

TAKING  
**COOPERATION**  
FORWARD

📍 Maribor International Workshop, 10th April 2018

## 🗣 Behavioural Change. Theory and Applications

👤 Francesco Molinari, [mail@francescomolinari.it](mailto:mail@francescomolinari.it) (& Alessandro Innocenti, [innocenti@unisi.it](mailto:innocenti@unisi.it))

# THE HOLY GRAIL



# BUT WHAT DOES “WISELY” MEAN?

## Rationality as Optimisation

Decision making is about finding an optimal choice given personal preferences, available resources and stock of information.

## Bounded Rationality

Satisficing behaviour = humans take heuristic approaches and reasoning shortcuts that may lead to suboptimal, yet practically feasible, decisions and actions.

## Behavioural Perspective

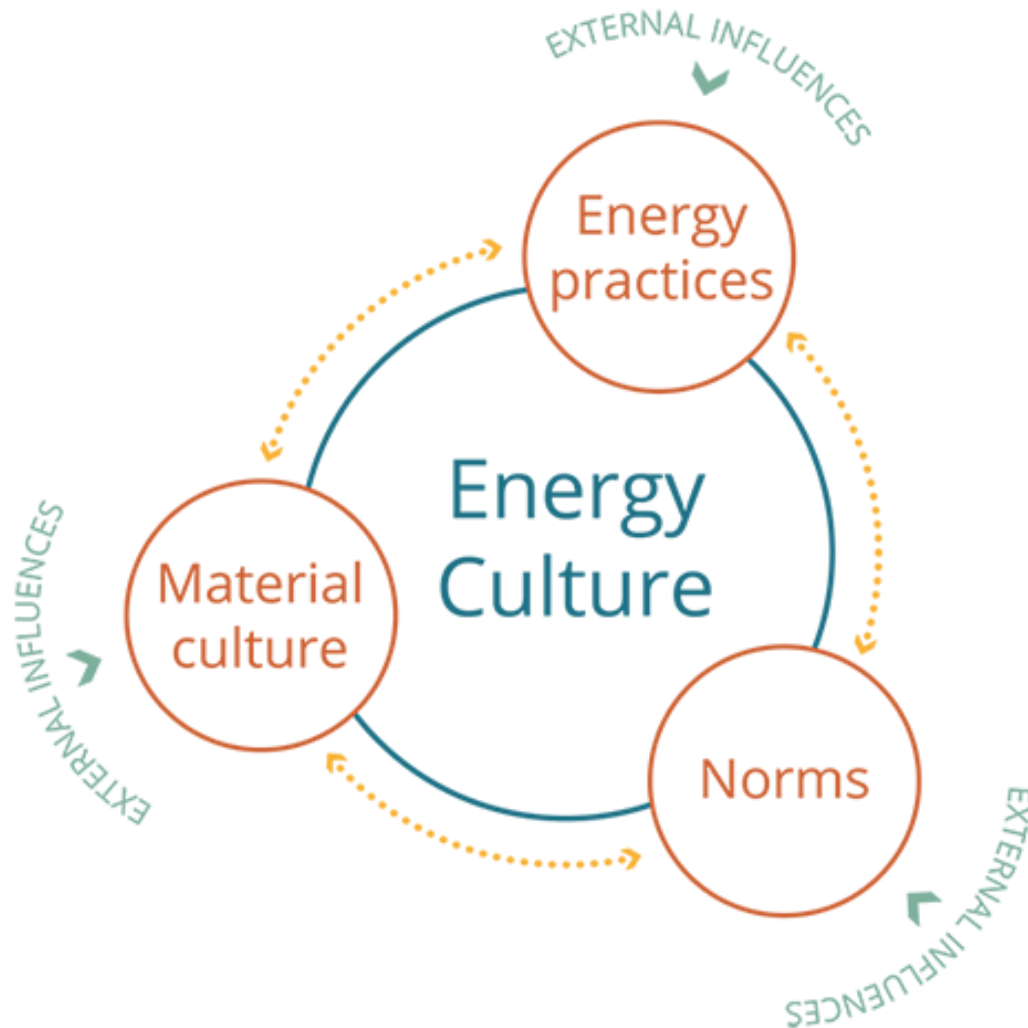
Human decisions and actions are influenced by psychological, social, cognitive, and emotional factors, which vary according to the environment.

Jevons (1866)

Simon (1957)

Kahneman and  
Tversky (1979)





People develop a distinctive '**energy culture**' from the interactions between their **norms** (what they think is normal or appropriate), their **material culture** (their technologies and infrastructure), and their **energy practices** (what they do that uses or consumes energy). This gives rise to a specific **energy behaviour**.

Those factors can be **self-reinforcing**, and are also **influenced** by exterior forces like regulations, energy prices and other incentives, including social rewards and imitation effects.

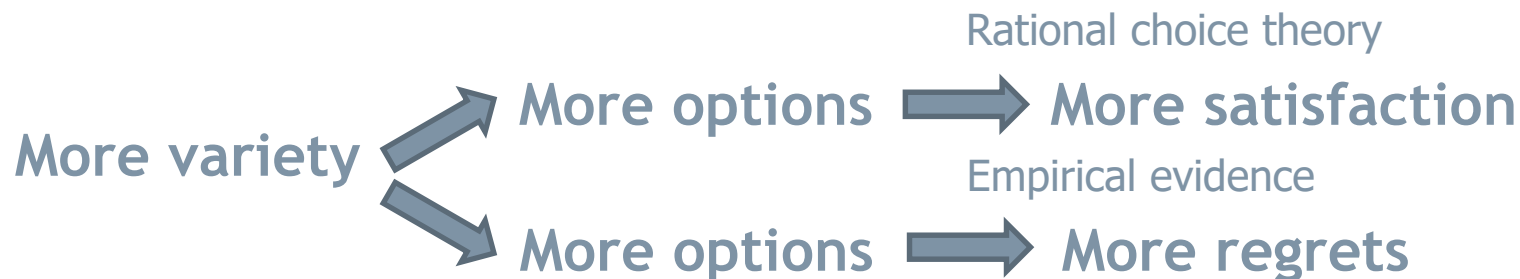


# WELL, UNFORTUNATELY...

The bright side	The dark side	What can we do
People are influenced by contextual factors	Direction and intensity cannot be easily predicted	Experiment in controlled conditions
Change in energy behaviour is achievable	It usually is not consistent across time	Implement reinforcing factors
Energy consumption can be reduced	Evidence lacks of how much and for how long	Measure what you are doing/achieving
People can be motivated to act for change	A plethora of incentives may work more or less	Try to disentangle the respective influences
The communitarian dimension matters	Opportunistic effects can be ignited	Foresee individual, not only collective, benefits
Changing people's attitude is key	This is not yet behavioural change!	Be patient, take your time...



# Less is better than more



## The Jam experiment



6 varieties of jam

40% people tried

30% people bought

Most of them stated they were happy of their purchases



24 varieties of jam

60% people tried

3% people bought

Only a minority stated they were satisfied with their choices



# Irrelevant options matter

Economist.com	SUBSCRIPTIONS
OPINION	<b>Welcome to</b> <b>The Economist Subscription Centre</b>  Pick the type of subscription you want to buy or renew.  <input type="checkbox"/> <b>Economist.com subscription</b> - US \$59.00 One-year subscription to Economist.com. Includes online access to all articles from <i>The Economist</i> since 1997.  <input type="checkbox"/> <b>Print &amp; web subscription</b> - US \$125.00 One-year subscription to the print edition of <i>The Economist</i> and online access to all articles from <i>The Economist</i> since 1997.
WORLD	
BUSINESS	
FINANCE & ECONOMICS	
SCIENCE & TECHNOLOGY	
PEOPLE	
BOOKS & ARTS	
MARKETS & DATA	
DIVERSIONS	

Economist.com	SUBSCRIPTIONS
OPINION	<b>Welcome to</b> <b>The Economist Subscription Centre</b>  Pick the type of subscription you want to buy or renew.  <input type="checkbox"/> <b>Economist.com subscription</b> - US \$59.00 One-year subscription to Economist.com. Includes online access to all articles from <i>The Economist</i> since 1997.  <input type="checkbox"/> <b>Print subscription</b> - US \$125.00 One-year subscription to the print edition of <i>The Economist</i> .  <input type="checkbox"/> <b>Print &amp; web subscription</b> - US \$125.00 One-year subscription to the print edition of <i>The Economist</i> and online access to all articles from <i>The Economist</i> since 1997.
WORLD	
BUSINESS	
FINANCE & ECONOMICS	
SCIENCE & TECHNOLOGY	
PEOPLE	
BOOKS & ARTS	
MARKETS & DATA	
DIVERSIONS	



# Irrelevant options matter

Economist.com	SUBSCRIPTIONS
OPINION	<p><b>Welcome to</b> <b>The Economist Subscription Centre</b></p> <p>Pick the type of subscription you want to buy or renew.</p> <p><input type="checkbox"/> <b>Economist.com subscription</b> - US \$59.00 One-year subscription to Economist.com. Includes online access to all articles from <i>The Economist</i> since 1997. <b>68 %</b></p> <p><input type="checkbox"/> <b>Print &amp; web subscription</b> - US \$125.00 One-year subscription to the print edition of <i>The Economist</i> and online access to all articles from <i>The Economist</i> since 1997. <b>32%</b></p>
WORLD	
BUSINESS	
FINANCE & ECONOMICS	
SCIENCE & TECHNOLOGY	
PEOPLE	
BOOKS & ARTS	
MARKETS & DATA	
DIVERSIONS	

Economist.com	SUBSCRIPTIONS
OPINION	<p><b>Welcome to</b> <b>The Economist Subscription Centre</b></p> <p>Pick the type of subscription you want to buy or renew.</p> <p><input type="checkbox"/> <b>Economist.com subscription</b> - US \$59.00 One-year subscription to Economist.com. Includes online access to all articles from <i>The Economist</i> since 1997. <b>16%</b></p> <p><input type="checkbox"/> <b>Print subscription</b> - US \$125.00 One-year subscription to the print edition of <i>The Economist</i>. <b>0%</b></p> <p><input type="checkbox"/> <b>Print &amp; web subscription</b> - US \$125.00 One-year subscription to the print edition of <i>The Economist</i> and online access to all articles from <i>The Economist</i> since 1997. <b>84%</b></p>
WORLD	
BUSINESS	
FINANCE & ECONOMICS	
SCIENCE & TECHNOLOGY	
PEOPLE	
BOOKS & ARTS	
MARKETS & DATA	
DIVERSIONS	





# Loss aversion vs. gain desire

Choose

- A) A sure gain of \$240
- B) 25% chance to gain \$1000, and 75% chance to gain nothing

Choose

- A) A sure loss of \$750
- B) 75% chance to lose \$1000, and 25% chance to lose nothing

Tversky, A. & Kahneman, D., 1981, The framing of decisions and the psychology of choice. *Science*, 211, 453-458.



# Loss aversion vs. gain desire

Choose

- A) A sure gain of \$240
- B) 25% chance to gain \$1000, and 75% chance to gain nothing

**84%**

**16%**

**We are less likely to risk to get an extra gain**

Choose

- A) A sure loss of \$750
- B) 75% chance to lose \$1000, and 25% chance to lose nothing

**13%**

**87%**

**We are more likely to risk to avoid a loss**

Tversky, A. & Kahneman, D., 1981, The framing of decisions and the psychology of choice. *Science*, 211, 453-458.



# The Endowment effect

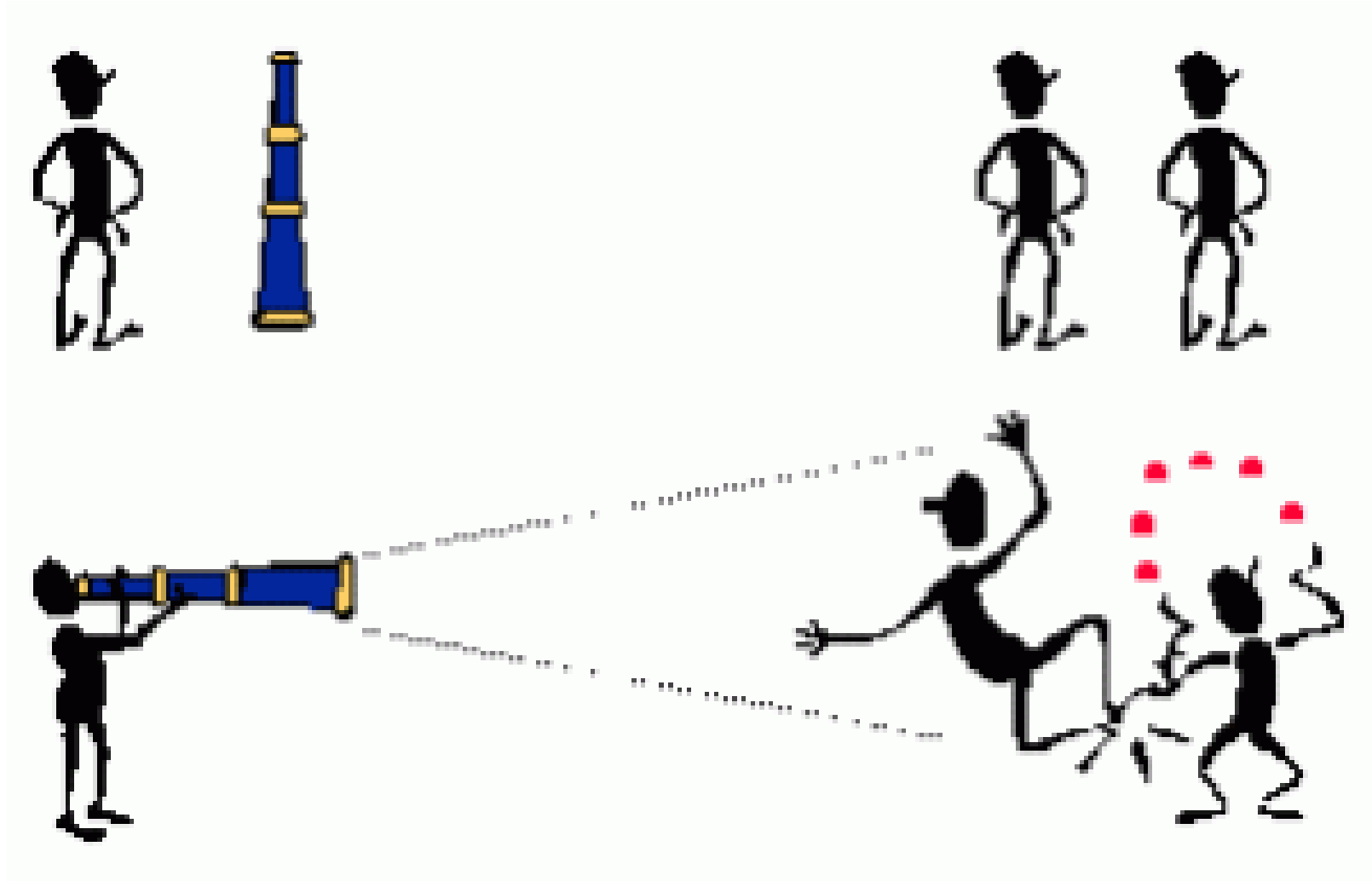


- People value a thing more once it becomes theirs
- Ownership increases utility
- Term originated by Richard Thaler (U. of Chicago)

Thaler, R. (University of Chicago), 1980, Toward a positive theory of consumer choice. *Journal of Economic Behavior and Organization*, March, 39-60.



# The Hawthorne effect



# 'Nudges' matter

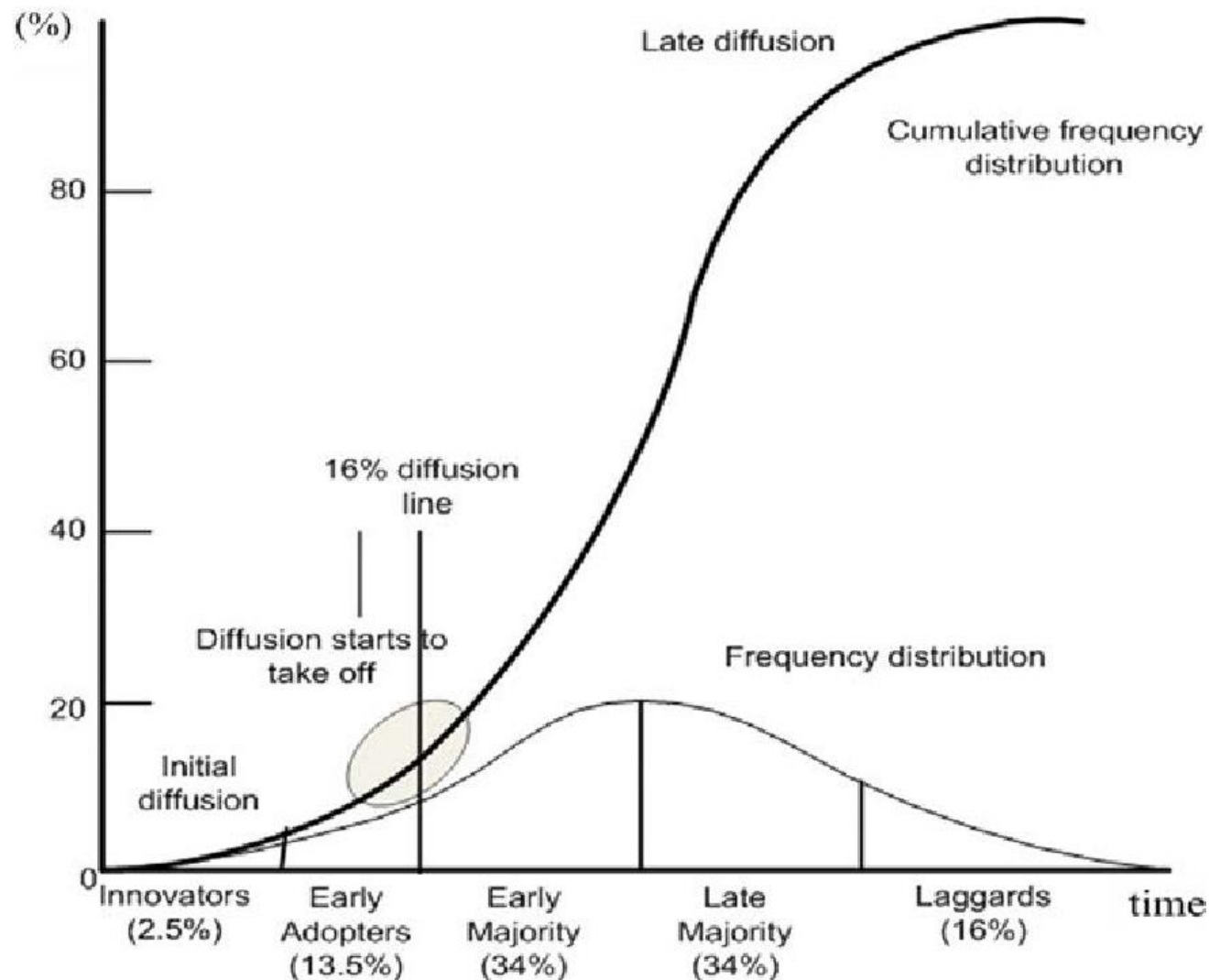




# ‘Nudges’ matter



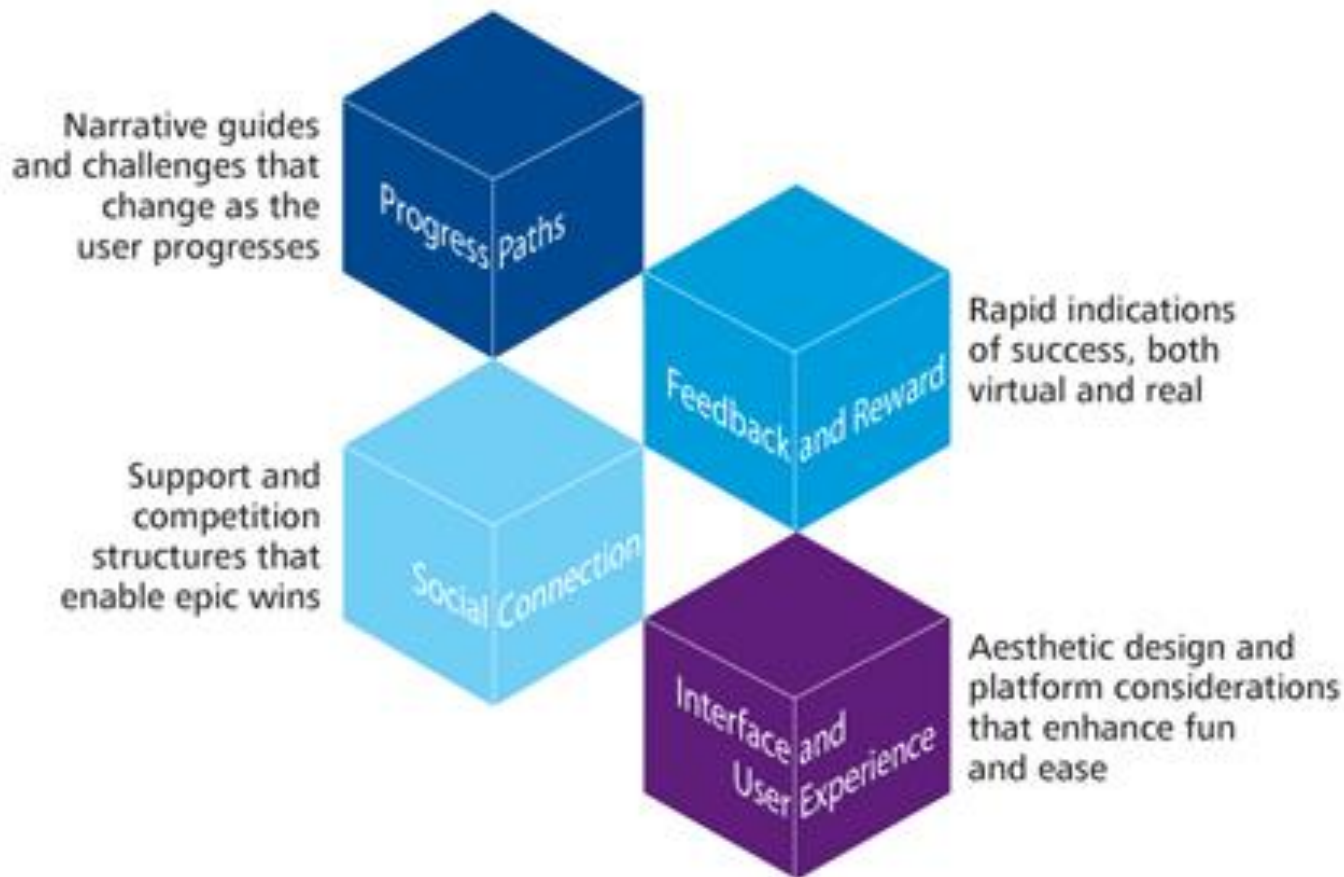
# Imitation matters



Source: Rogers (2003)

# Gamification matters

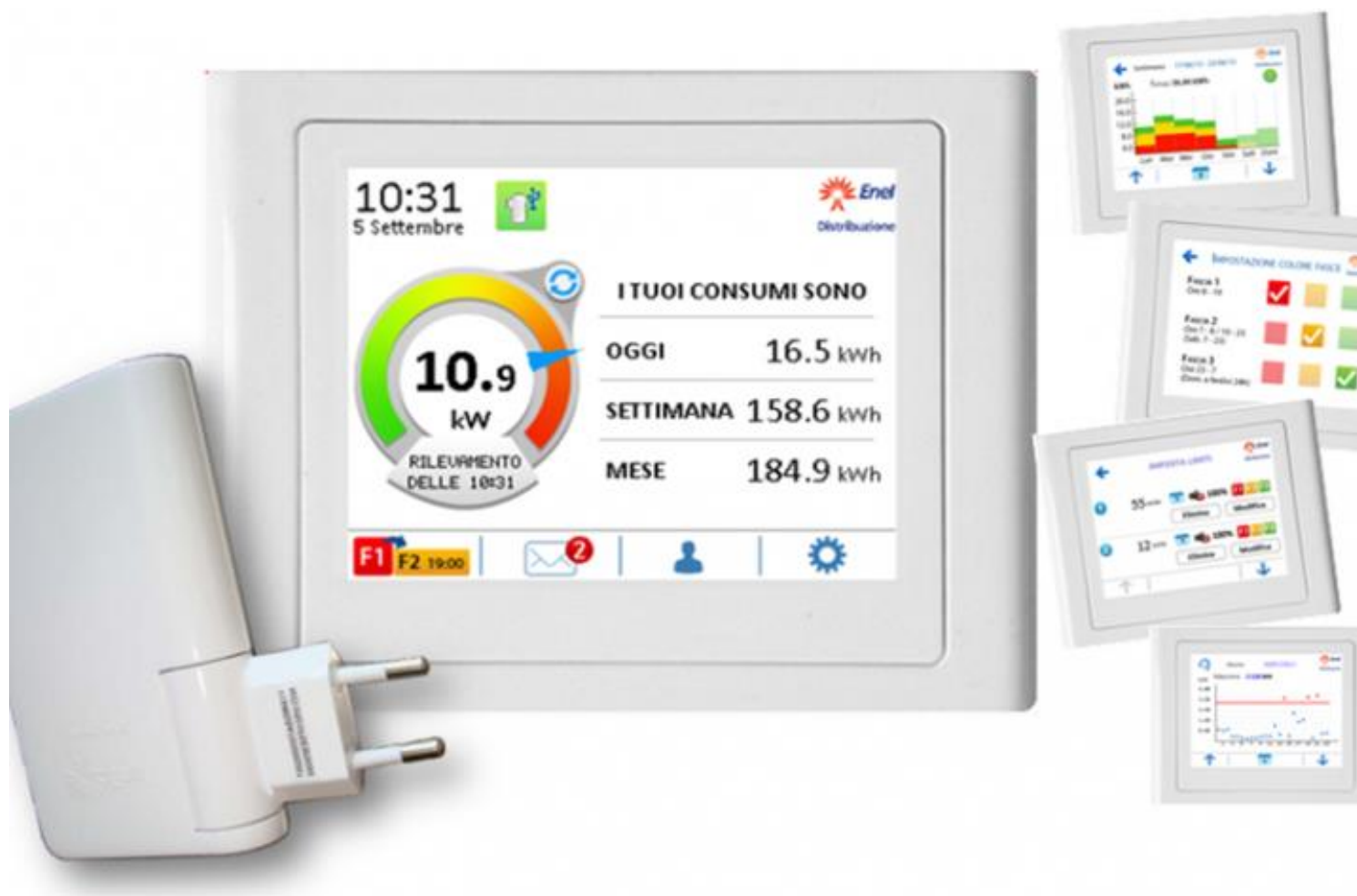
**Figure 1. The elements and tools of gamification**



<http://insights.wired.com/profiles/blogs/enterprise-gamification-management>



# Feedback restitution matters



<http://www.resmagazine.it/tag/smart-metering>



TAKING COOPERATION FORWARD

# Private vices, public virtues



## BUILDING ALLIANCE



TAKING COOPERATION FORWARD



# CONCLUSIONS

- People DO NOT make rational choices based on the weighing up of costs and benefits.
- PRIVATE benefits are usually weighed more than PUBLIC ones.
- Most people prefer avoiding losses than acquiring gains.
- Loss aversion contributes to a preference for stability (reluctance to change).
- Incentives, penalties and regulations may be effective, but not in all cases and their impacts must be selectively evaluated.
- Timely feedback reinforces commitment over time.
- Changing attitudes does not automatically lead to behavioural change.
- The communitarian/social dimension is pretty important.
- All in all, context matters.



# THANK YOU FOR YOUR ATTENTION



Francesco Molinari  
External expert, Province of Treviso  
Project TOGETHER



[www.interreg-central.eu/together](http://www.interreg-central.eu/together)



[mail@francescomolinari.it](mailto:mail@francescomolinari.it)



+39 347 333 7434



[togetherprtv2016](https://www.facebook.com/togetherprtv2016)



[linkedin.com/in/central-europe-together-82278512b](https://www.linkedin.com/in/central-europe-together-82278512b)



[@ce\\_together](https://twitter.com/ce_together)



- Jevons, Stanley (1866). "Brief Account of a General Mathematical Theory of Political Economy", in Journal of the Royal Statistical Society, London, XXIX (June), pp. 282-87.
- Kahneman, Daniel; Tversky, Amos (1979). "Prospect Theory: An Analysis of Decision under Risk". In Econometrica, The Econometric Society, 47 (2), pp. 263-91.
- Rogers, Everett M (2003). Diffusion of Innovations. 5th edition. New York: Free Press.
- Simon, Herbert (1957). "A Behavioral Model of Rational Choice". In Models of Man, Social and Rational: Mathematical Essays on Rational Human Behavior in a Social Setting. New York: Wiley.
- Stephenson, Janet; Barton, Barry; Carrington, Gerry; Gnoth, Daniel; Lawson, Rob; Thorsnes, Paul (2010). "Energy Cultures: A framework for understanding energy behaviours". in Energy Policy, 38 (10), pp. 6120-6129.
- Thaler, Richard (1980). "Towards a Positive Theory of Consumer Choice". In Journal of Economic Behavior & Organization 1 (1), pp. 39-60.
- Tversky, Adam; Kahneman, Daniel (1981). "The framing of decisions and the psychology of choice". In Science, 211(4481), pp. 453-458.

