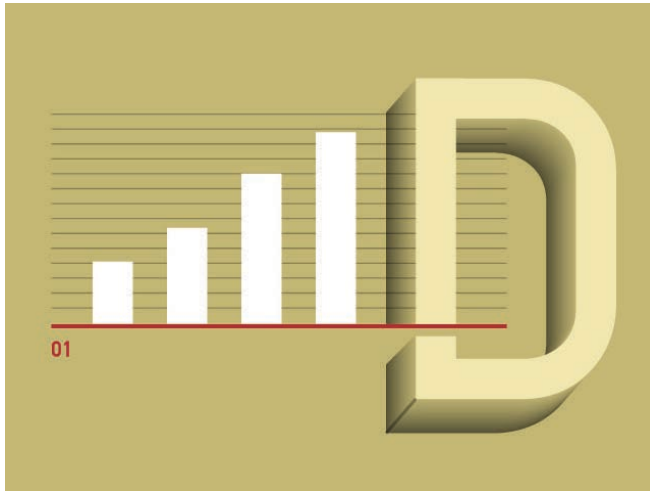their experiences meet their expectations.

How does Brand work?

Brand is the collective story surrounding a company.

Products are at the core of brand.

Performance ratings

Expert Ratings of Designs

THE WEBBY AWARDS

IDSA INTERNATIONAL DESIGN EXCELLENCE AWARDS '15

@IDSA #IDSAIDEA

Announcing This Year's IDEA Winners!

http://www.idsa.org/awards/idea/gallery

Engineering Pathway
Turn Ideas Into Reality - Learn. Connect. Create.

CATME/Team-Maker

Premier Courseware of 2009
CATME/Team-Maker and SimSE

"Everywhere you look today
design has taken on new meaning.
Design (is critical) to business.
The trick for all business people today
is to learn to think like designers."

- Fast Company magazine, 1999

Evidence from the Corporate Design Foundation

US Design Index vs Key Stock Market Indices

1994   2004
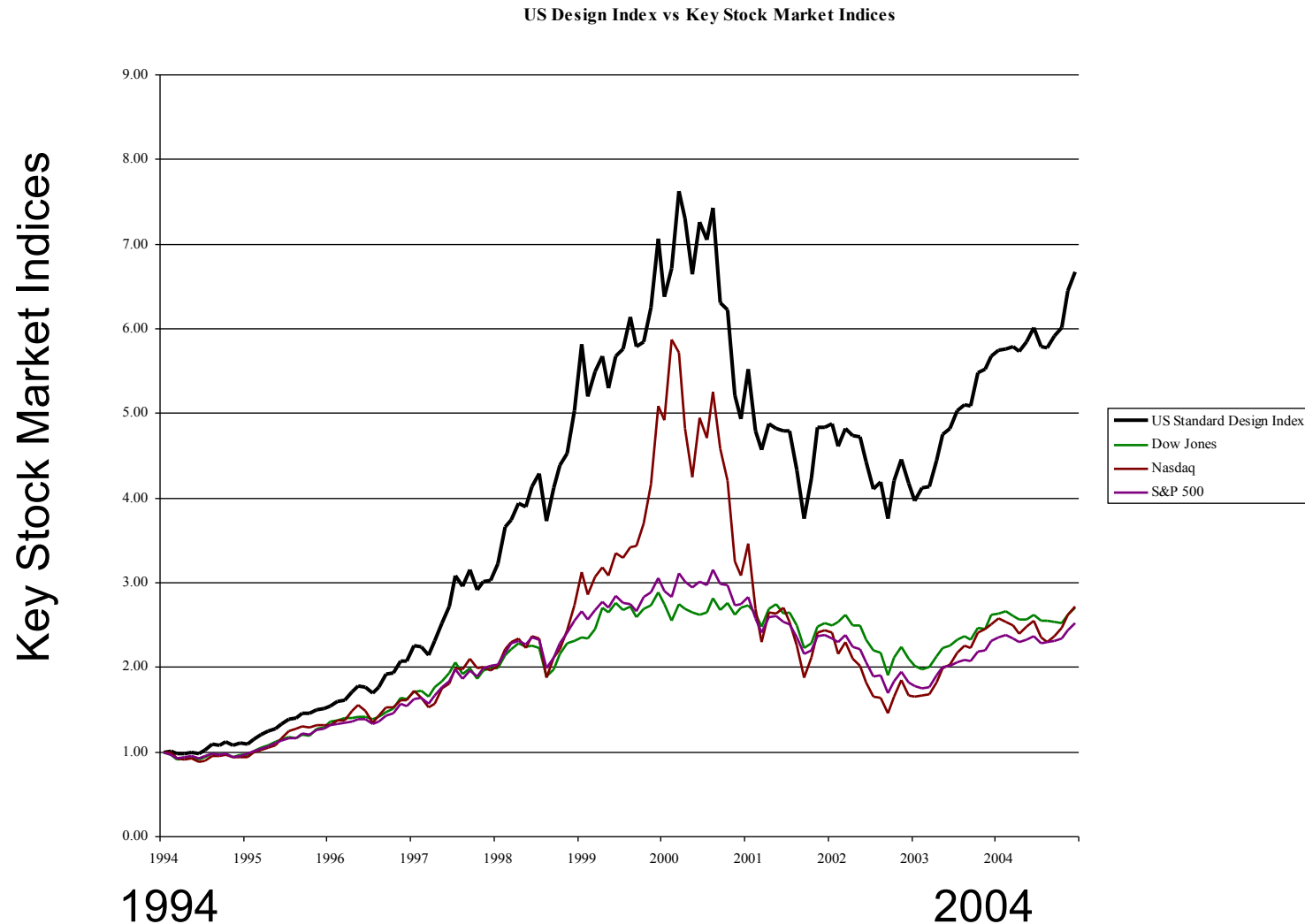
BusinessWeek IDEA Design Award winners outperform those who didn't win in stock performance

Evidence from the UK Design Council

Chart 1: Ten-year performance 1995-2004

1994 2004

Design Index: The Impact of Design on Stock Market Performance, July 2005'
Available at http://www.designcouncil.org.uk/en/Design-Council/3/Publications/

- Design Index
- Emerging Index
- FTSE 100
- FTSE All Share

Firms with "design portfolios" outperform those without them in the stock market

Design Value Index
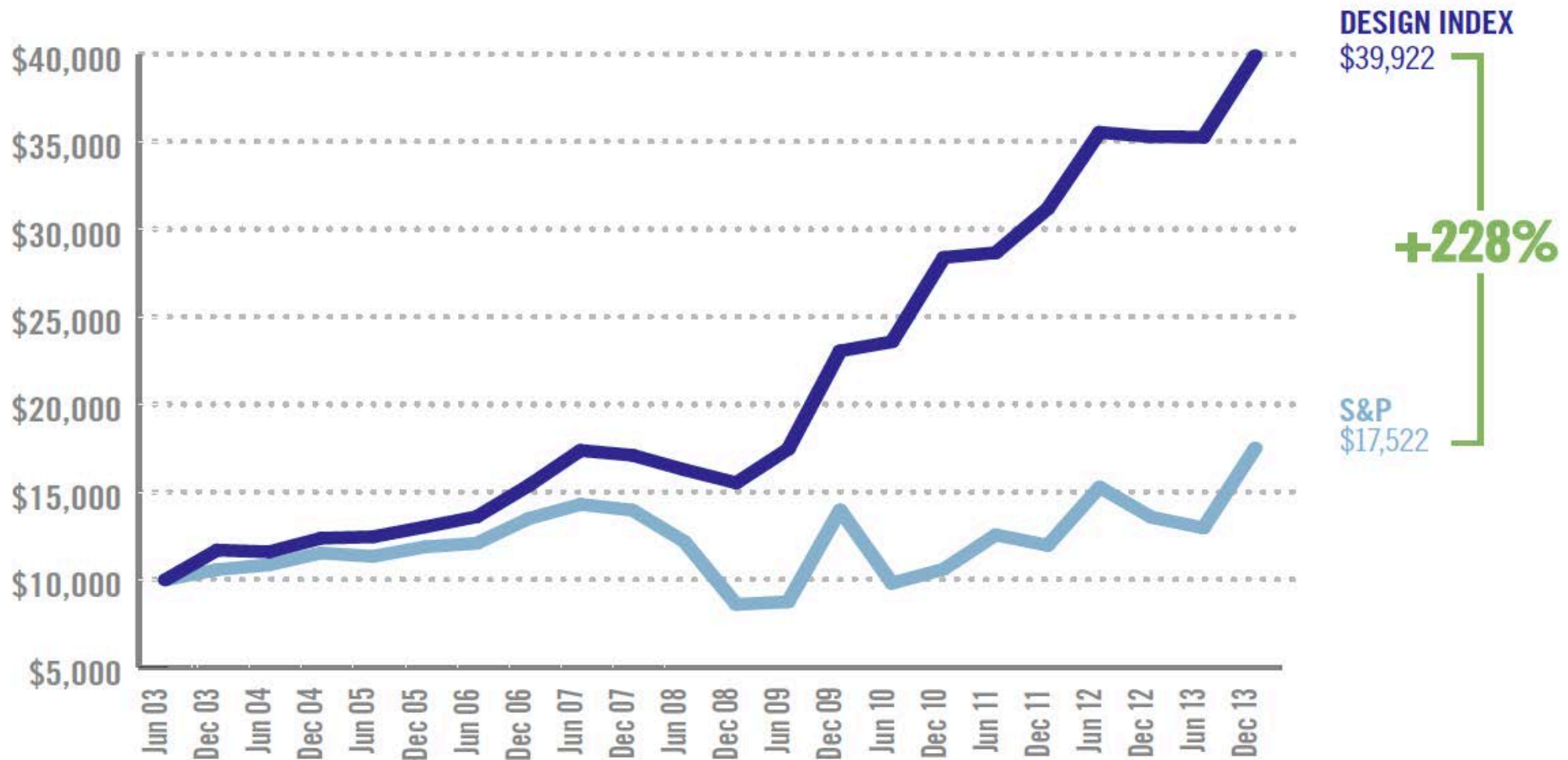
What is the Real Value of Design, Jeneanne Rae, *Motiv Strategies & Design Management Institute*, 2014

Design Value Index Selection Criteria

1. Publicly trades in the U.S. for 10+ years
2. Scale of integrated design organization & deployment as catalyst for change
3. Growth in design-related investments
4. Design is embedded within the organization
5. Design leadership at all levels
6. Senior-level commitment to design as an innovative resource for positive change

Portfolio of Design-Centric Organizations: Design Value Index

- Apple
- Coca-Cola
- Ford
- Herman-Miller
- IBM
- Intuit
- Newell-Rubbermaid
- Nike

- Procter & Gamble
- Starbucks
- Starwood
- Steelcase
- Target
- Walt Disney
- Whirlpool

What is the Real Value of Design, Jeneanne Rae, *Motiv Strategies & Design Management Institute*, 2014

Design Increases Revenues, Profit & Exports in the U.K.

£20+

For every £1 invested in design, businesses can expect over £20 in increased revenues

Design increases turnover

£4+

For every £1 invested in design, businesses can expect over £4 increase in net operating profit
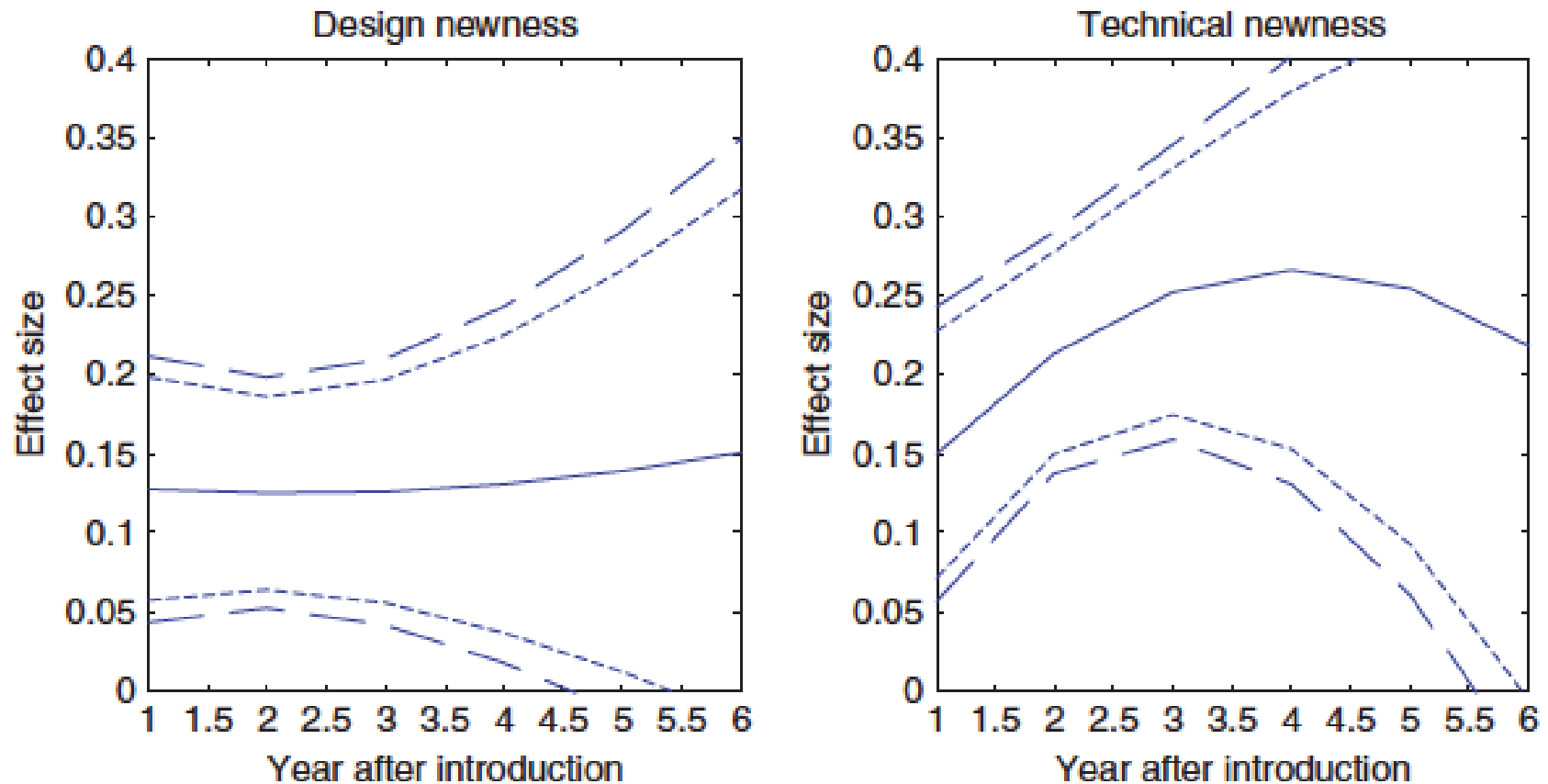
Design leads to profit

£5+

For every £1 invested in design, businesses can expect a return of over £5 in increased exports

Design boosts exports

Design Delivers for Business, Design Council U.K., 2012

Effects of Design & Technical Newness in Automotive Design

What about Design Newness? Investigating the Relevance of a Neglected Dimension of Product Innovativeness, Katrin Talke, Sören Salomo, Jaap E. Wieringa, Antje Lutz, *J Prod Innov Management* 2009, 26:601-615.

Big Idea's from Today

✓Design is built in, not added on

✓Understanding users is essential for good design

✓Good design adds value to products and brands

✓Brand value is the making and keeping promises