When you wish upon a star – Innovation on demand

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Key issues

- **COMPANY perspective on CHANGE in a COMPETETIVE environment**



How can we make it move?

Dynamics of innovation



Schumpeter argued that:

- ***economic change revolves around innovation, entrepreneurial activities, and market power***
- ….innovation-originated market power could provide ***better results than the invisible hand and price competition***
- Technological innovation often ***creates temporary monopolies***,
- ….allowing abnormal profits that would ***soon be competed away*** by rivals and imitators.
- These temporary monopolies were necessary to provide the ***incentive necessary for firms to develop*** new products and processes

Types of innovations



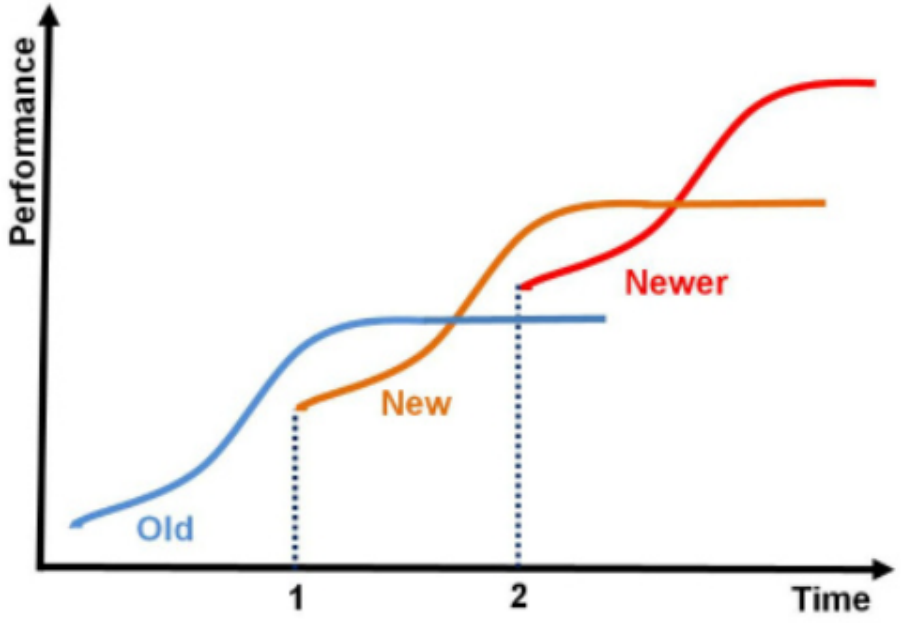
- **Product:** A new or a new quality of a good.
- **Process:** A new method of production, not yet tested by experience
- **Business model**: The opening of a new market, whether or not this market existed before.
- **Source of supply**: The conquest of a new source of supply of raw materials of half manufactured goods.
- **Mergers & divestments:** The carrying out of the new organization of any industry

Innovation is a social game with a societal impact!

- **"New combinations"** of new or existing knowledge, resources, equipment
- Innovation as a **specific social activity** carried out within the economic sphere and with a commercial purpose,
- *innovation needs to be **distinguished** from invention that can be carried out everywhere and without any intent of commercialisation.*

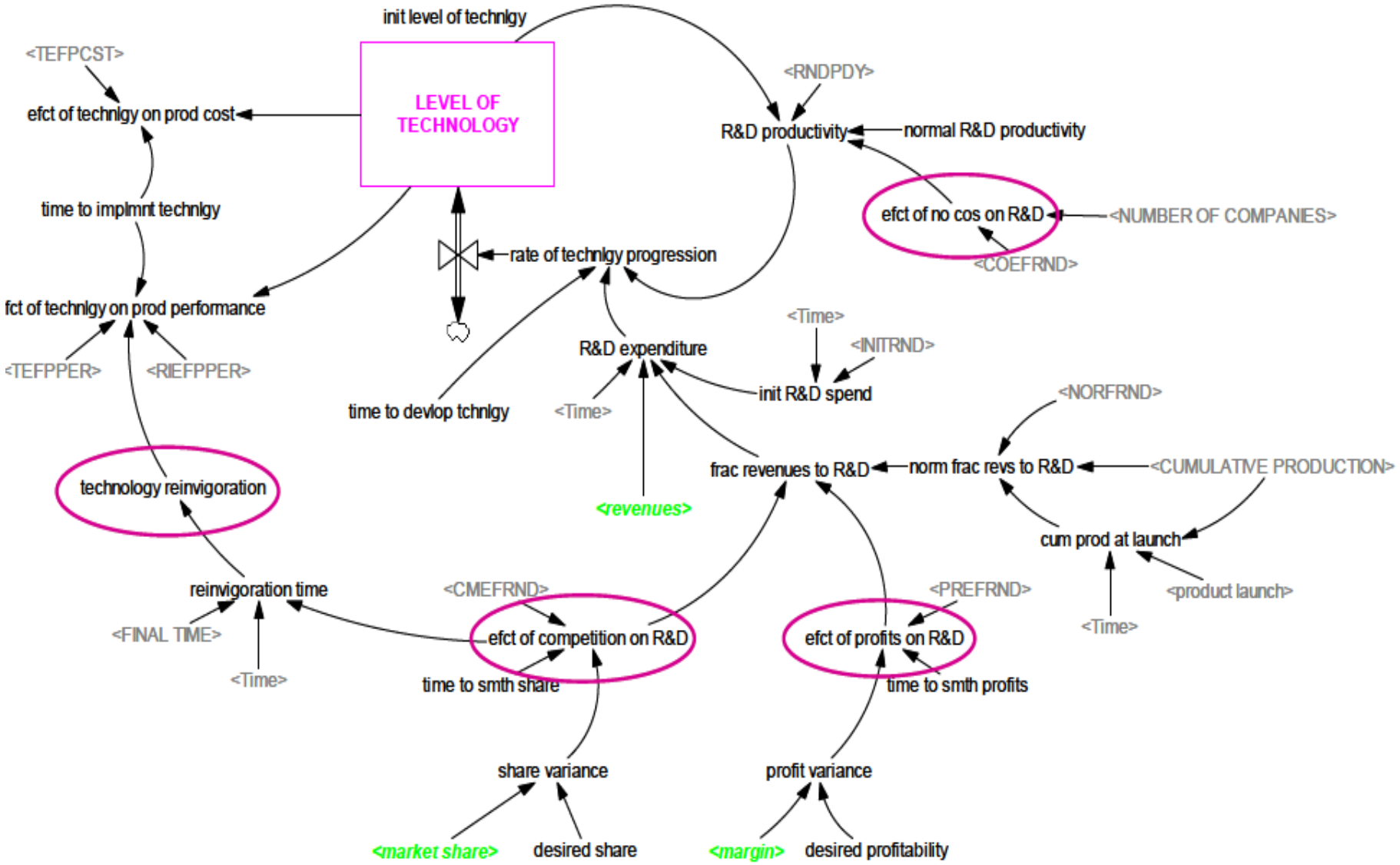
What does energy efficiency gain from innovations?

- **Better performance (do more)**
- **Lower cost (with less)**
- **Outperforming of wasteful supply**



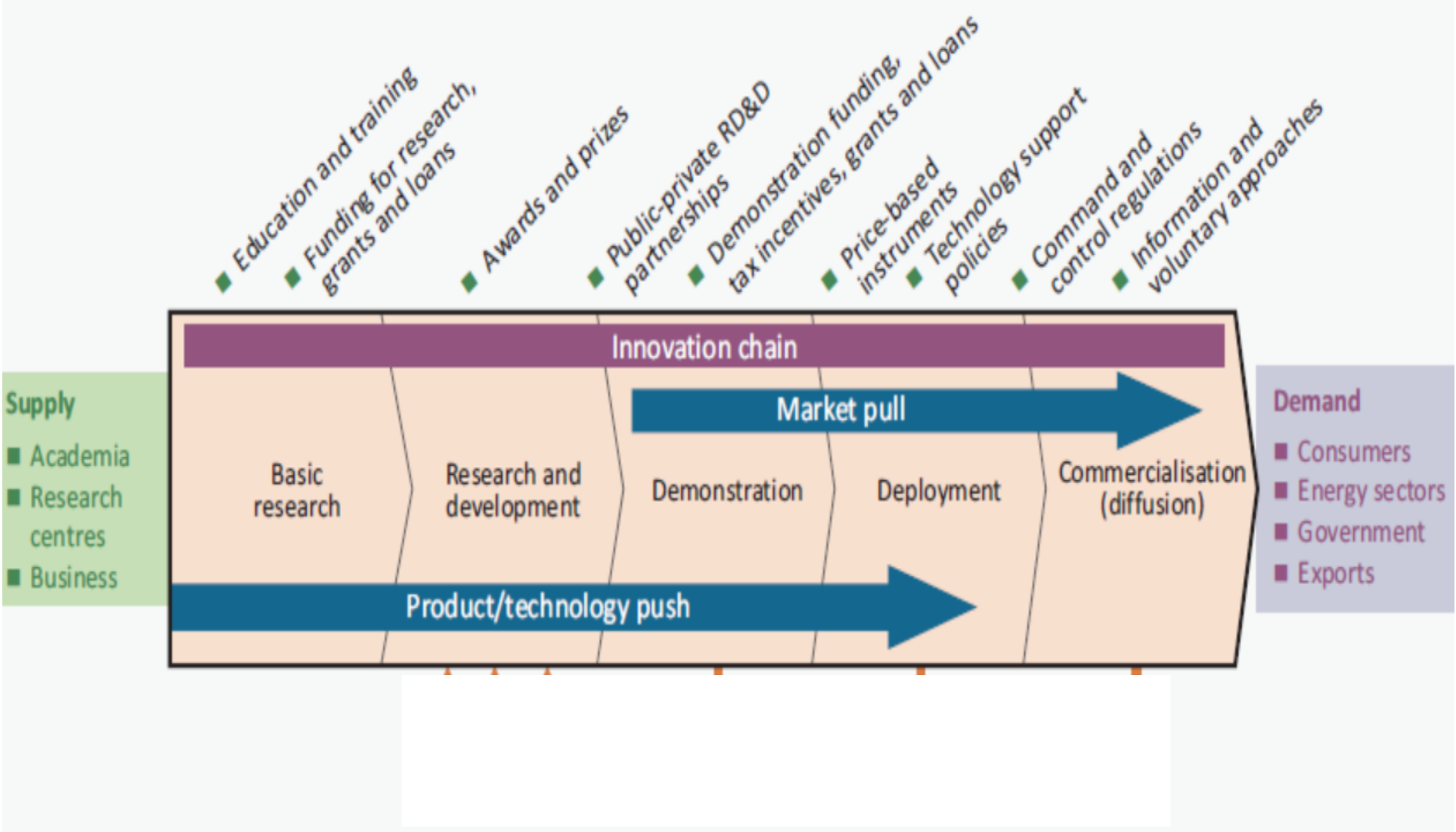
Source: A Guide to Schumpeter.
Jan Fagerberg

The dynamics of innovation



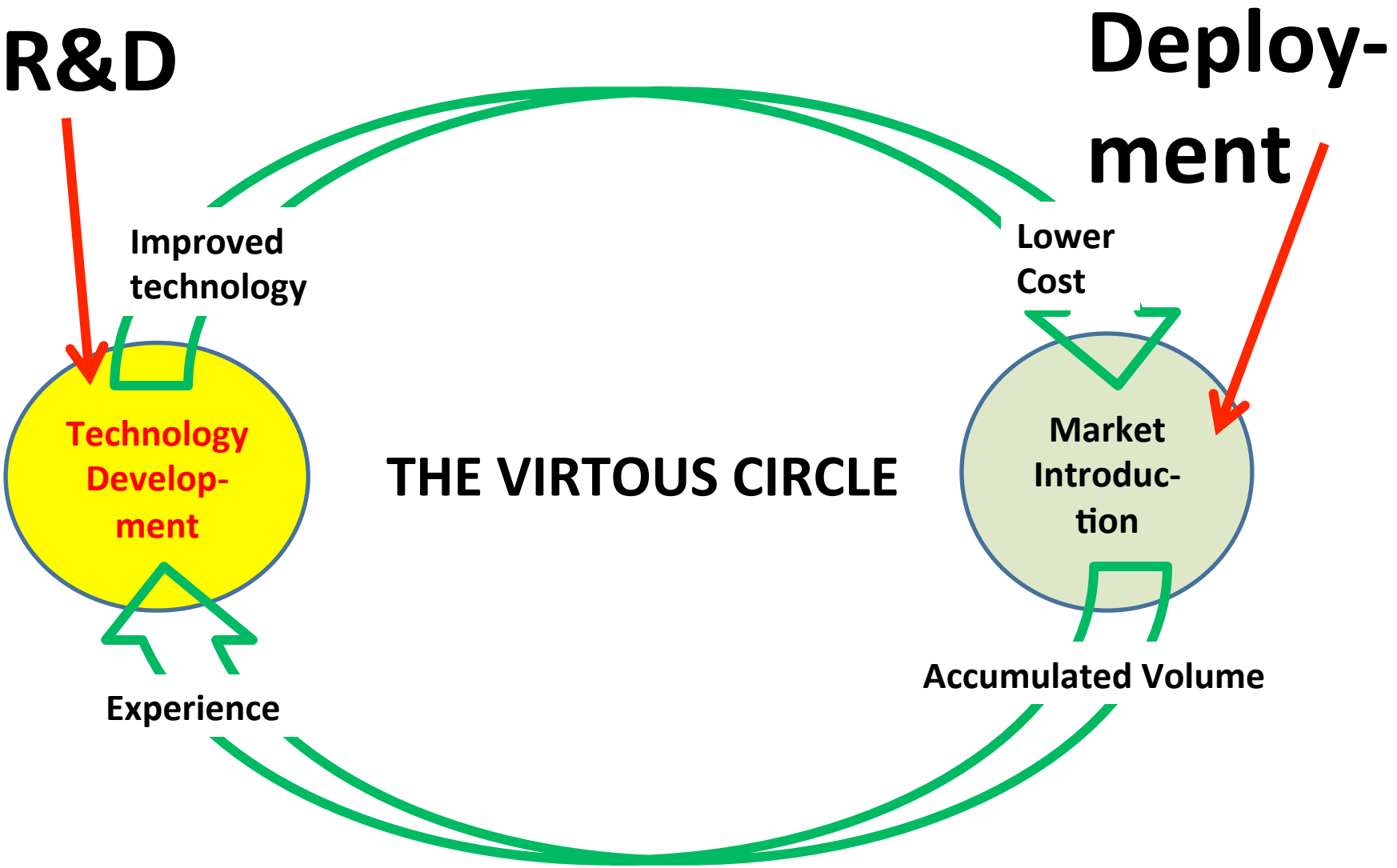
Source: The Dynamics of Innovative Industries. http://www-innovation.jbs.cam.ac.uk/publications/downloads/birdseye_dynamics.pdf

Innovation – Is it chain?



Source: IEA ETP 2012

....or a circle?



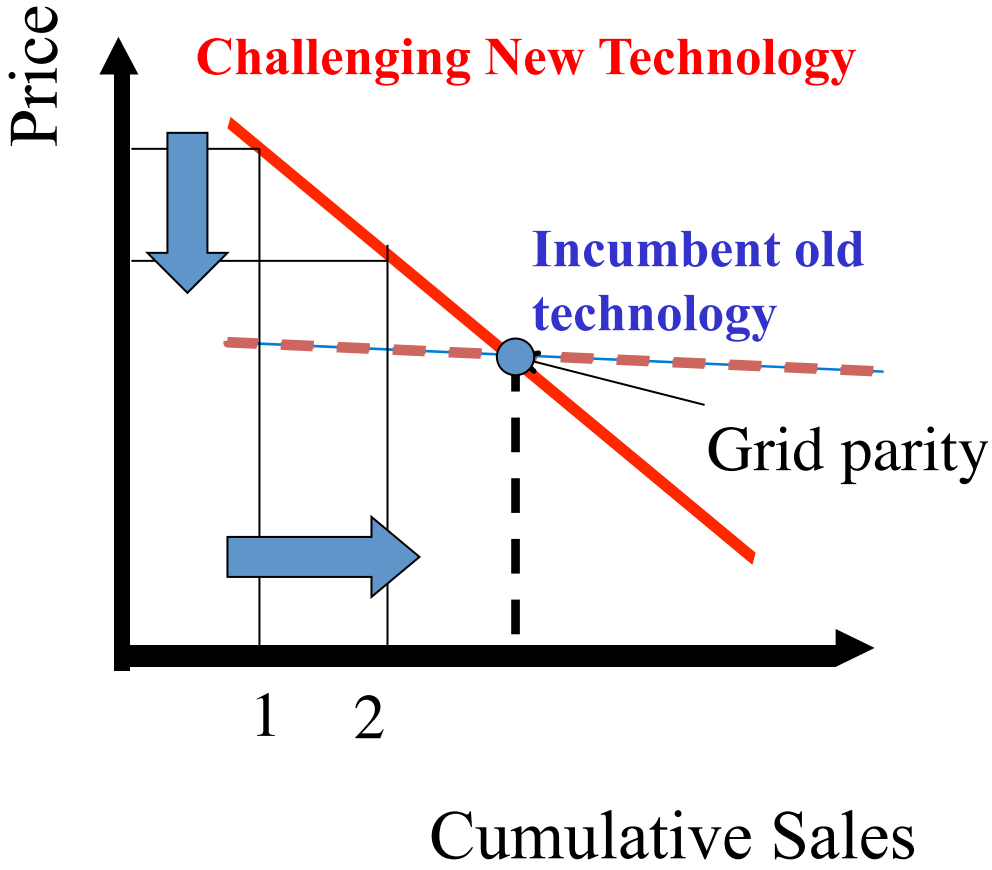
Source: Clas-Otto Wene

Do you see the star?



The learning curve pictures star(falls).

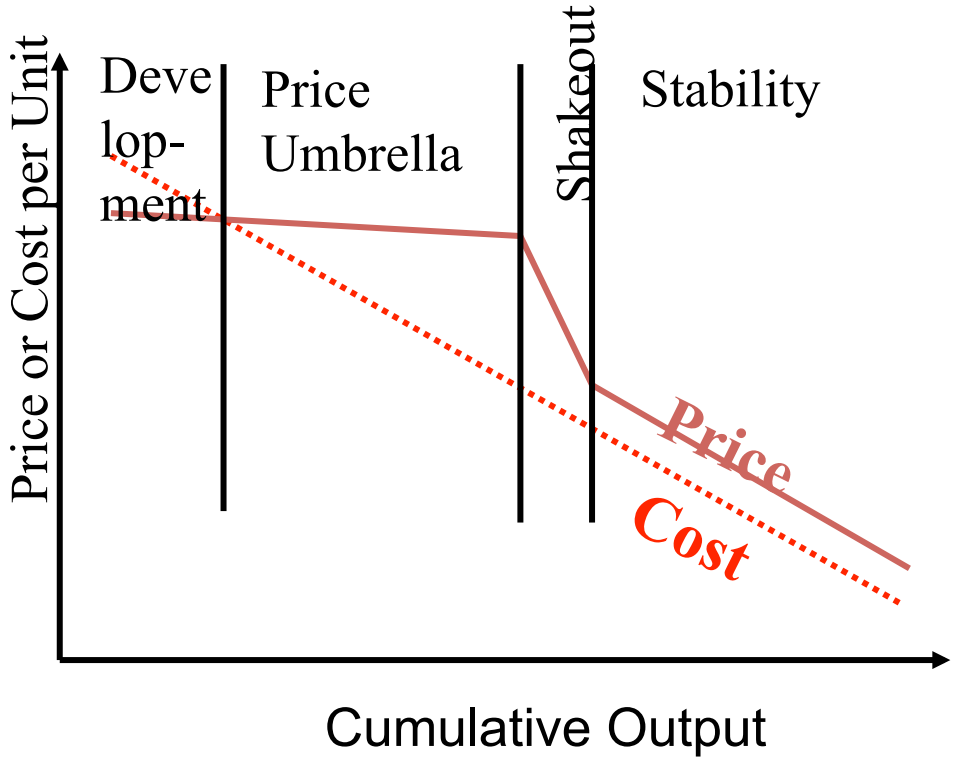
- Price (Cost) is reduced by 15-25% by each doubling in cumulative volume/ sales (LR=Learning Rate)
- The new technology might reach a break even and be competitive to the old technology



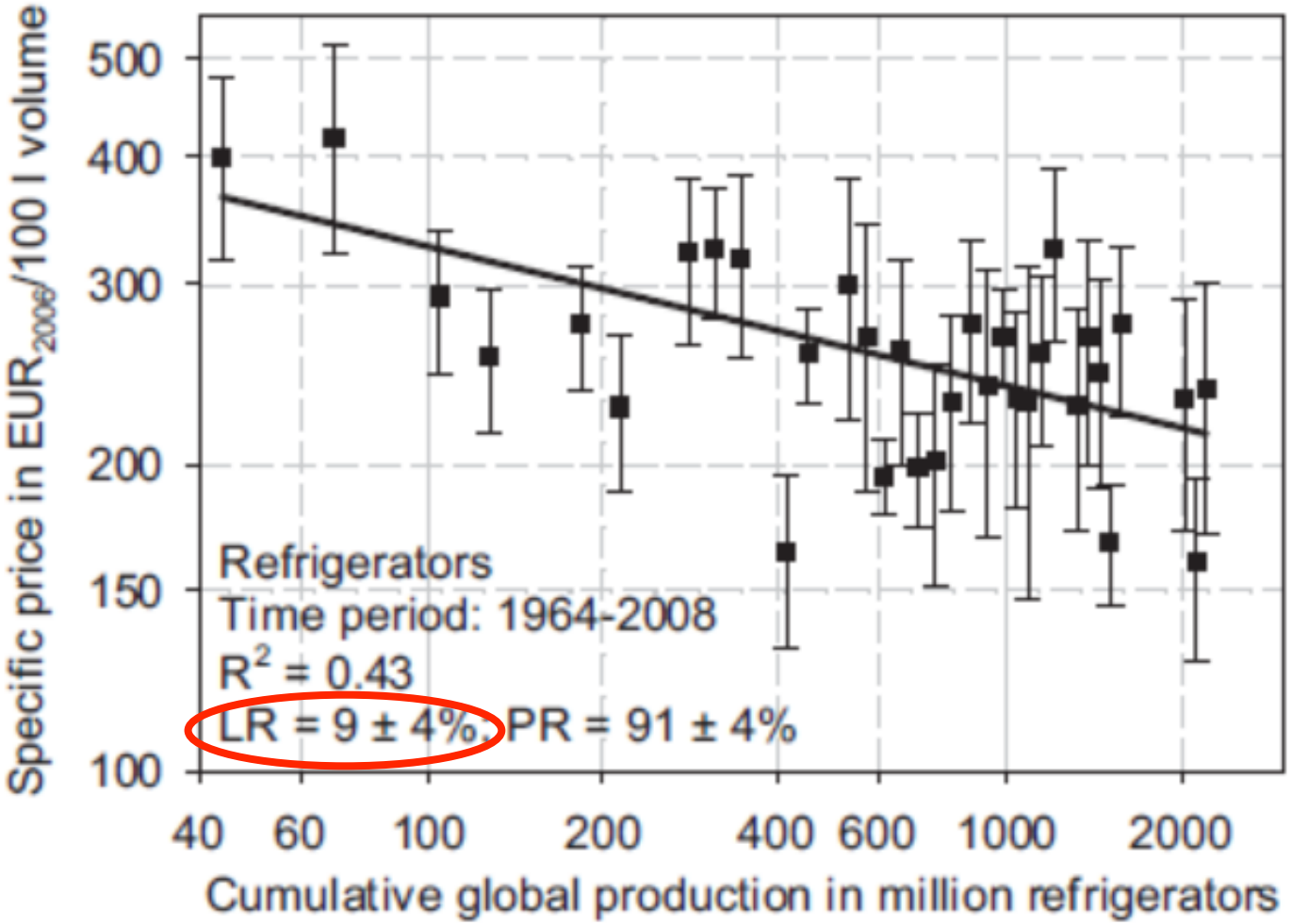
Learning curves are straight lines in a double Logarithmic scale

Markets are dynamic

- Prices can be observed but not costs
- The first mover on the market has a good position to recover the costs for the development
- When the market attracts more producers stability will eventually be achieved

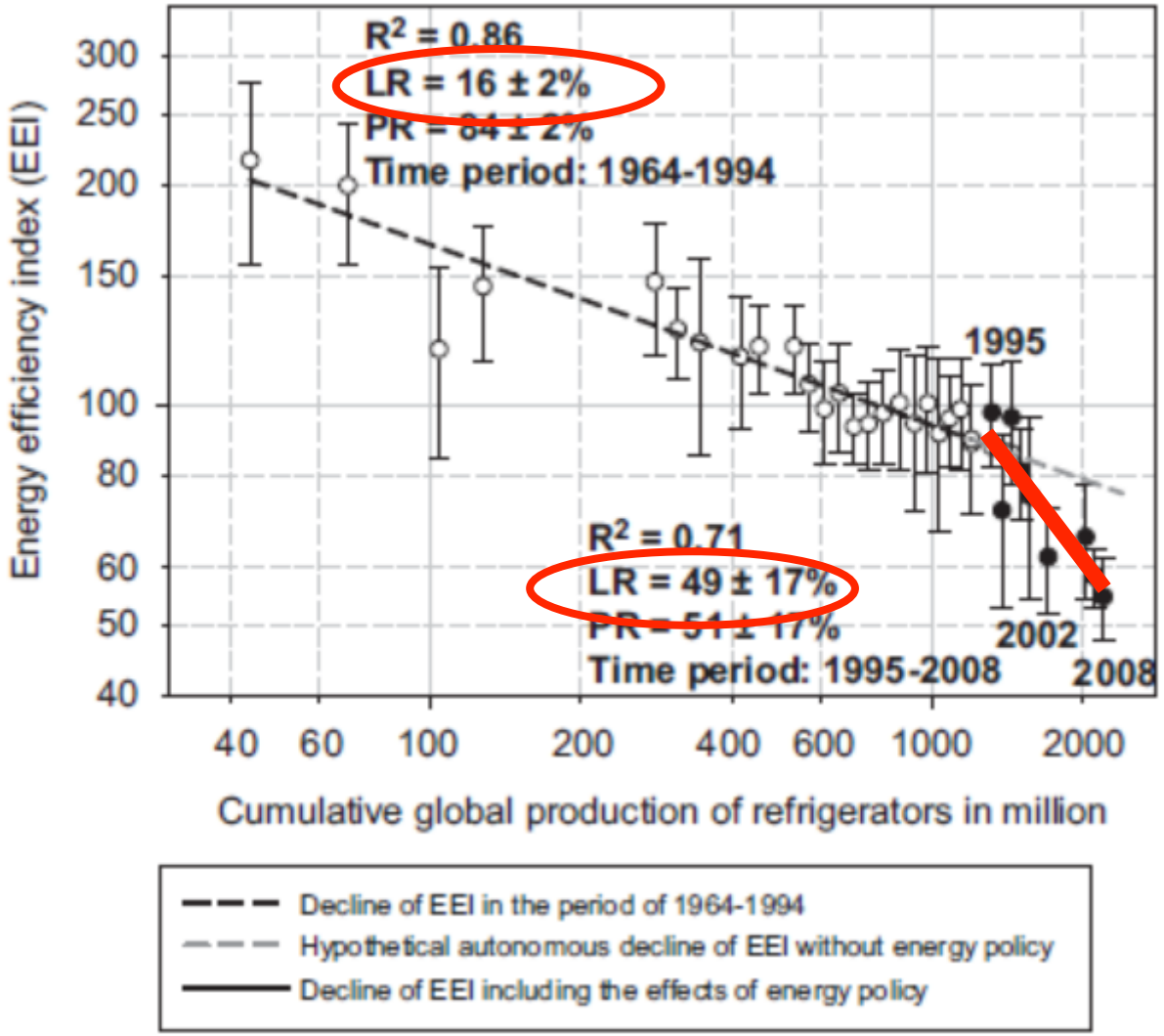


Learning and refrigerators (price)



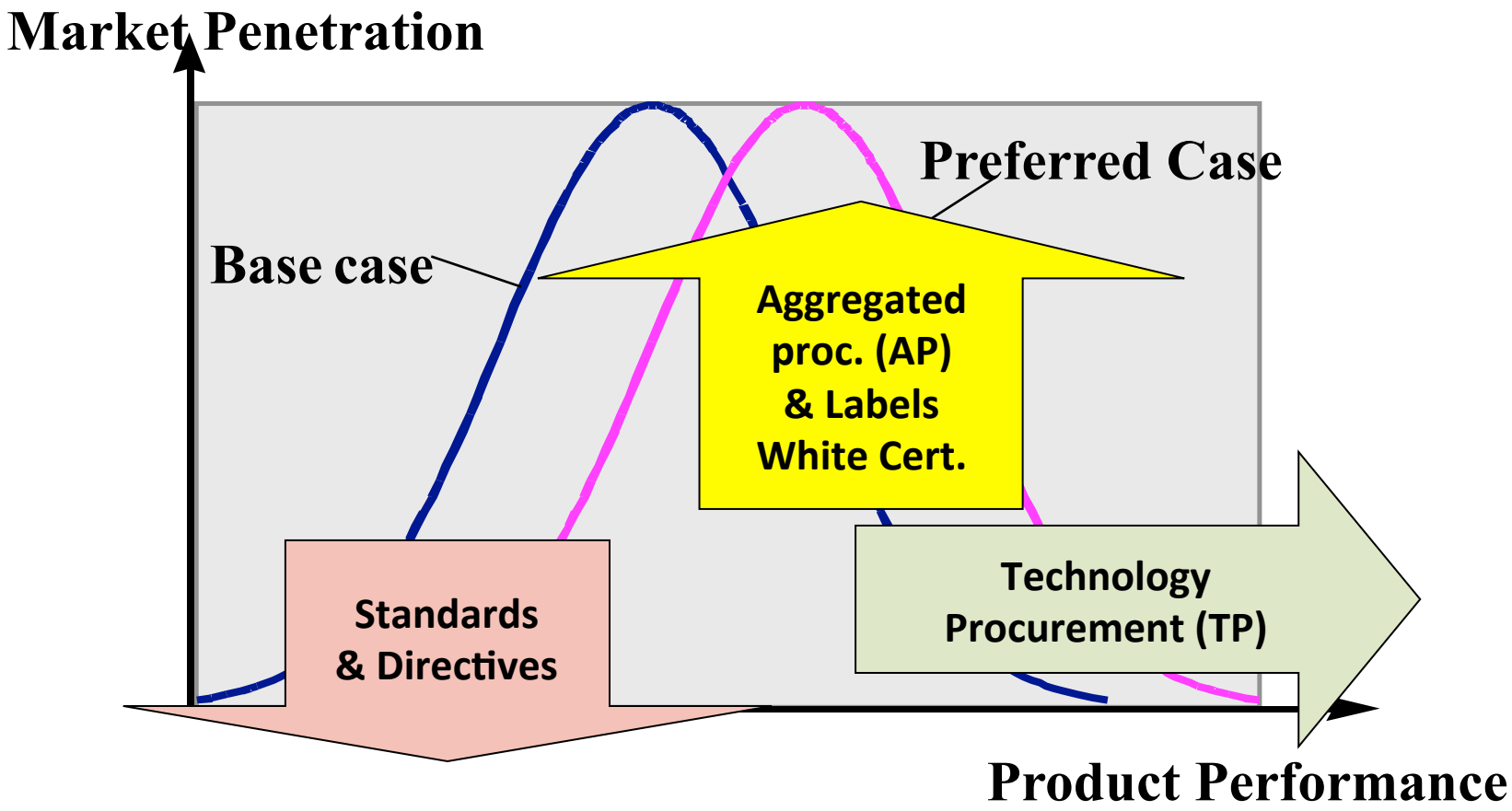
Source: Analyzing price and efficiency dynamics of large appliances with the experience curve approach . M Weiss et al

Learning and refrigerators (performance)

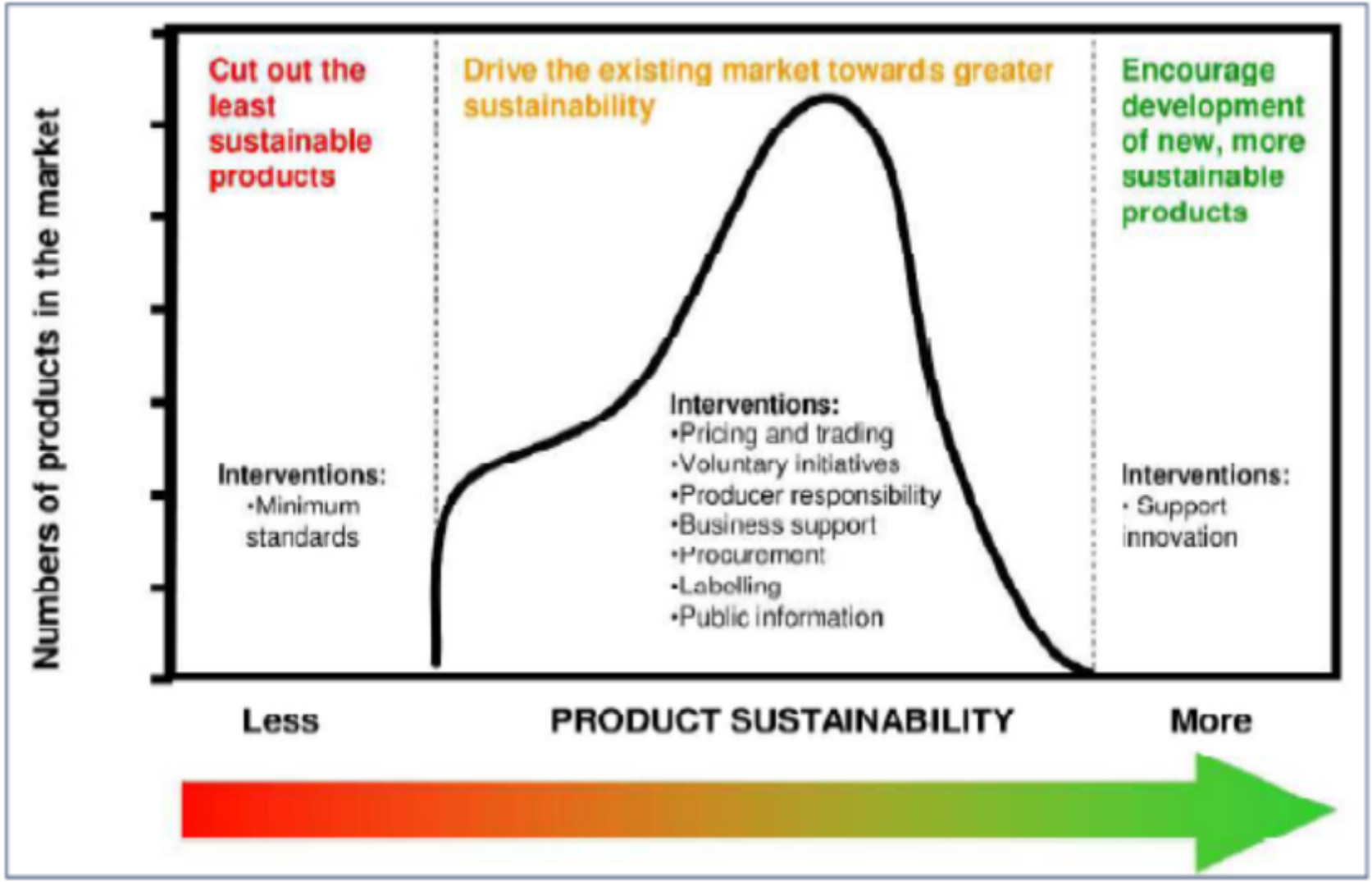


Source: Analyzing price and efficiency dynamics of large appliances with the experience curve approach . M Weiss et al

Deployment methods

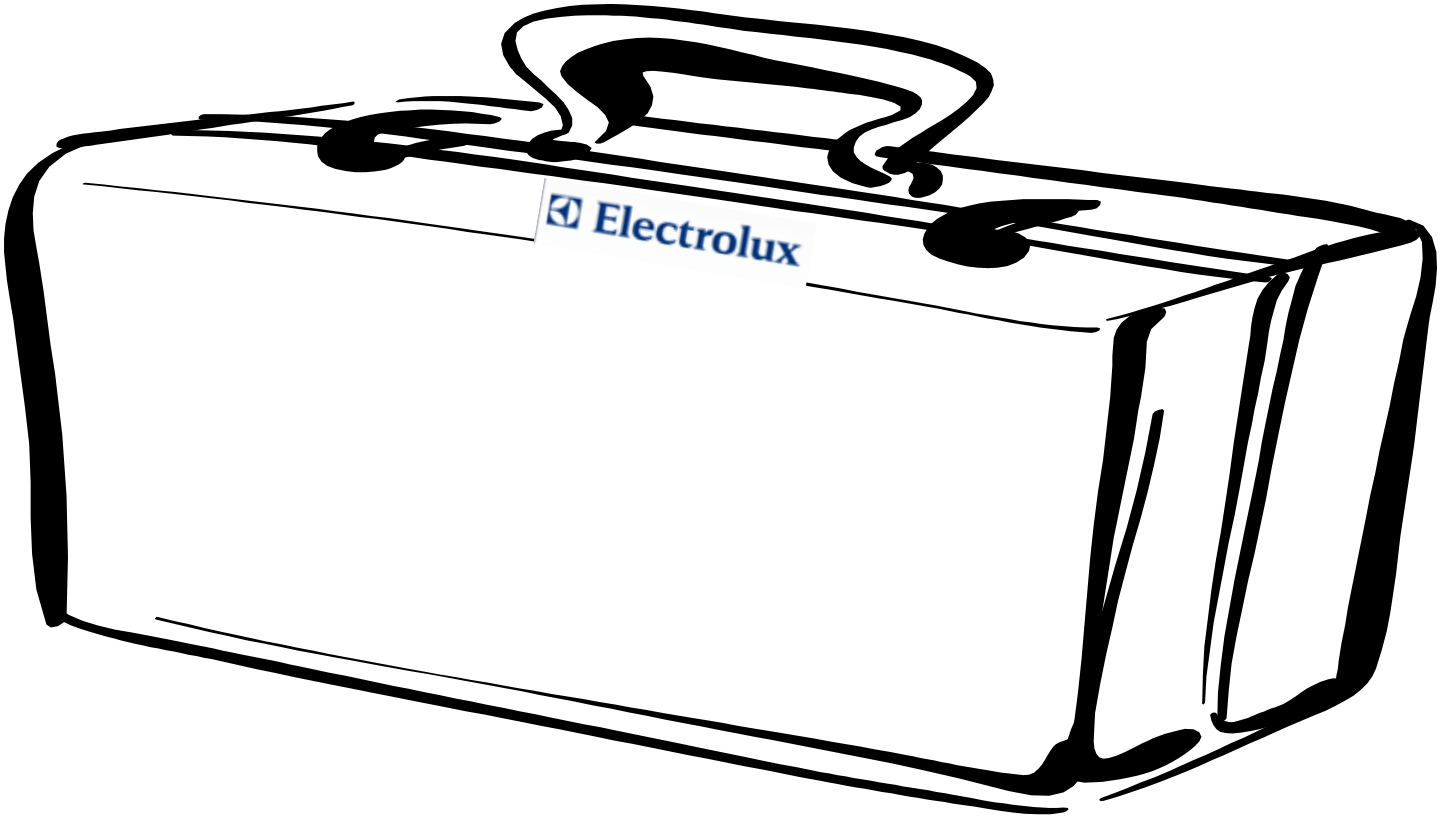


Targetting policies



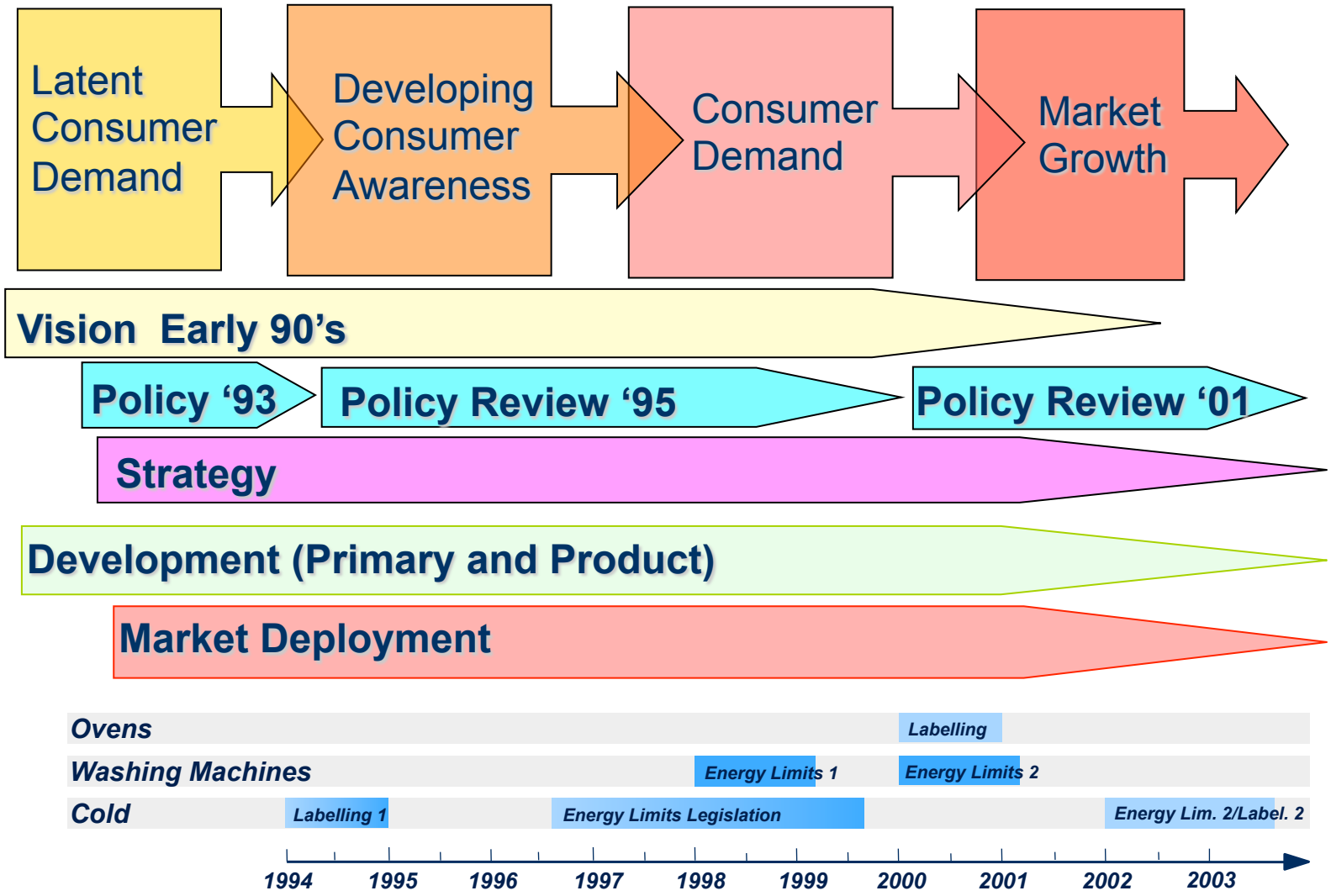
Source: DEFRA

A real case



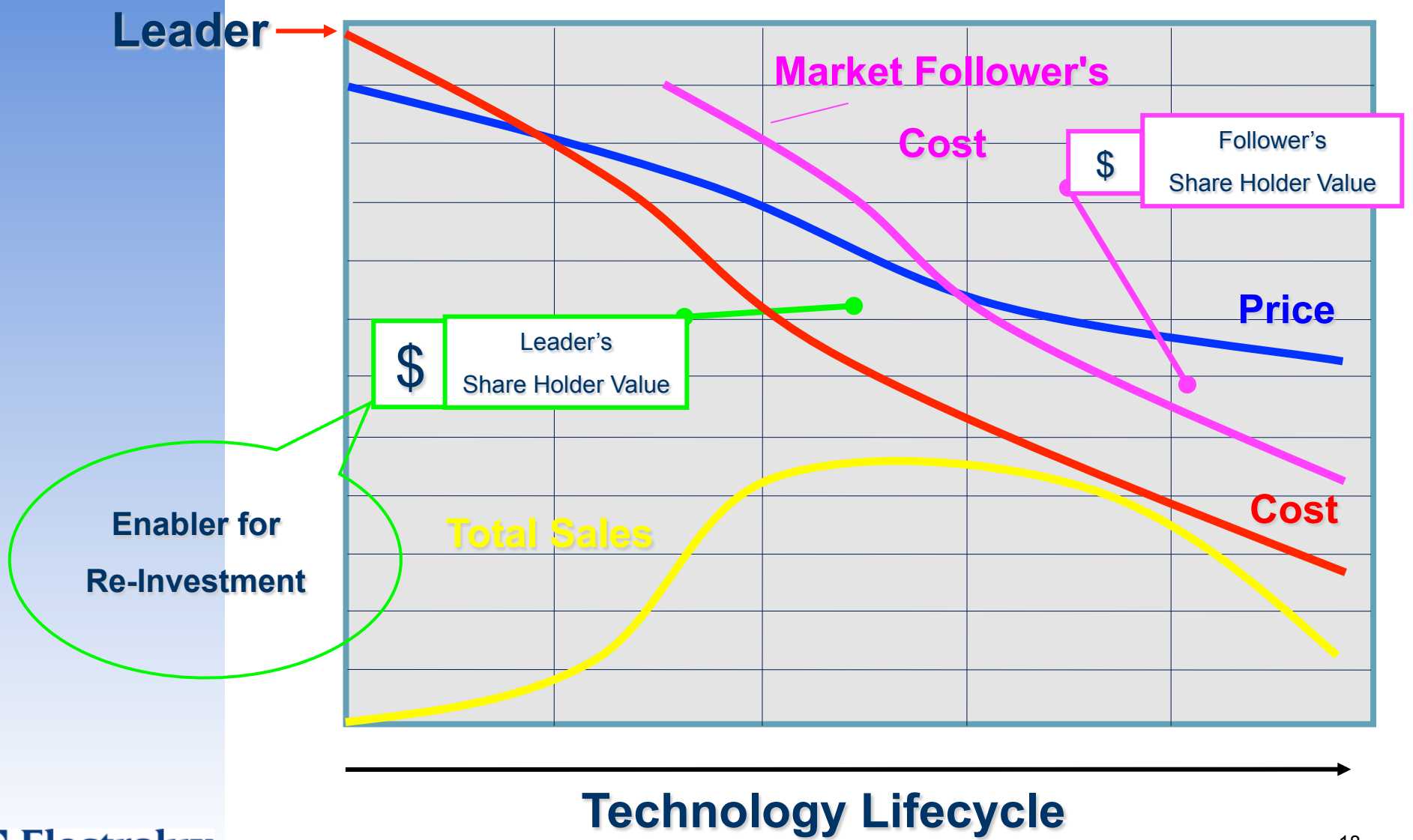
Developing Latent Consumer Demand

Reduced Energy Consumption - Refrigerators



Electrolux

Leading Counts……..



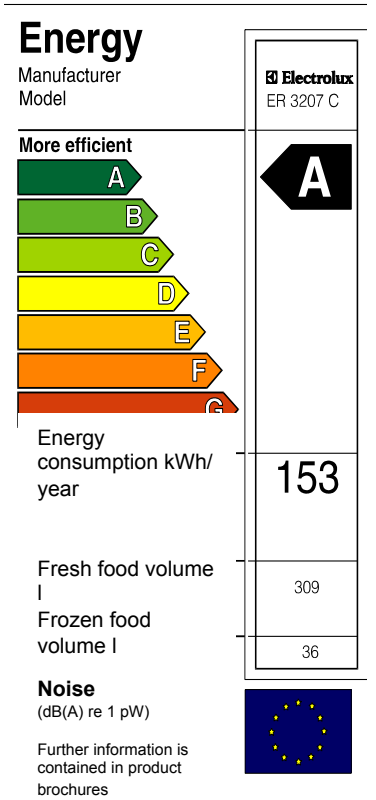
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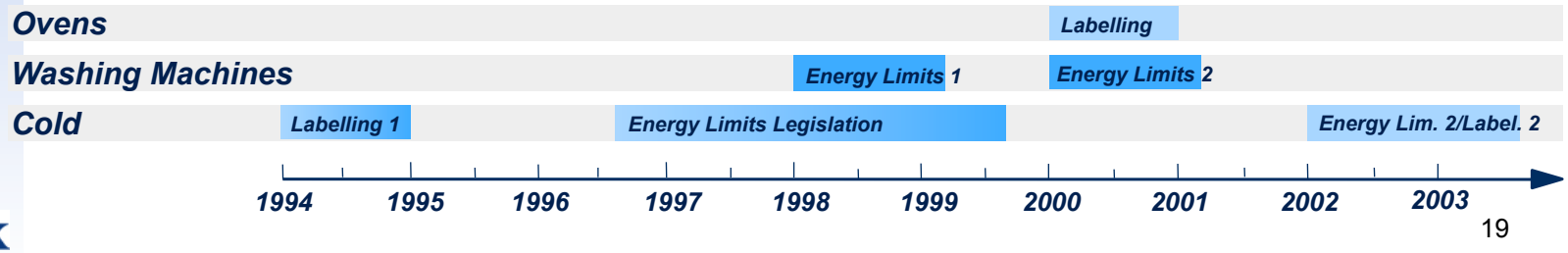
Drivers for Energy Efficient Products

- Performance standards
- Mandatory declarations of products
- Minimum efficiency requirements
- **GROWING CONSUMER DEMAND**

Supported By:

- Subsidies
- Procurement programs





Electrolux

A guide to the galaxy

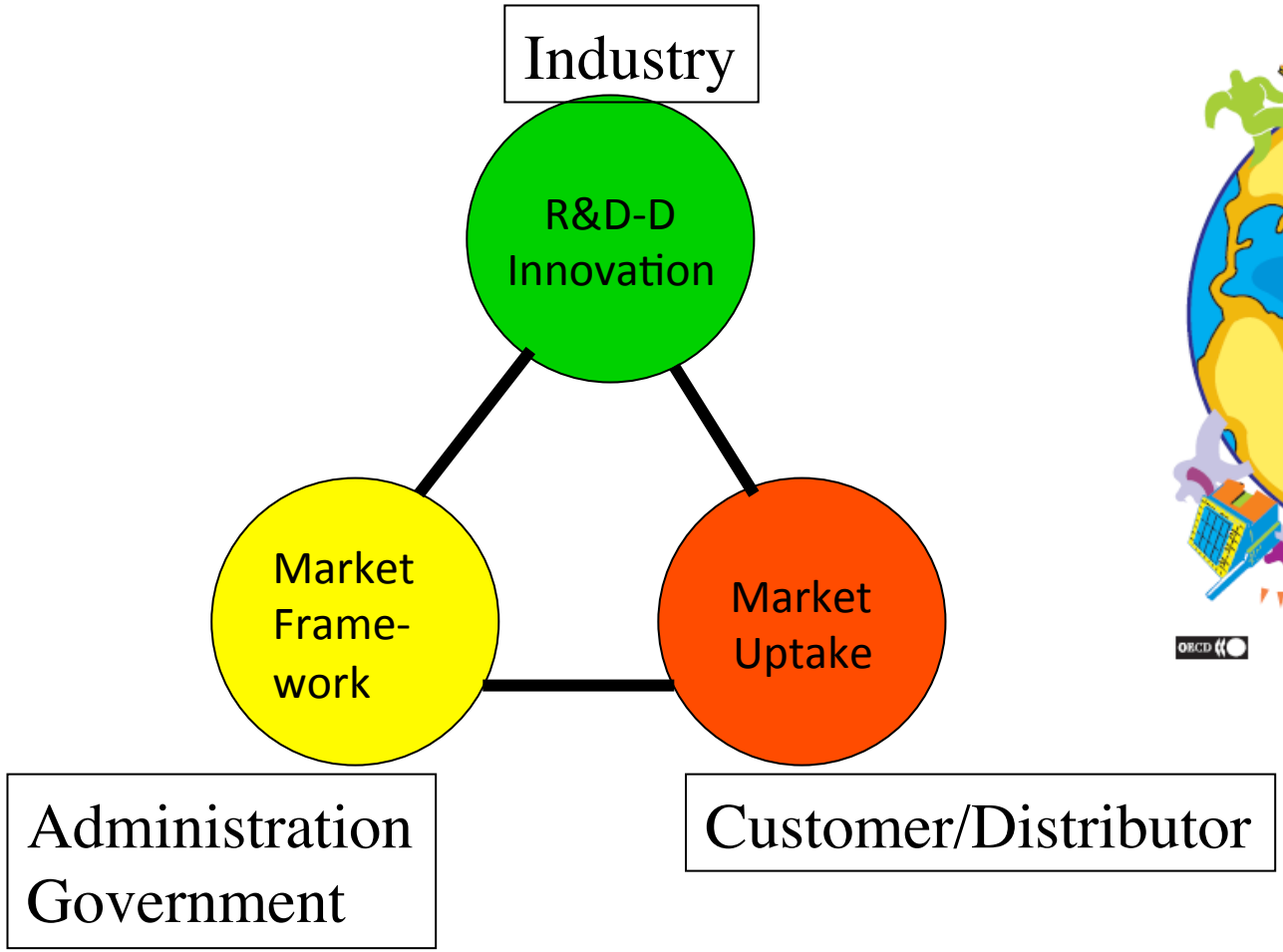


Buzzwords for policymakers

- **Challenge** (step change (not only incremental) in a pace)
- **Confidence** (the market will build, and investments will pay off)
- **Persistence** (Road-map and progession for performance)
- **Volume** (big enough to compete for)
- **Capacity/Ability to develop** (Industrial knowledge is there)
- **Incentive** (It pays (not necessarily in monetary value only))

Requires sector mobilisation and tuning

THE TRIANGULATION MODEL

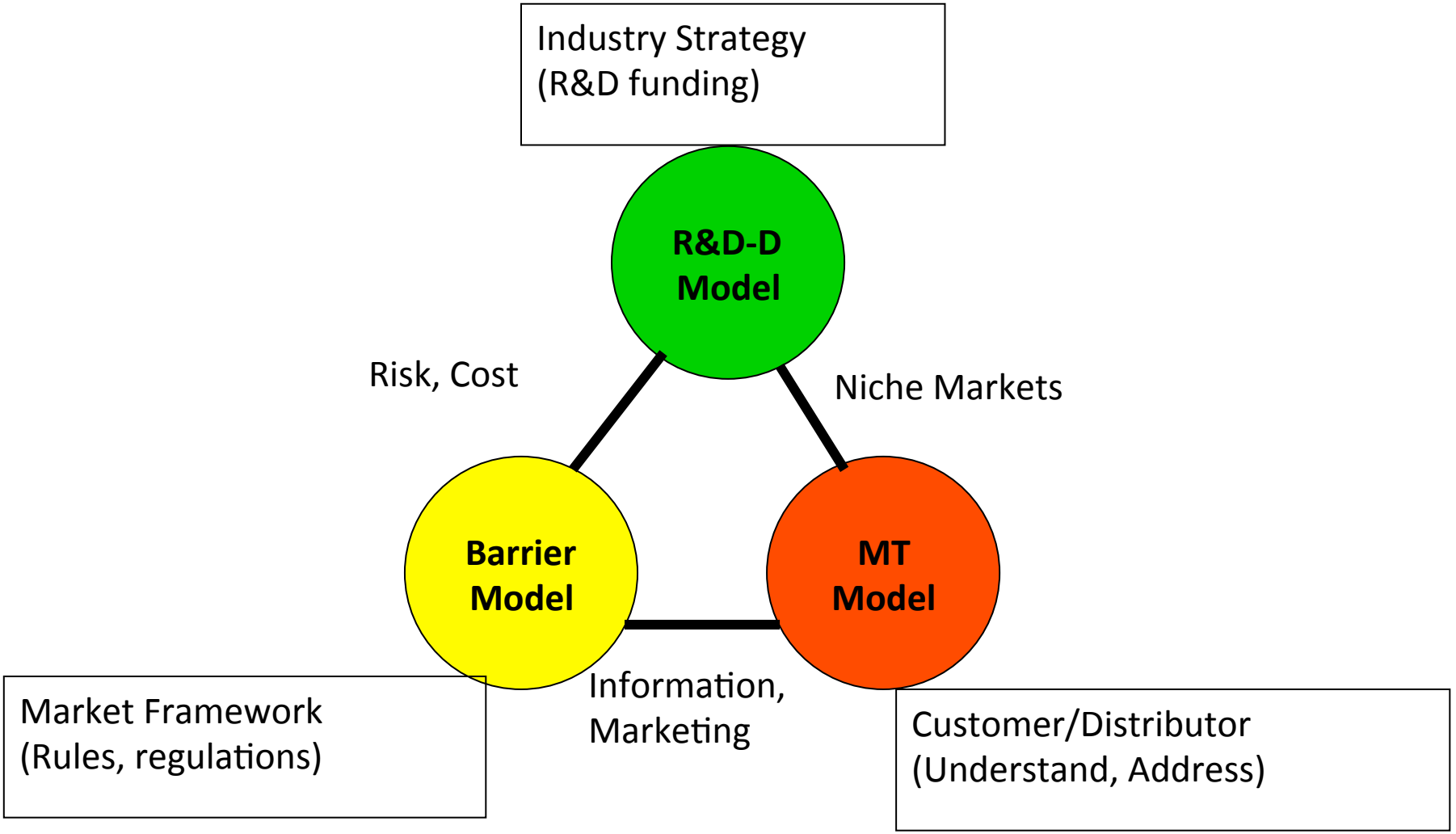




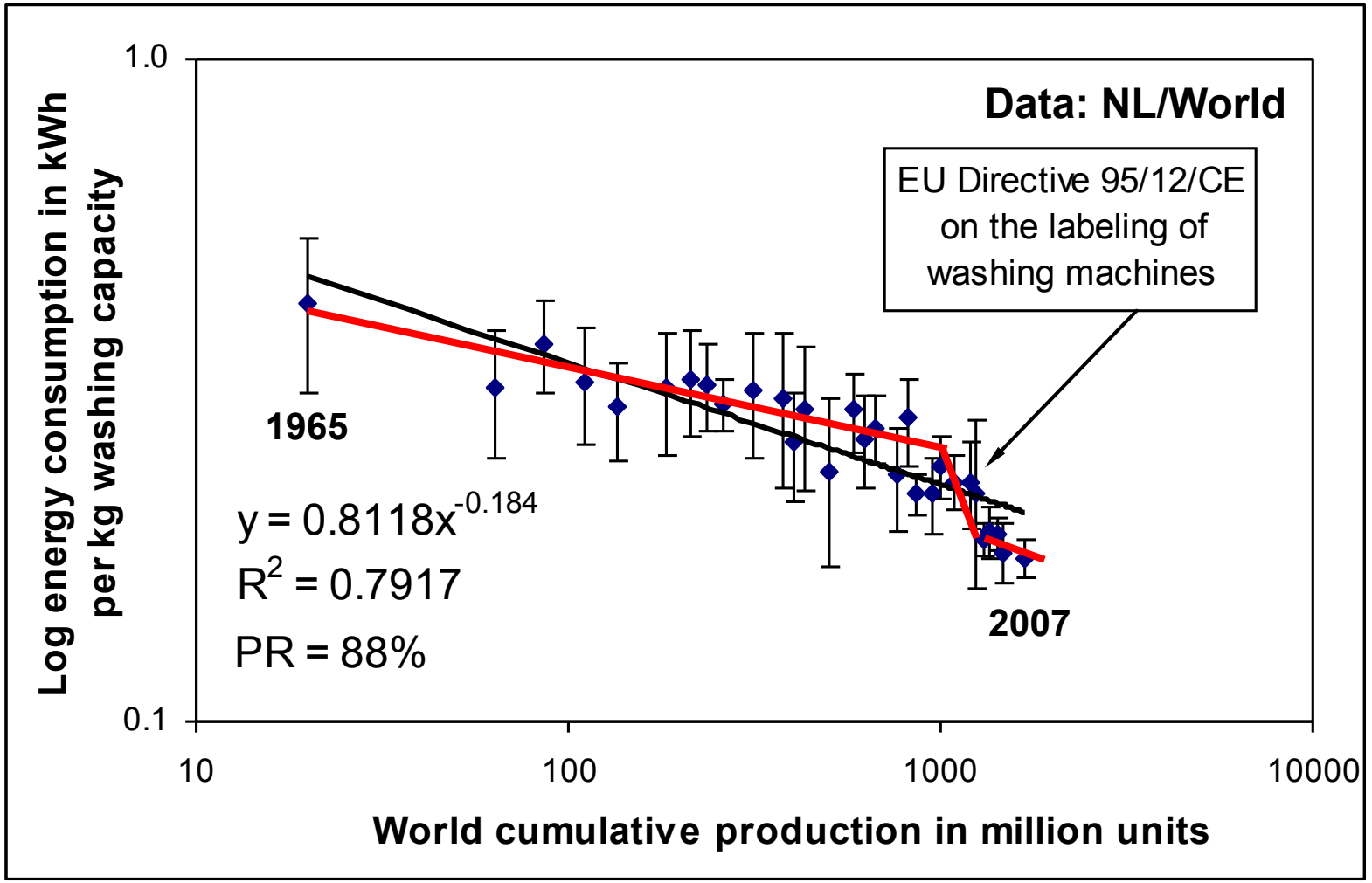
Thanks for listening!



Lessons Learned in technology deployment policies
THE TRIANGULATION MODEL



Washing machines – Energy efficiency



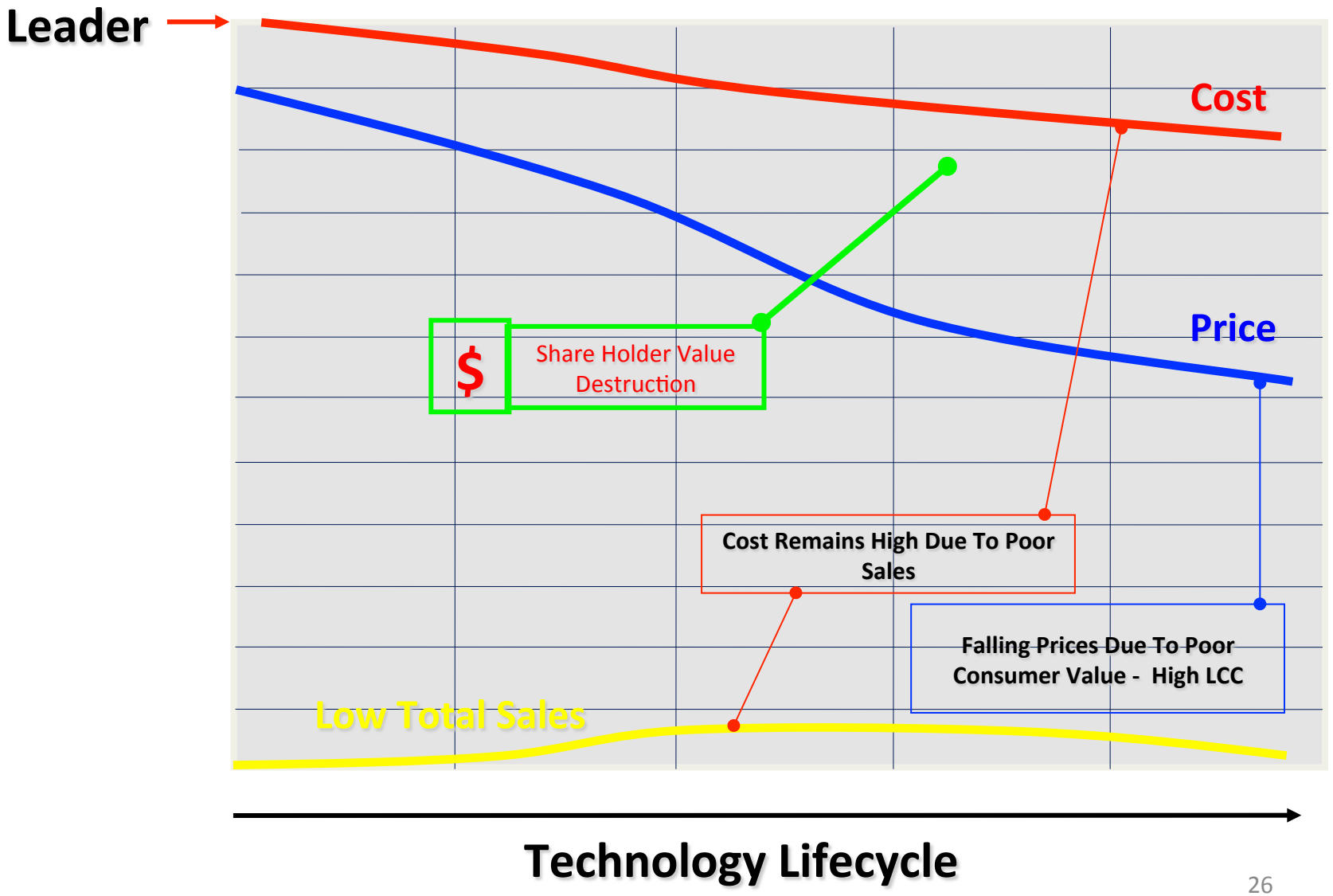
Source: Weiss et al. (2008)

• The share of A-label washing machine sales increased from 19% to 95% between 1998 and 2002 in the Netherlands

Source: The Power of Learning

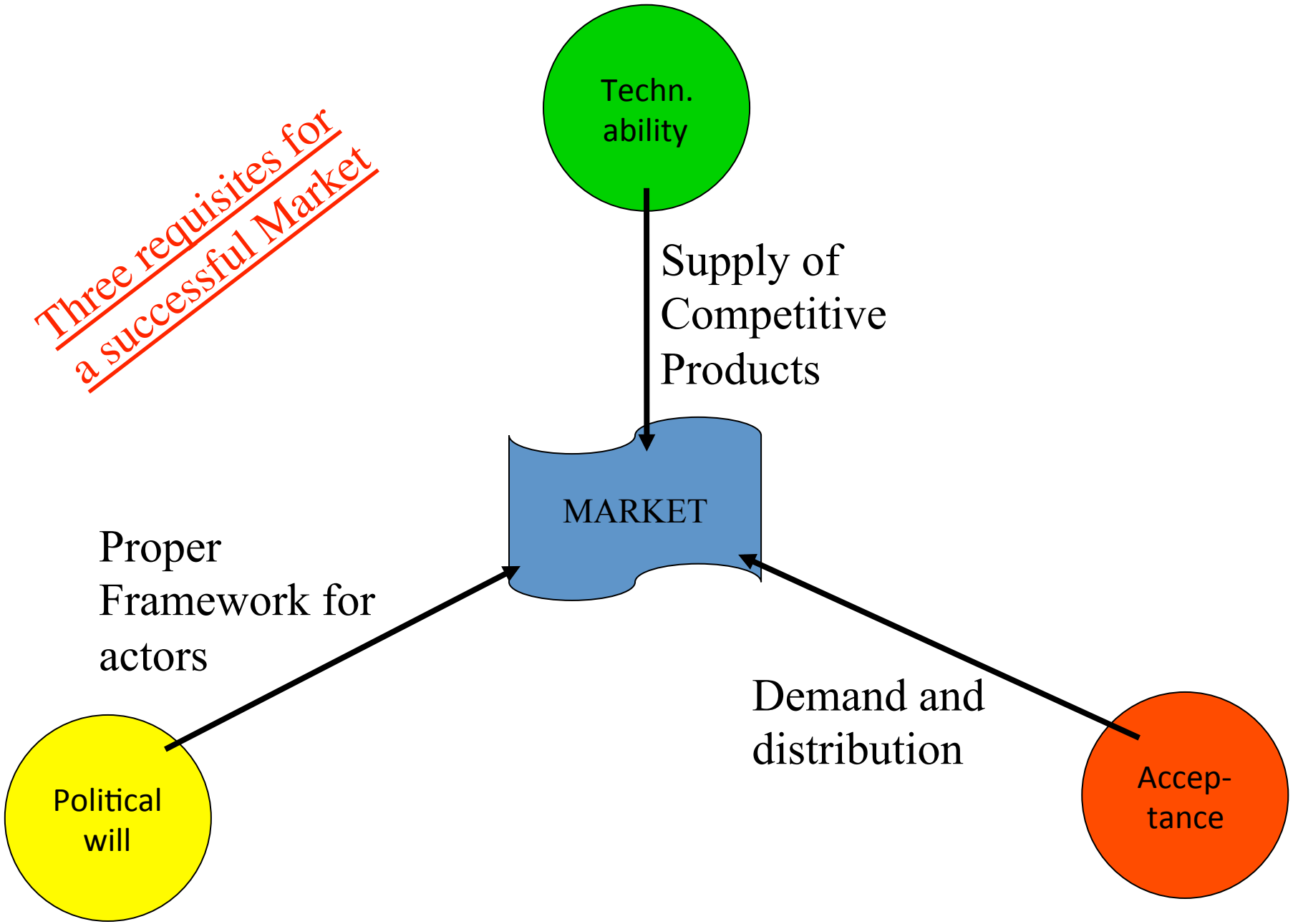
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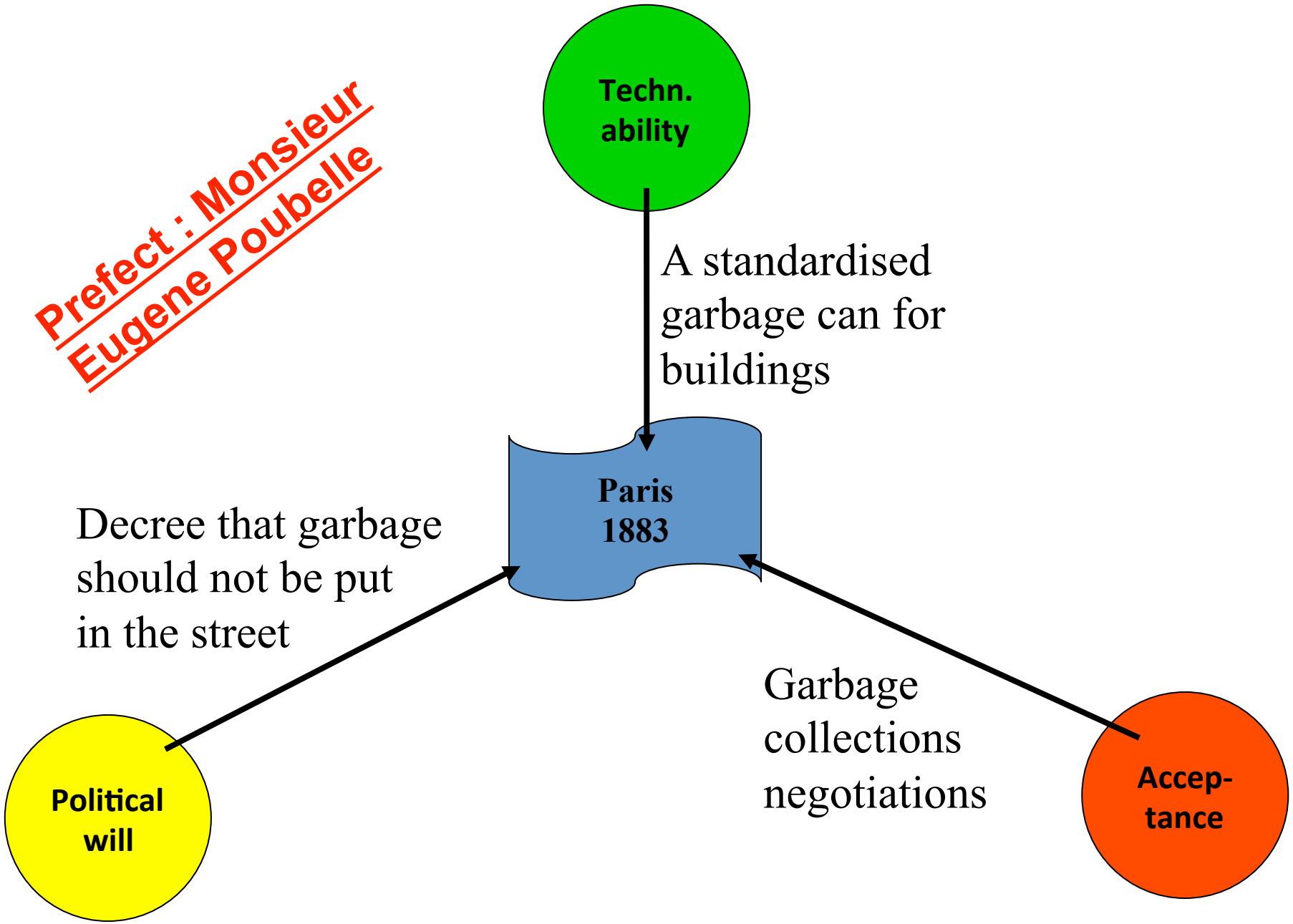
CASE E: Leading Can Be A Problem !



Creating Markets with Experience




Three requisites for a successful Market
Techn. ability
Supply of Competitive Products
MARKET
Proper Framework for actors
Political will
Demand and distribution
Accep-tance


Prefect : Monsieur Eugene Poubelle
Techn. ability
A standardised garbage can for buildings
Paris 1883
Decree that garbage should not be put in the street
Political will
Garbage collections negotiations
Accep-tance