DESIGN & DESIGN THINKING: MYTH & METHODOLOGY

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Perception of Design

What most student thinks

What society thinks

What company may think

Design as Nouns

Today's Topics

1 **Why (Design & Design Thinking) ?**

2 **What (Design & Design Thinking) ?**

3 **How (Design & Design Thinking) ?**

WHY ?

V - Volatility
U - Uncertainty
C - Complexity
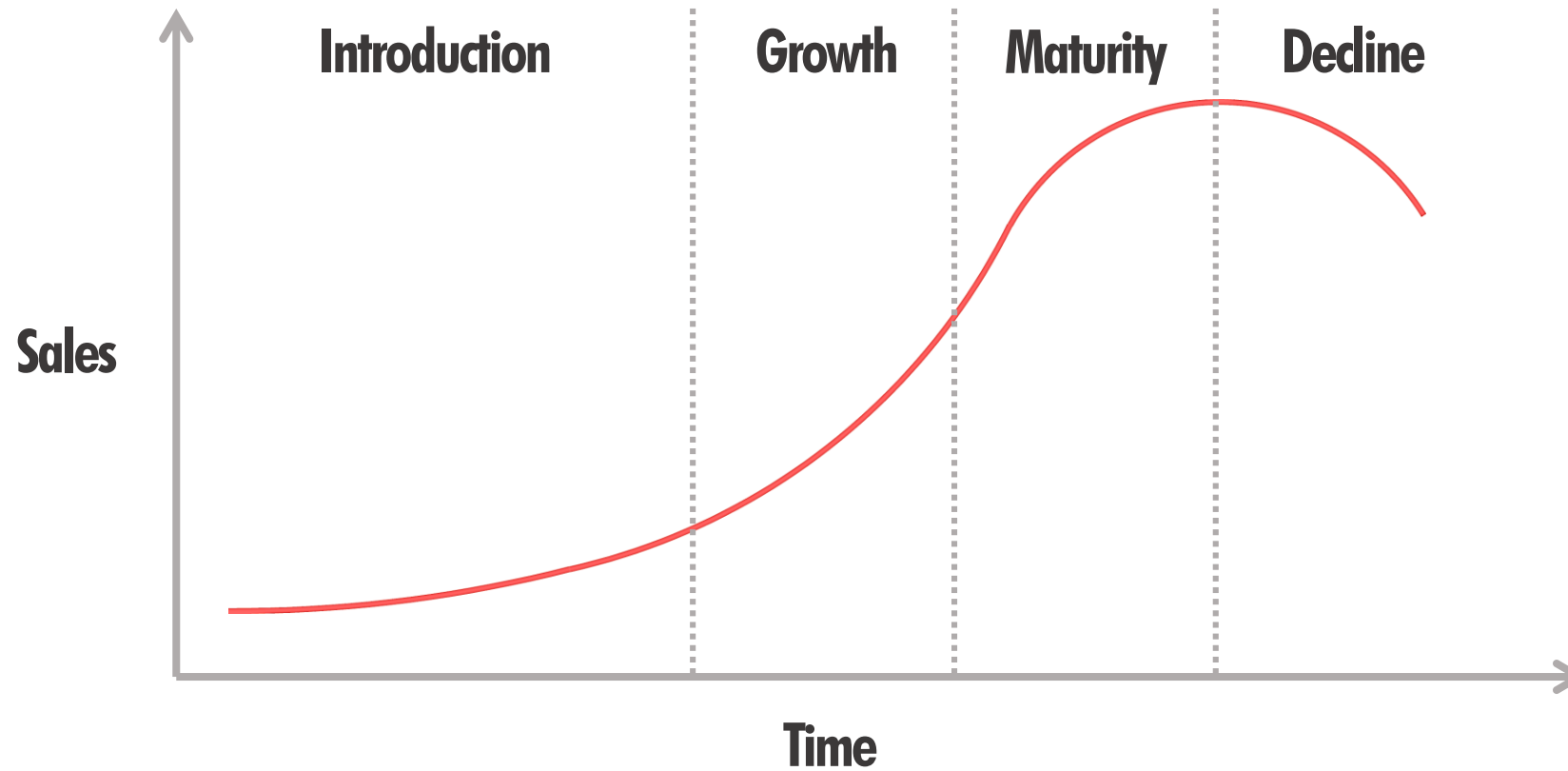A – Ambiguity

World's Mega Trends

- **The Millennials**

- **Rapid Urbanization**

- **Interconnected Global Economy**

- **Cutting-edge technology**

- **Climate Change**

- **Environmental Crisis**

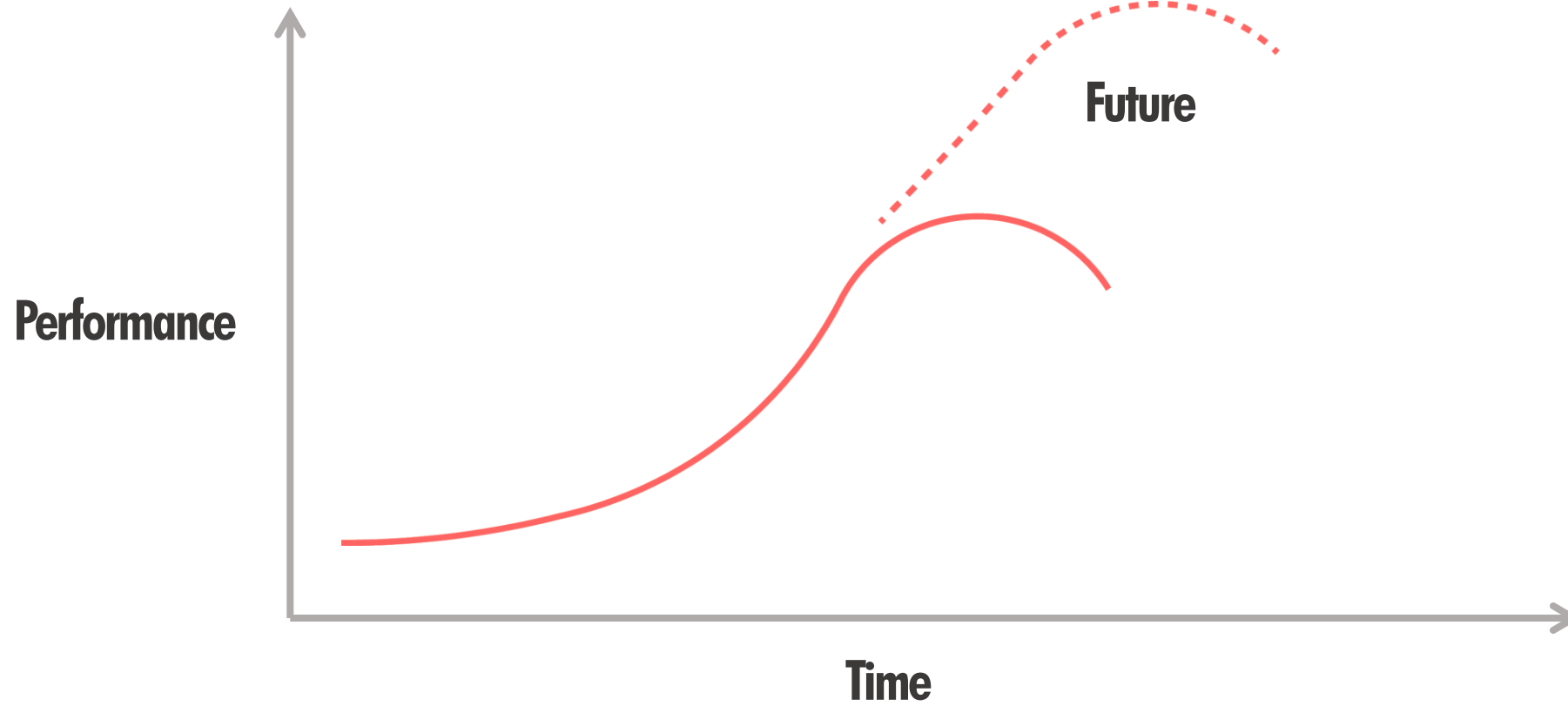- **Uncertain Energy Future**

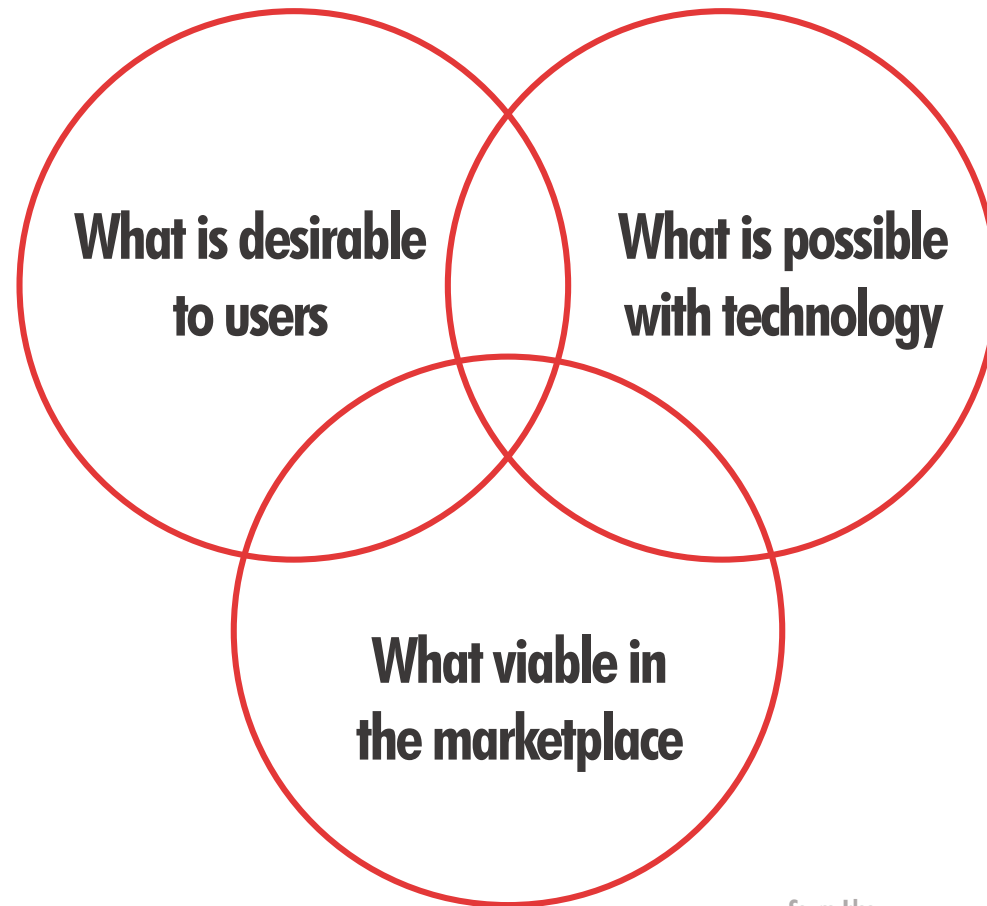- **New Vulnerability**

Technology Disruption

Product Life Cycle

Introduction | Growth | Maturity | Decline

Sales

Time

The New "S" Curve

Ideo's Innovation Framework

What is desirable to users

What is possible with technology

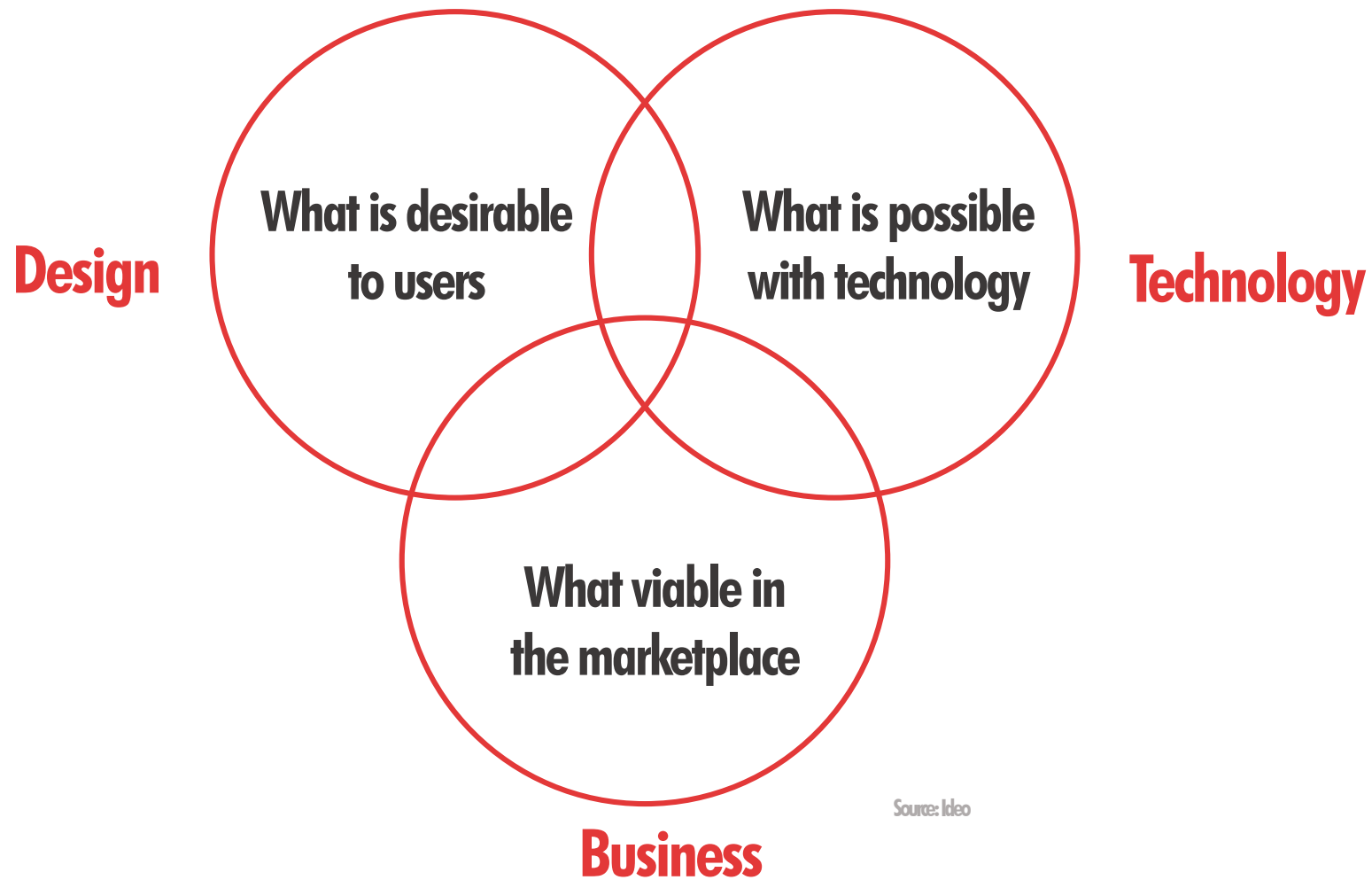**What viable in the marketplace**

Source: Ideo

Ideo's Innovation Framework

Design

What is desirable to users

What is possible with technology

Technology

What viable in the marketplace

Business

Source: Ideo

Forbes's Most Innovative Company 2021

	#1	ServiceNow
	#2	Workday
	#3	Salesforce.com
	#4	Tesla
	#5	Amazon.com

NETFLIX	#6	Netflix
Incyte	#7	Incyte
	#8	Hindustan Unilever
NAVER	#9	Naver
	#10	Facebook

	#11	Monster Beverage
Unilever	#12	Unilever Indonesia
Adobe	#13	Adobe Systems
CELLTRION	#14	Celltrion
AUTODESK	#15	Autodesk

REGENERON	#16	Regeneron Pharmaceuticals
VERTEX	#17	Vertex Pharmaceuticals
AMOREPACIFIC	#18	Amorepacific
AmerisourceBergen	#19	AmerisourceBergen
illumina	#20	Illumina

Source: https://www.forbes.com/innovative-companies/list/#tab:rank

Ideo's Innovation Framework

What is desirable to users

What is possible with technology

What viable in the marketplace

Source: Ideo

Human's Needs

Self-actualization

Morality,
Creativity,
Spontaneity,
Problem Solving,
Lack of Prejudice,
Acceptance of Facts

Esteem

Self-esteem, Confidence, Achievement,
Respects of Others, Respects by Others

Love/ belonging

Friendship, Family, Sexual Intimacy

Safety

Security of Body, Employment, Resources, Morality,
the Family, Property

Physiological

Breathing, Food, Water, Sex, Sleep, Homeostasis,
Excretion
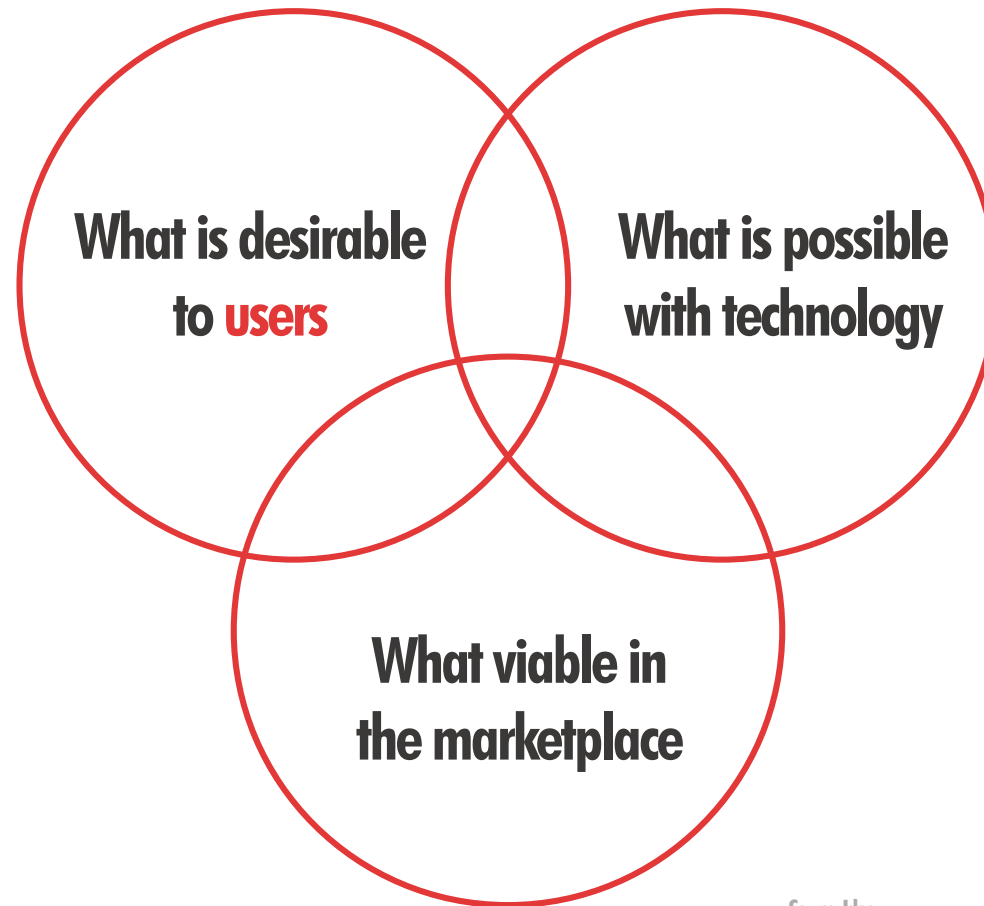
Source: Maslow's Hierarchy of Needs

UN's Sustainable Development Goal (SDGs)

Challenge

Source: Barry Banerjee

NEW SOLUTIONS

EXISTING SOLUTIONS

REVOLUTION

EVOLUTION

INCREMENT

EXISTING CONTEXTS

NEW CONTEXTS

WHAT ?

THAMMASAT
DESIGN SCHOOL
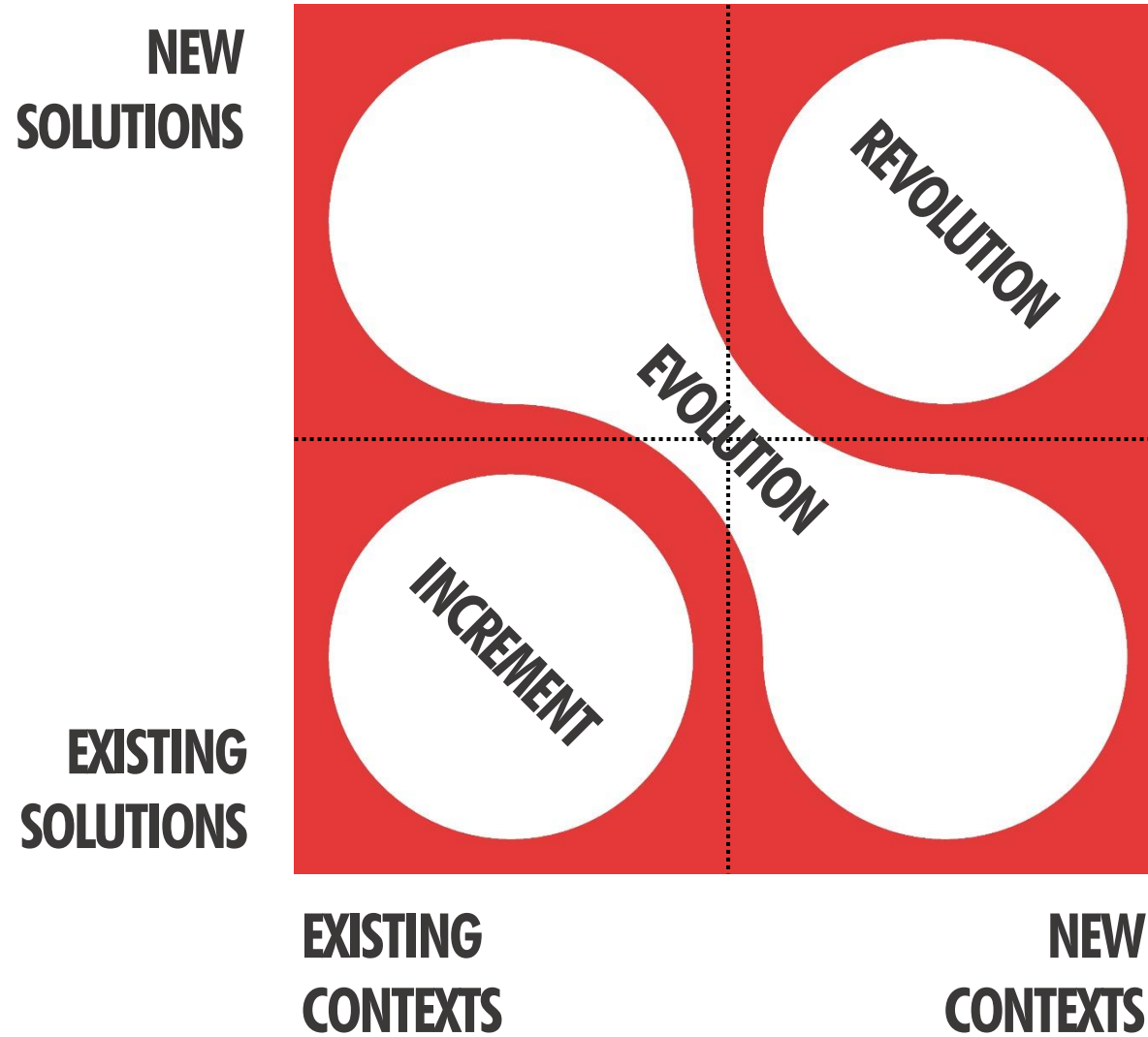
"**Design is a process of decision-making that aims to create effective and attractive solutions to a problem**"

Source: Boland and Collopy, 2004

Design as Verb

Vision → Concept

Problem → Concept

Concept → Development

Development → Evaluate → Production
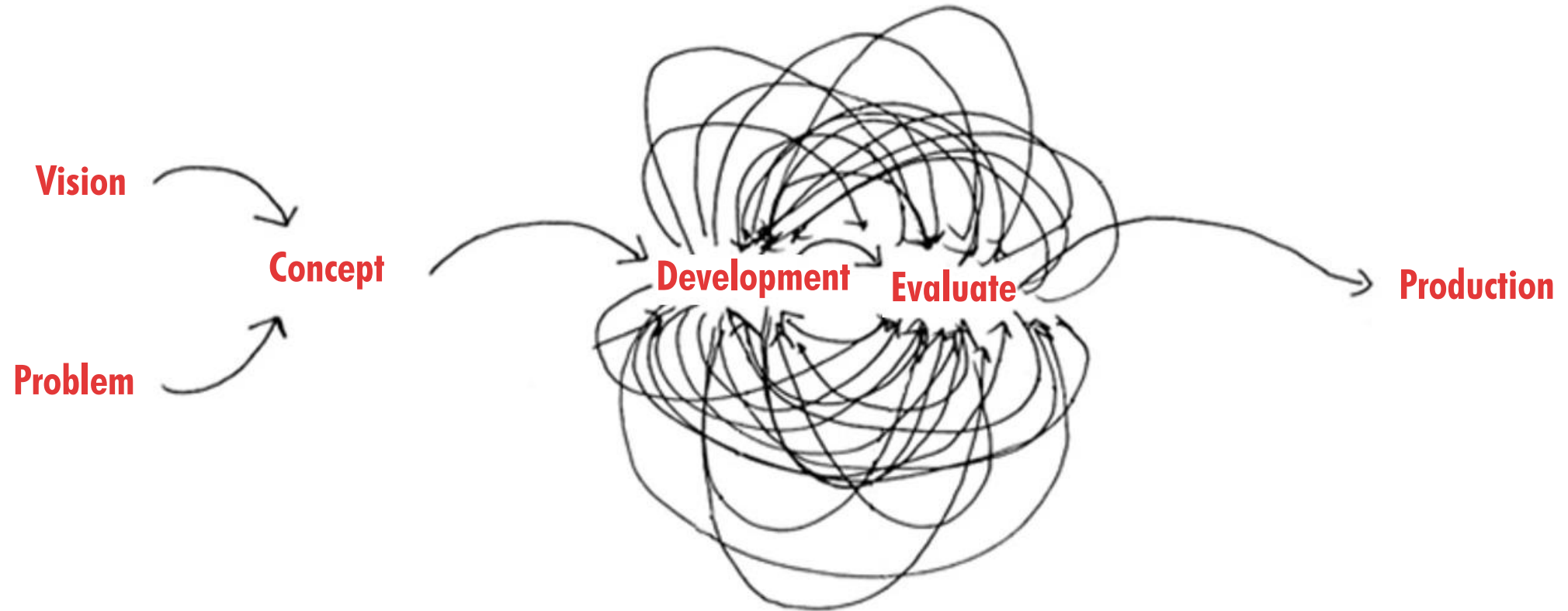
Design as Creative Systematic Thinking

Design Timeline

Industrial Economy

Circular Economy

dmi: design management institute

iPhone

Design and Industries Association

Presidential Prize by the Royale Society of Arts

Designer as thinker, planner and coordinator (Pilditch 1965)

IBM

PRODUCT DESIGN AND CORPORATE STRATEGY
Managing the Connection for Competitive Advantage
ROBERT BLAICH WITH JANET BLAICH

CHANGE BY DESIGN
TIM BROWN

The dmi:Design Value Index Outperforms the S&P 500 Index (Again)

The 2015 results of the dmi:Design Value Index Study shows a continued advantage sustained by organizations that invest in design, and a new crop of design leaders emerge.

DESIGN THINKING!

Product Design

"Design management as the function of defining a design problem, finding the most suitable designer, and making it possible for him to solve it on time and within a budget" (Farr 1965)

Creative Economy

Environmental Design

Design within organization (Gorb 1978)

Information Design

"Design for Designers"

"Design for Managers"

"Design management is the encompassing of on-going processes, business decisions, and strategies that enable innovation ...that enhance our quality of life and provide organizational success" (DMI 2017)

"Design for Everyone"

1950   1960   1970   1980   1990   2000   2010   2020

Tim Brown's Design Thinking

HOW DESIGN THINKING TRANSFORMS ORGANIZATIONS AND INSPIRES INNOVATION

CHANGE BY DESIGN

TIM BROWN

IDEO

Source: Fortune.com

Extend beyond "design" into:

- **Various industries such as finance, healthcare, and manufacturing**

- **Other verticals including workflows, processes, and operations**

DMI's Design Value Index
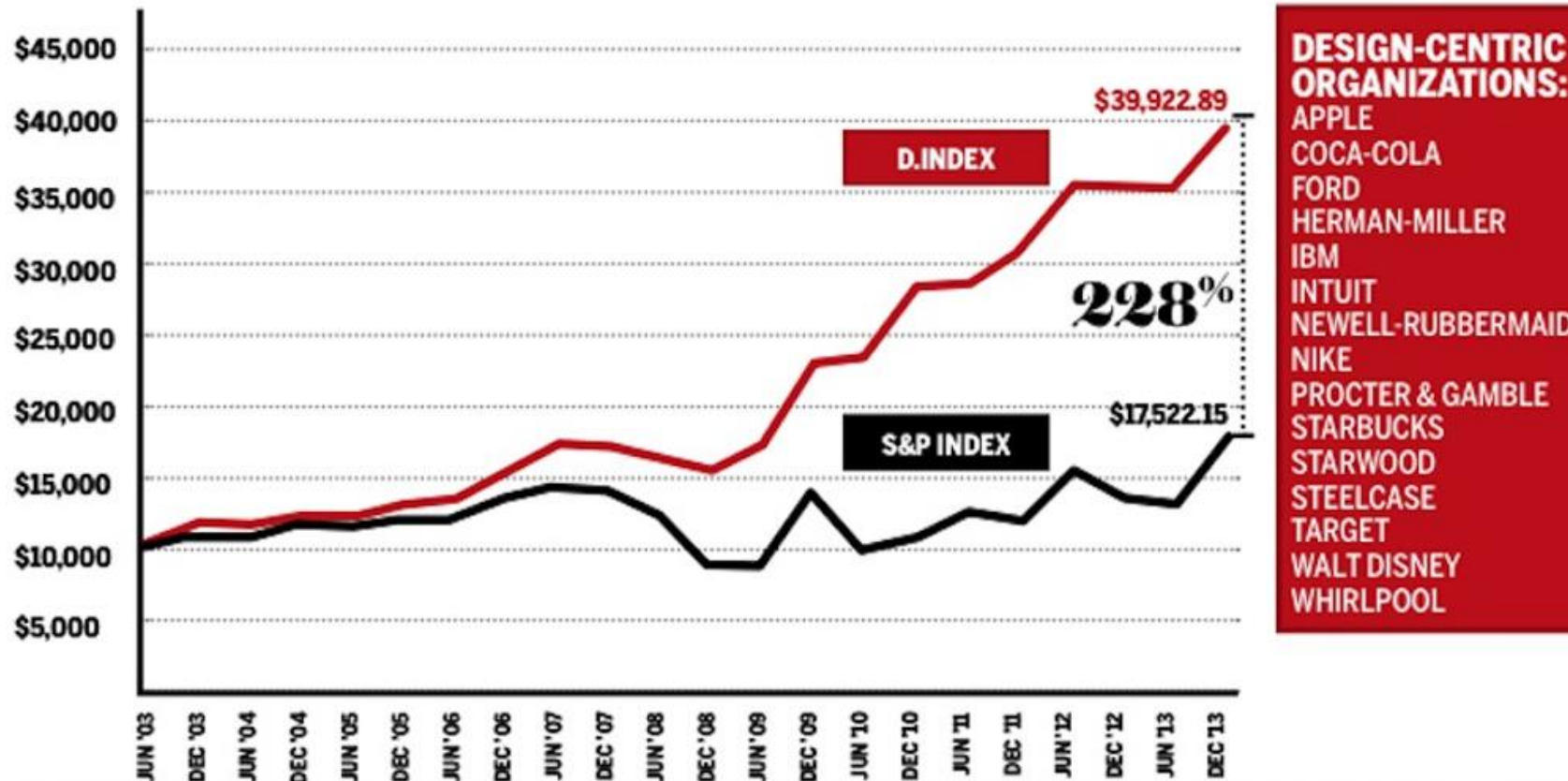
Source: Design Management Institute

Danish's Design Value Index

THE DESIGN LADDER

Step 4: Design as Strategy

Step 3: Design as Process

Step 2: Design as Form-given

Step 1: Non-design
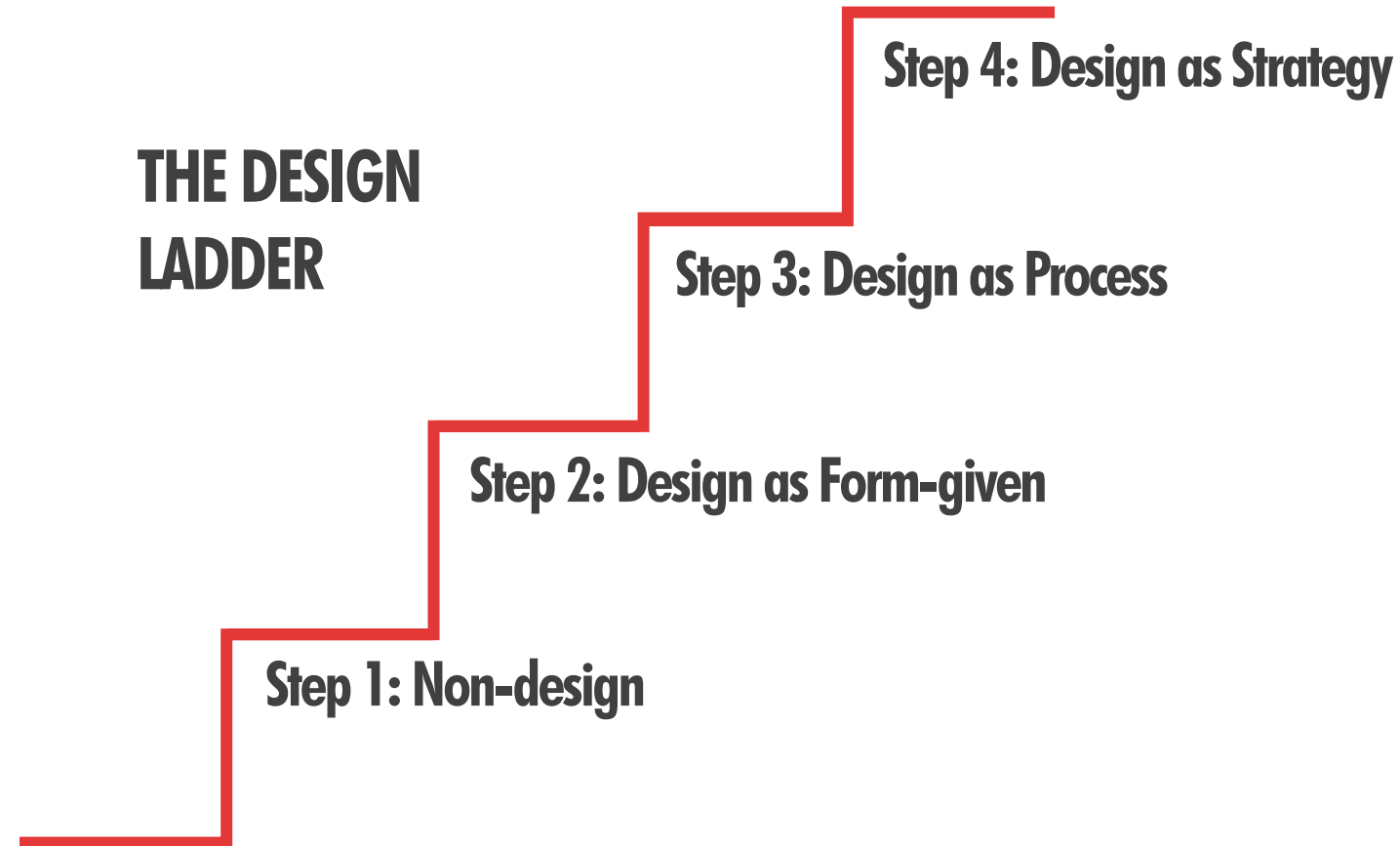
Source: Danish Design Center

Trends in Design & Design Thinking

eng art → tech biz human

Products
(Object/ Environment) → **Experience**
(System)

Designer
(Individual) → **Design Team**
(Organization)
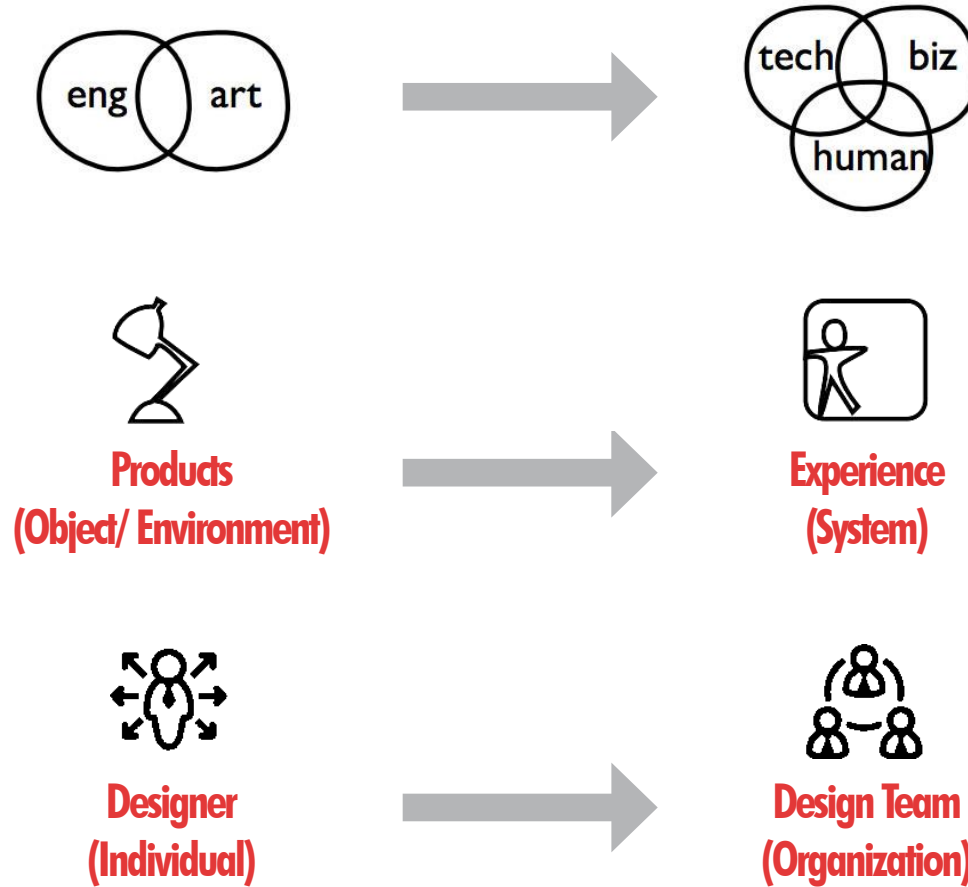
Design in a Nutshell
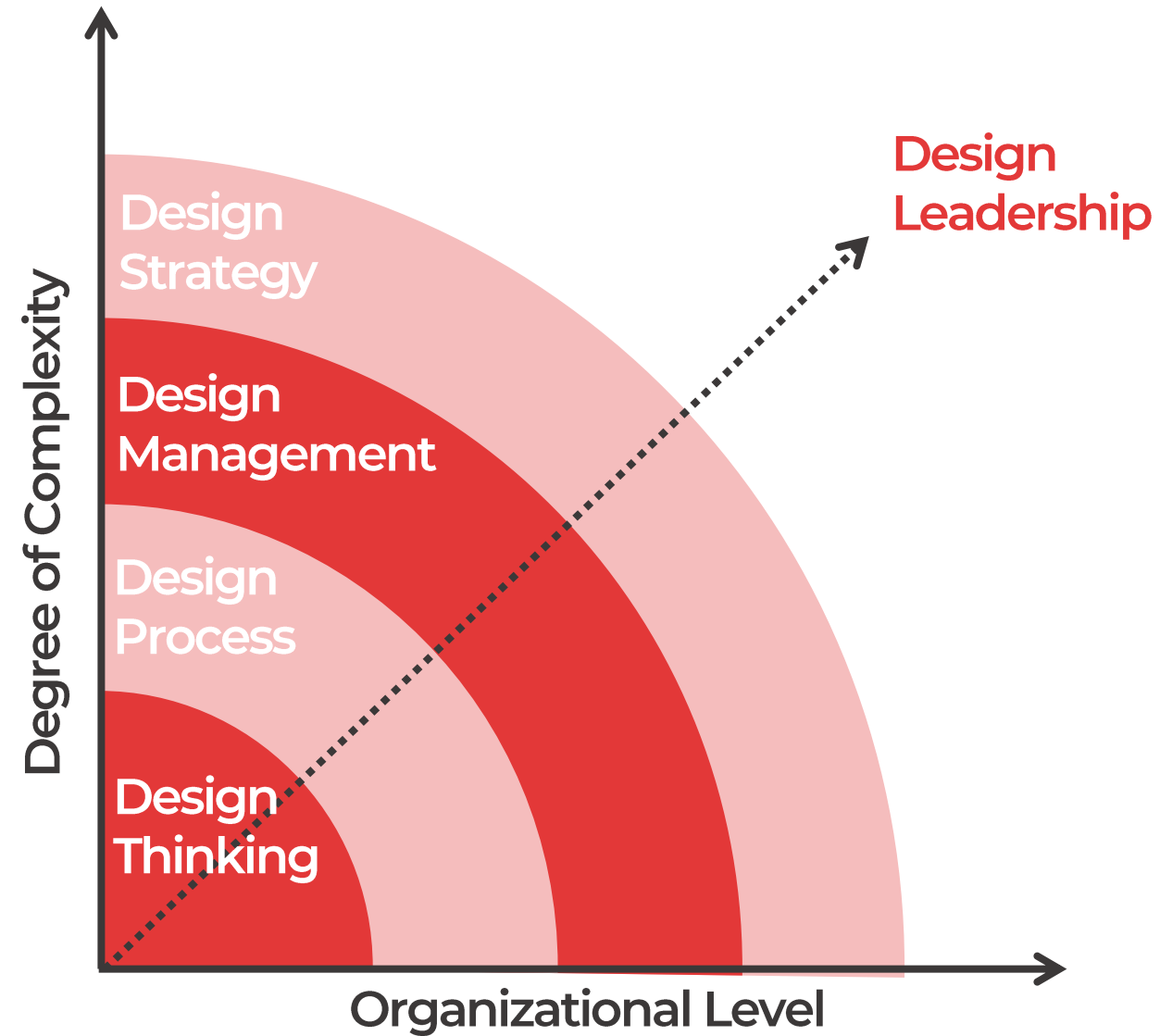
HOW ?

D. School's Design Thinking

- Interviews
- Shadowing
- Seek to understand
- Non-judgmental

- Share ideas
- All ideas worthy
- Diverge/Converge
- "Yes and" thinking
- Prioritize

- Mockups
- Storyboards
- Keep it simple
- Fail fast
- Iterate quickly

EMPATHIZE

DEFINE

IDEATE

PROTOYPE

TEST

- Personas
- Role objectives
- Decisions
- Challenges
- Pain Points

- Understand impediments
- What works?
- Role play
- Iterate quickly

Source: http://d.school.standford.edu

UK Design Council's Double Diamonds

Discover
insight into the problem

Define
the area to focus upon

Develop
potential solutions

Deliver
solutions that work

Problem

Problem Definition

Design Brief

Solution
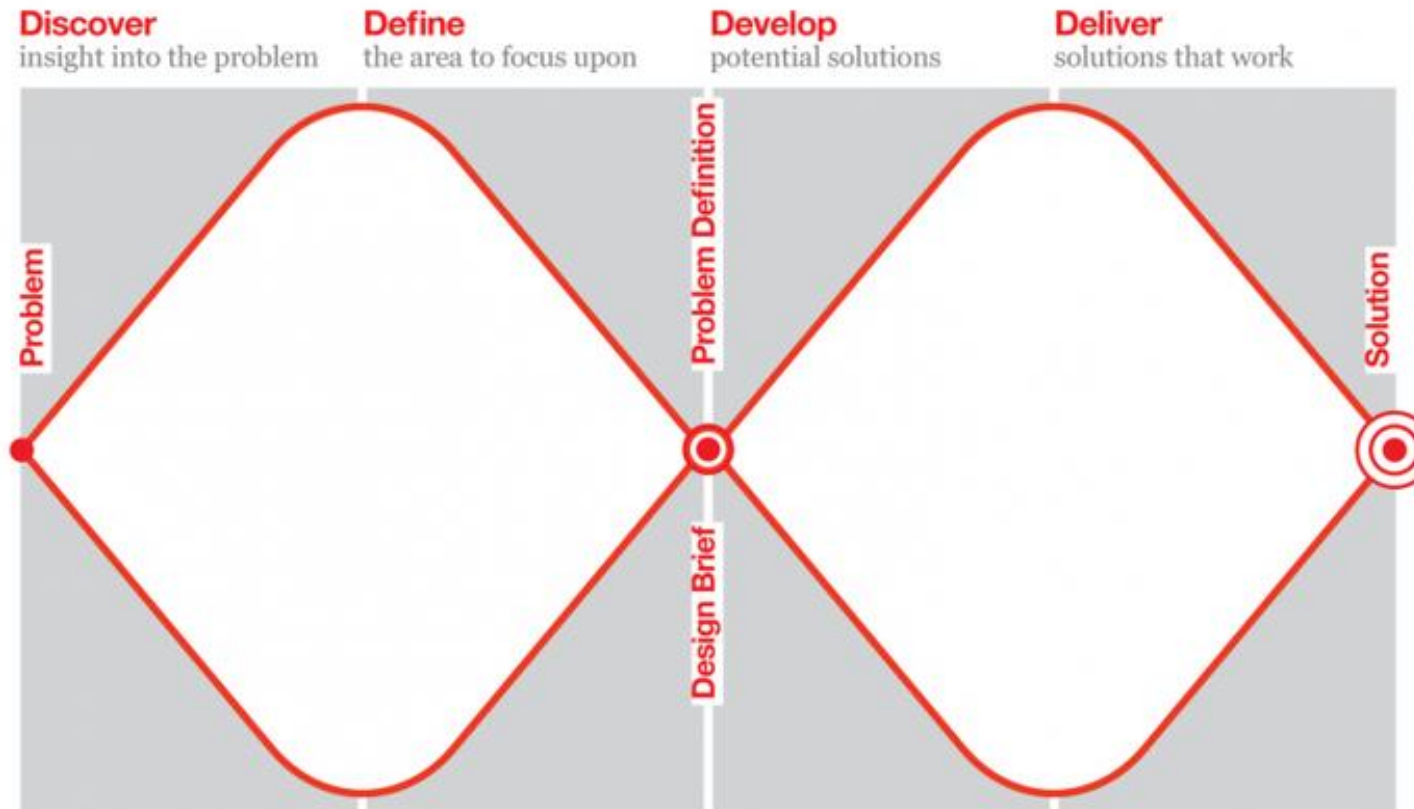
Source: UK Design Councils

NUS's Design Thinking

| 1 Understand | 2 Observe | 3 Point of View | 4 Ideate | 5 Prototype | 6 Test |
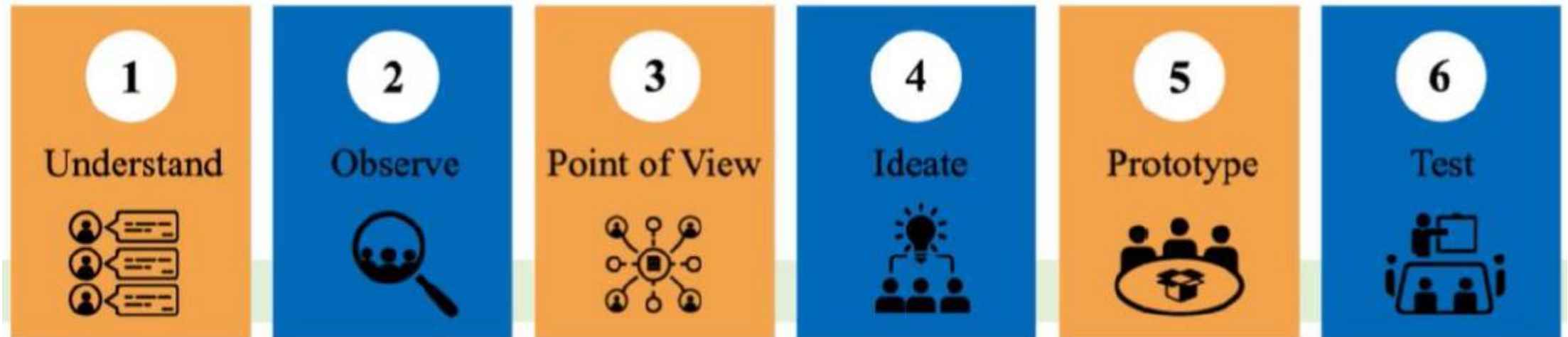
Source:: NUS Business School

Design Thinking at Philips

"Combining conventional consulting approaches with a design thinking methodology brings care processes to life from an emotional point of view, while ensuring they are economically viable."

Source: www.philips.com.sg

Dr. Patrick Heiler
Principal Consultant, DACH region

Design Thinking at P&G

1 Clearly define problem to be solve with innovation

2 Understand and imagine the experience for the customer

3 Prototype and test (Minimum viable prototype)

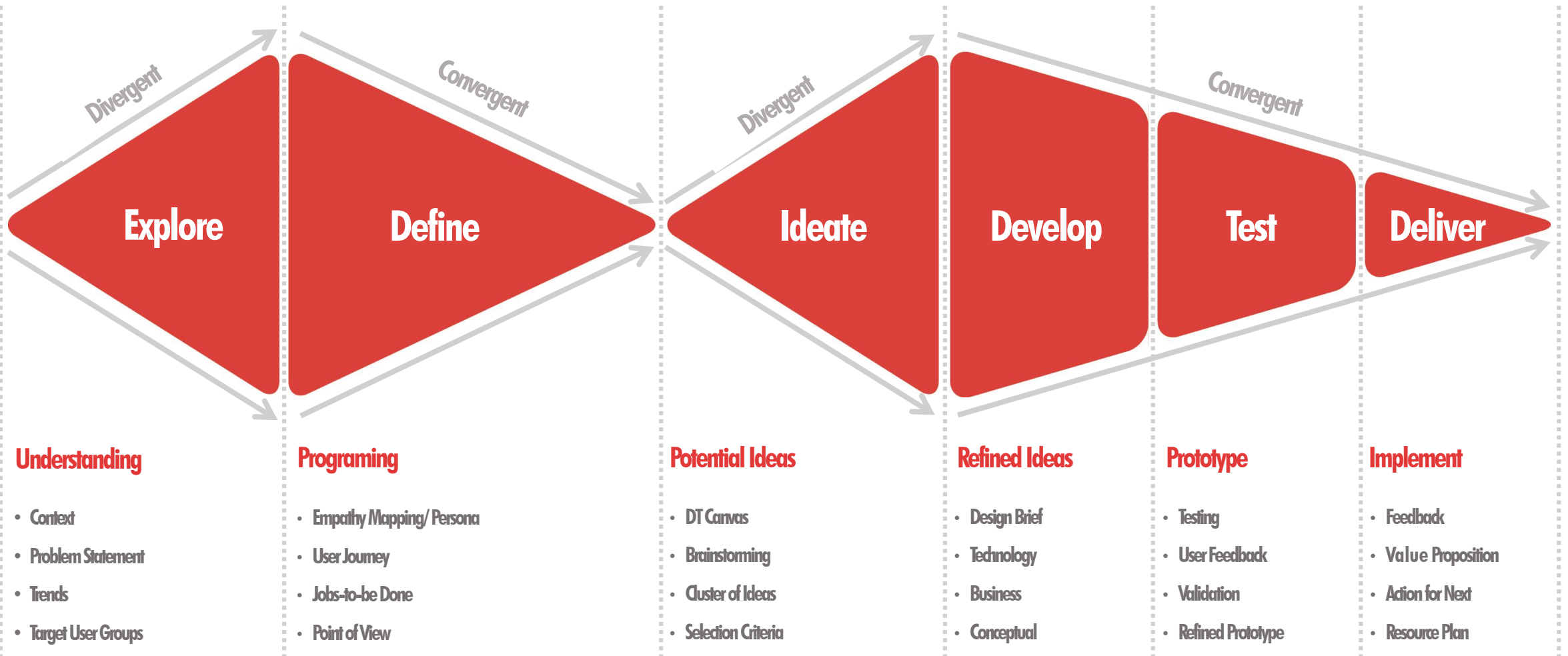Source:: NUS Business School

TDS's Design Thinking

Explore — Divergent

Define — Convergent

Ideate — Divergent

Develop

Test — Convergent

Deliver

Understanding
- Context
- Problem Statement
- Trends
- Target User Groups

Programing
- Empathy Mapping/ Persona
- User Journey
- Jobs-to-be Done
- Point of View

Potential Ideas
- DT Canvas
- Brainstorming
- Cluster of Ideas
- Selection Criteria

Refined Ideas
- Design Brief
- Technology
- Business
- Conceptual

Prototype
- Testing
- User Feedback
- Validation
- Refined Prototype

Implement
- Feedback
- Value Proposition
- Action for Next
- Resource Plan

TO CONCLUDE

Benefits of Design & Design Thinking

1   **Gain an understanding of user's needs**

2   **Co-created solution**

3   **Create multiple solutions**

4   **Refined solution from feedback**

5   **Reduce biases, save time & money**

Tips for Non-designer

✓ **Human/ Eco Centric**

✓ **Start with "Why"**

✓ **Design/ Design Thinking is not a linear process**

✓ **Fail Faster, Learn Faster**

✓ **No Ego**

THANK YOU FOR YOUR ATTENTION

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