

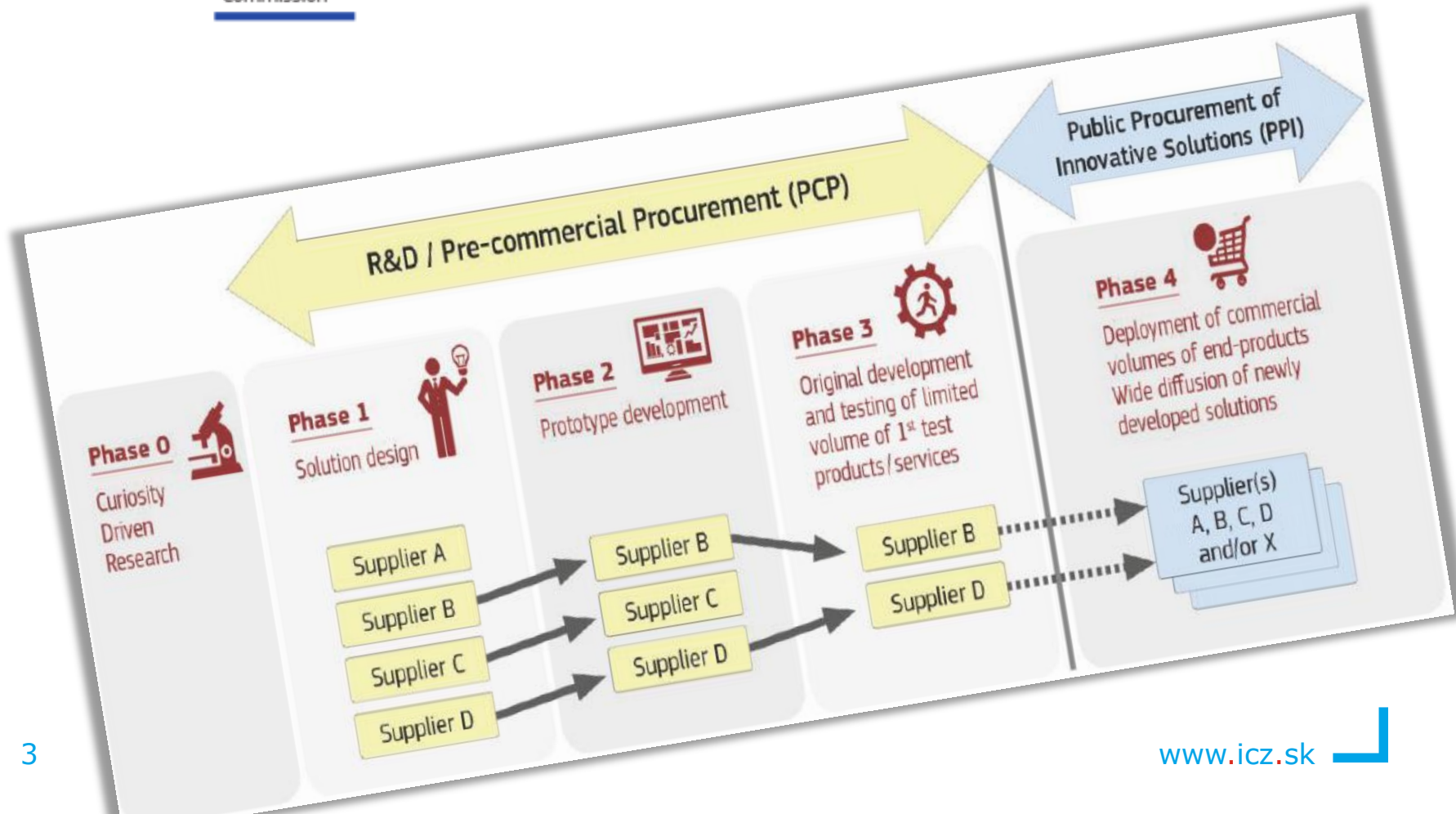


## PROJEKT EMPATTICS





The **EMPATTICS** project  
(**EM**powering **PA**tients for a be**TT**er Information and  
improvement of the **C**ommunication **S**ystems)

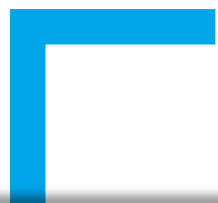




# **INOVATÍVNE PRISTUPY & NÁSTROJE ICT**



**DIABETES  
COPD  
SRDCOVA NEDOSTATOČNOSŤ**





# CHALLENGE

(čo vlastne od nás chcú?)

- Increasing awareness of and knowledge about the importance of adherence,
- Monitoring and evaluating patient adherence to agreed action plans,
- Providing valuable information for the self-management of patient diseases,
- Helping patients to develop healthy adaptive behaviours,
- Facilitating communication between patients and health professionals.

**86**

Umelá  
inteligencia



User Experience Design  
User Interface Design



Mobilné  
aplikácie



Medzinárodných  
štandardoch



Wearables



Health monitoring  
a Big data



5.5.2017 - Prof. MUDr. Peter Bánovčin, CSc.





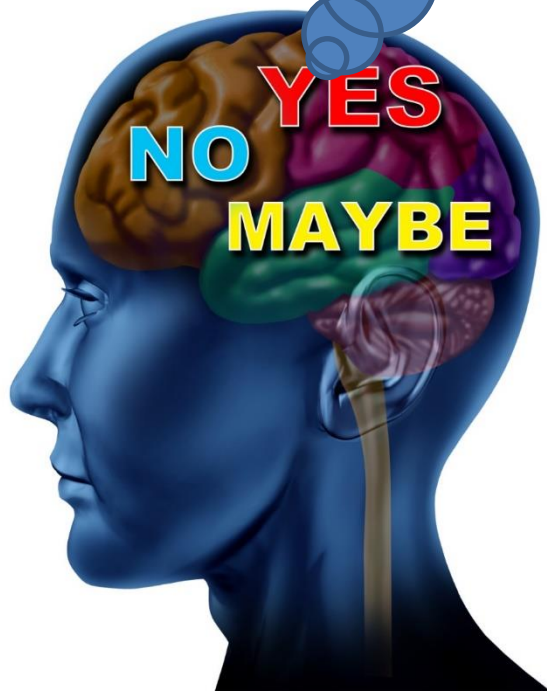
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**RACIONÁLNE ROZHODOVAL**



# RACIONÁLNE ROZHODOVANIE





RACIONÁLNE  
ROZHODOVANIE



**PREDVÍDATEĽNE  
IRACIONÁLNE**

# Behaviorálna ekonómia



# DAN ARIELY

# ORGAN DONATIONS?



Opt-in

Check the box below if you **want** to participate in the organ donor program



## Opt-in

Check the box below if you **want** to participate in the organ donor program

**people don't check the box -- and don't join**





## Opt-in

Check the box below if you **want** to participate in the organ donor program

*people don't check the box -- and don't join*

## Opt-out

Check the box below if you **don't want** to participate in the organ donor program

## Opt-in

Check the box below to participate in the organ donor program

*people don't check the box -- and don't join*

## Opt-out

Check the box below to participate in the organ donor program

*people don't check the box -- and join*



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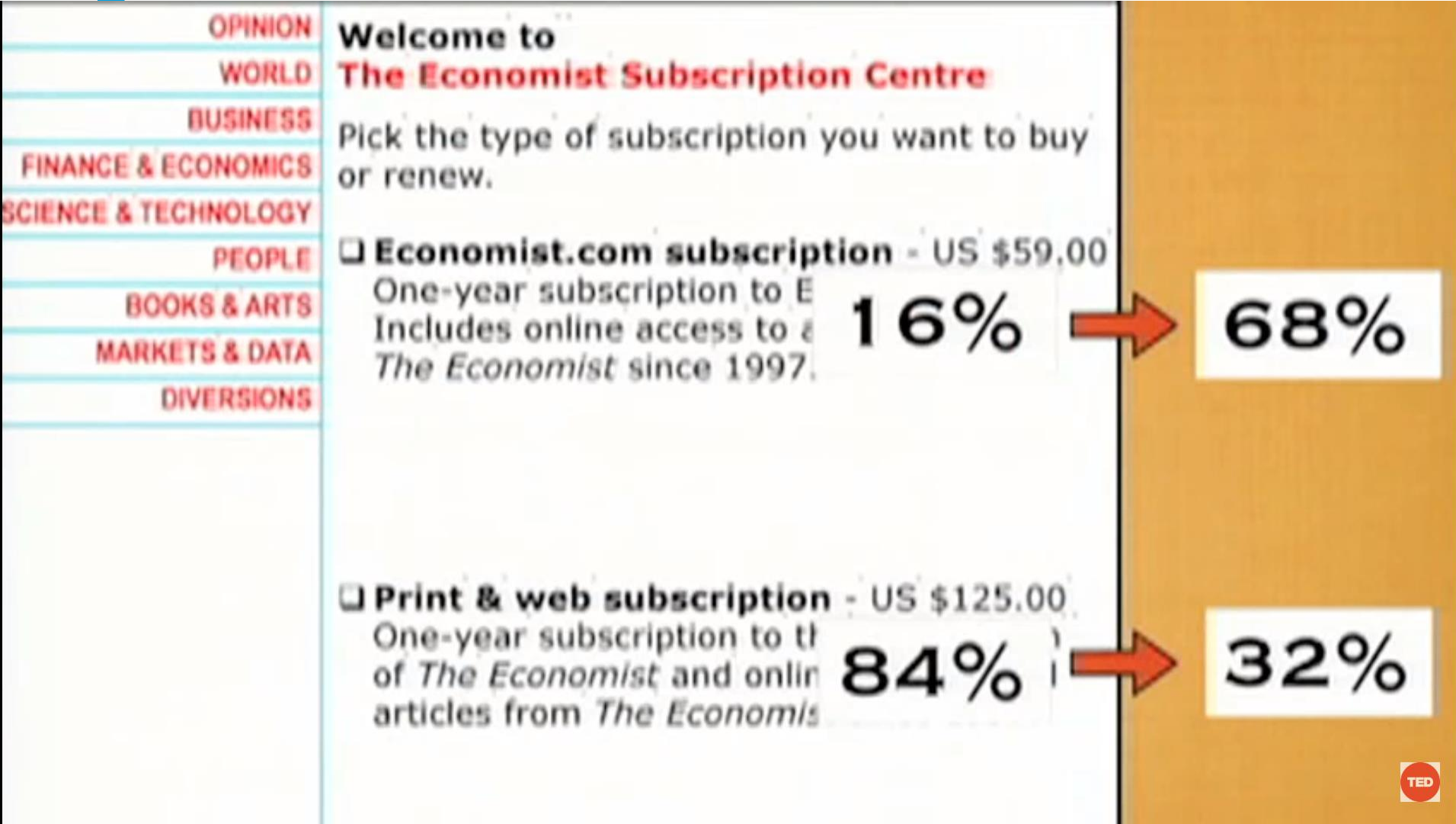
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Behaviorálnych  
change technikách

**BCT**

Gamification  
technikách

**GT**

Aspektoch  
behaviorálnej  
ekonomiky

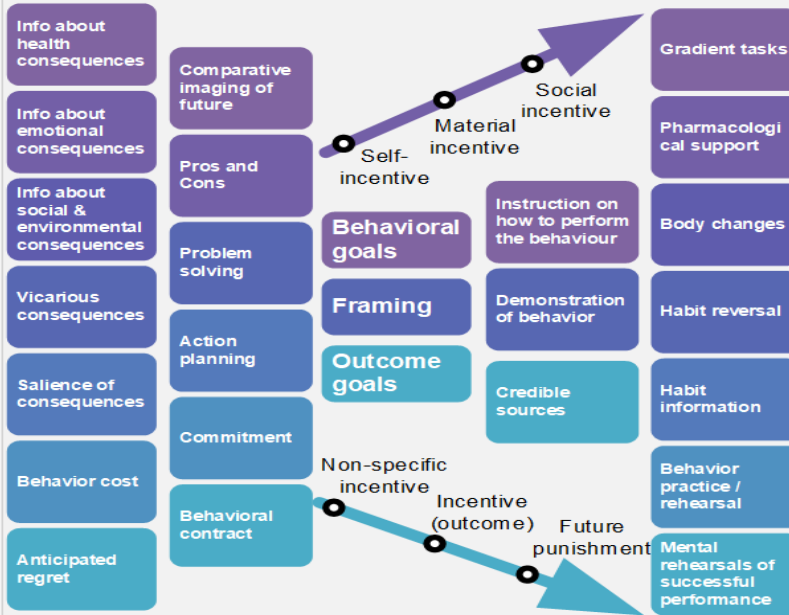
**BE**





### INTERVENTION (BC1)

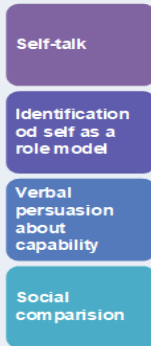
#### BC-TIP - Behaviour Change Techniques Intervention Process Framework



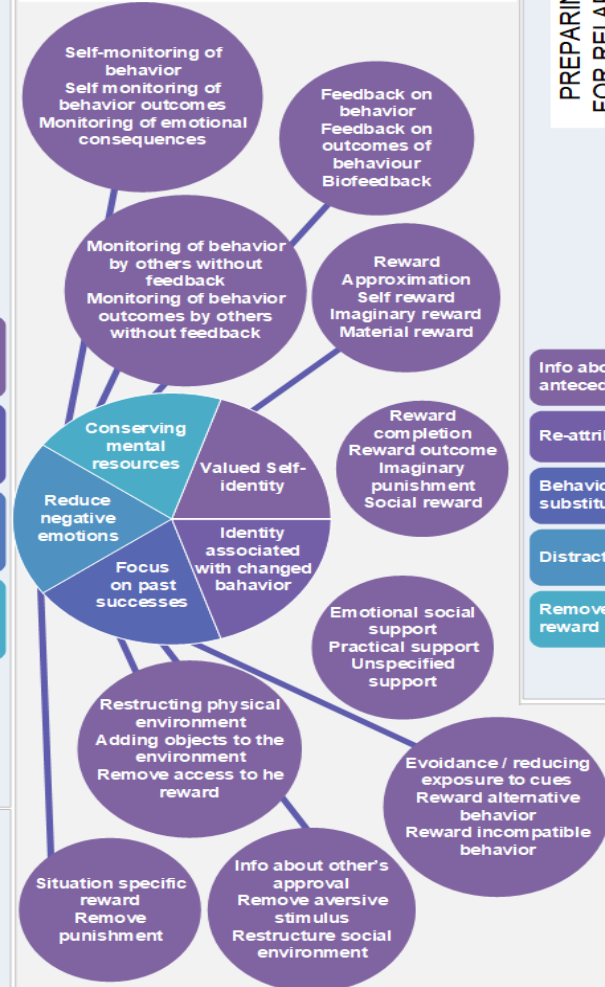
#### TOOLS FOR ANYTIME (BC6)



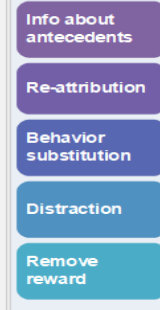
### AFFIRMATION (BC2)



### EVERY DAY LIFE (BC3)



### PREPARING FOR RELAPSE (BC4)



### REVIEW OF GOALS AND ACTIONS (BC5)





INTERVENTION (BC1)

BC-TIP - Behaviour Change Techniques Intervention Process Framework

AFFIRMATION (BC2)

EVERY DAY LIFE (BC3)

PREPARING FOR RELAPSE (BC4)

REVIEW OF GOALS AND ACTIONS (BC5)



- Info about health consequences
- Info about emotional consequences
- Info about social & environmental consequences
- Vicarious consequences
- Saliency of consequences
- Behavior cost
- Anticipated regret
- Comparative imaging of future
- Pros and Cons
- Problem solving
- Action planning
- Commitment
- Behavioral contract

- Self-monitoring of behavior
- Self monitoring of behavior outcomes
- Monitoring of emotional consequences
- Feedback on behavior
- Feedback on

- about precedents
- tribution
- avior titution
- action
- ove rd



TOOLS FOR ANYTIME (BC6)

- Prompts/cues
- Generalization of target behavior
- Behavior experiments
- Exposure
- Associative learning
- Cue signaling rewards
- Reduce prompts/cues

- Situation specific reward Remove punishment
- Info about other's approval Remove aversive stimulus Restructure social environment
- behavior Reward incompatible behavior

- Discrepancies between behavior and goals
- Incompatible beliefs
- Paradoxical instructions
- Satiation
- Overcorrection
- Punishment

# NAŠE PRINCÍPY

- ▶ Jednoducho.
- ▶ **Pacient je za seba zodpovedný.**
- ▶ Neobťažovať.
- ▶ Dáta v pravý čas.
- ▶ Pozitívna komunikácia.
- ▶ Stop nespĺniteľným pokynom.
- ▶ Automatizovať a predpovedať.
- ▶ Monitoring je podpora, nie cieľ.
- ▶ Spolupráca, nie pokyny bez znalosti.



# MONITORING

IoT  
IoMT





# IoT IoM-**AI**



- Prečo môj krvný cukor stúpa?
- Mám predpoklad k cukrovke na základe niektorých meraní?
- Varovanie užívateľa, pred možným zhoršením stavu na základe nameraných hodnôt, t.j. systém včasného varovania reálnom čase.



# 1. SUPERVISED LEARNING

Začneme strojovým učením na základe učenia sa s učiteľom.



# BigData & Deep Neural Network





[www.icz.sk](http://www.icz.sk)

