



# ARE YOU “IN” OR ARE YOU “OUT”?

CONSIDERING WHAT INCLUSIVE AND EXCLUSIVE FEATURES OF DIGITAL TECHNOLOGIES MAY MEAN FOR WELL-BEING & WORK-LIFE BALANCE

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# Today's Webinar

- What do we mean by 'inclusive' & 'exclusive' aspects of technology?
- Introducing a framework: basic psychological needs theory (BPNT)
- Unpicking work-life balance. Considering the key ingredients for "success" and how these relate to BPNT.
- Illustration using qualitative data...
- So what? Who cares?
- Ask the audience...

# WHAT DO WE MEAN BY...

## INCLUSIVE ASPECTS OF TECH?

- “You get out what you put in”.
- tech → person → action
- Requires end-user time, effort, & engagement.
- Transparent – customisable/hackable
- Active end-user. Passive technology.

## EXCLUSIVE ASPECTS OF TECH?

- “ The tech does this so you don’t have to”
- tech → action
- Little required from end-user other than initial acquirement/installation.
- Opaque (hidden algorithms)
- Passive end-user. Active technology.

# INCLUSIVE ASPECTS OF TECHNOLOGY

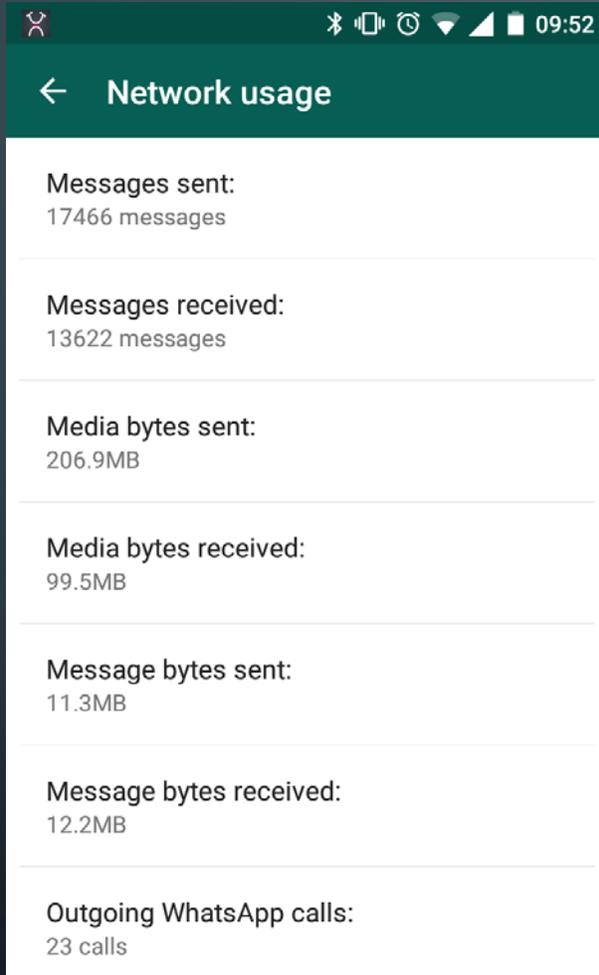


This screenshot shows a Google search for 'remind me to'. The search results include several reminder suggestions: 'remind me to buy milk tomorrow', 'remind me to wake up at 8am', and 'remind me to miss you lyrics'. Below the search results is a 'Create reminder' form with a text input field 'Remind me...', radio buttons for 'When' (selected) and 'Where', and dropdown menus for 'Date' (today) and 'Time' (Evening). A link 'Remind me on Google Now' is also visible.



This screenshot shows a Windows User Account Control dialog box. The title bar reads 'User Account Control'. The main text asks: 'Do you want to allow the following program from an unknown publisher to make changes to this computer?'. Below this, the program details are listed: Program name: emc-vsi-pm-5.3.0-vmware-vsphere-WINDOWS-x86.exe, Publisher: Unknown, and File origin: Downloaded from the Internet. At the bottom, there are 'Yes' and 'No' buttons, and a link to 'Change when these notifications appear'.

# EXCLUSIVE ASPECTS OF TECHNOLOGY



Network usage

- Messages sent: 17466 messages
- Messages received: 13622 messages
- Media bytes sent: 206.9MB
- Media bytes received: 99.5MB
- Message bytes sent: 11.3MB
- Message bytes received: 12.2MB
- Outgoing WhatsApp calls: 23 calls

## Find your ideal work-life balance.



With so many distractions and possibilities in your digital life, it's easy to get scattered.

RescueTime helps you understand your daily habits so you can focus and be more productive.

[Get Started](#)



Windows Update

Control Panel Home

- Check for updates
- Change settings
- View update history
- Restore hidden updates

Windows Update

You're set to automatically install updates

4 important updates are available

See also

- Installed Updates
- Add features to Windows 8.1

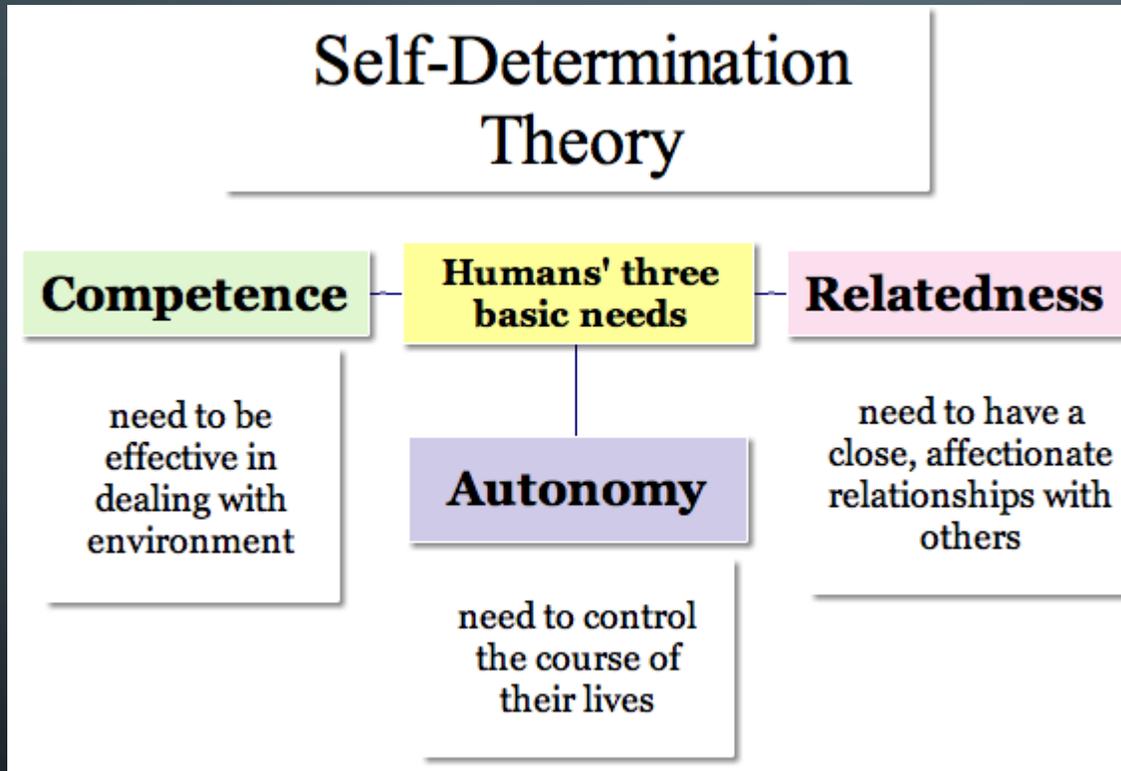
Most recent check for updates: Today at 7:58 PM

Updates were installed: Today at 8:01 PM.

You receive updates: For Windows only.



# A THEORETICAL FRAMEWORK: BASIC PSYCHOLOGICAL NEEDS THEORY



The basic proposition is that:

- there is merit in considering the extent to which inclusive vs. exclusive aspects of technology satiate as opposed to thwart these three needs.

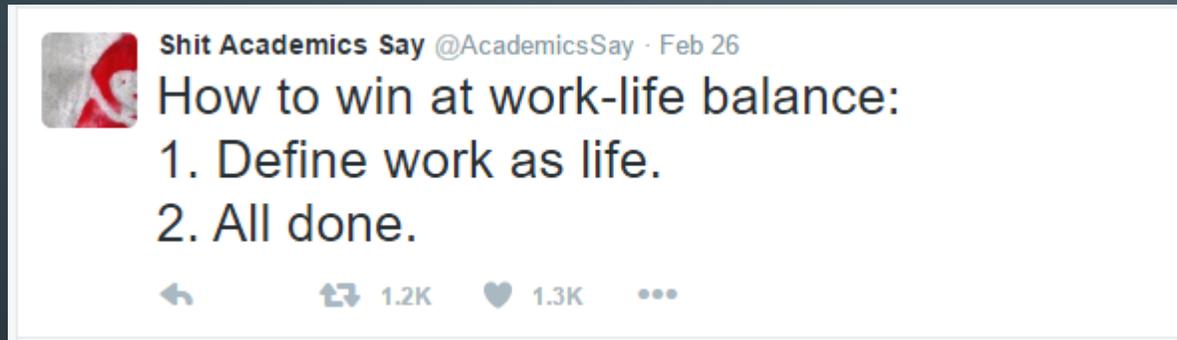
Why?

- These three needs are associated with higher well-being (and also potentially work-life balance!) so may be fundamental to acceptance of technology.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological inquiry*, 11(4), 227-268.

# WHAT ABOUT WORK-LIFE BALANCE?

- What actually is “work-life balance”???



- Seems to achieve ‘balance’ the following aspects are needed:
  - Ability to control and to effectively manage of environment (whether home or work) and resources (time, effort)....akin to autonomy and competence.
  - Maintenance of positive relationships (home and work)....akin to relatedness.

# TYING IT ALL TOGETHER: WHAT'S GOING ON HERE?

(1) Inclusive and exclusive aspects of technology.

(2) Three basic psychological needs.

(3) Work-life balance.

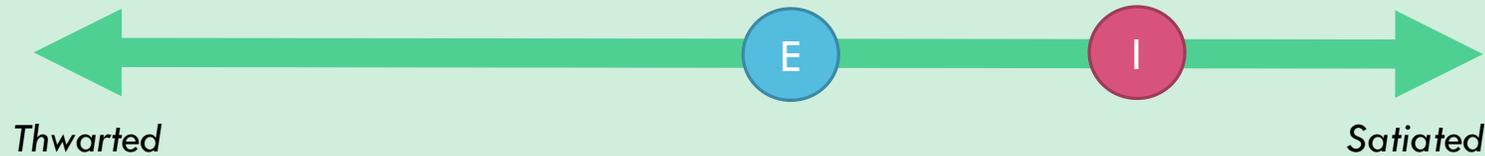
- We aim to consider whether inclusive vs. exclusive aspects of technology (i) differentially influence potential to satiate (vs. thwart) these three basic needs for self-determination/well-being and (ii) how these aspects of technology may influence work-life balance. This is important because happiness & work-life balance may be key to promoting end-users adoption and continued engagement with these technologies.

# TYING THE FRAMEWORK TO HOME ENERGY MANAGEMENT TECHNOLOGY

## HOW WILL INCLUSIVE VS EXCLUSIVE TECHS INFLUENCE NEED SATISFACTION?

### Competence needs

(‘dealing effectively with environment’)



*“I was going to say that’s inconvenient, you’re looking at your monitor every five minutes to see what message is coming through.”*

(In-Home-Display + time-of-use tariff)

*“I haven’t worked it out... I didn’t really understand it.”*

(In-Home-Display)

*“For me, this product has solved our temperature-controlling problems, and brought our old property kicking-and-screaming into the 21st century...As with any “smart home” product, it should eventually become invisible to my day-to-day existence and be one less thing to have to get involved with.”*

(NEST)

*“It could produce a bit more of an insight into the cost of the choices you’re making”*  
(In-Home-Display)

*“I discovered the reason why my [energy] bills went up...my electric shower was malfunctioning”* (In-Home-Display)

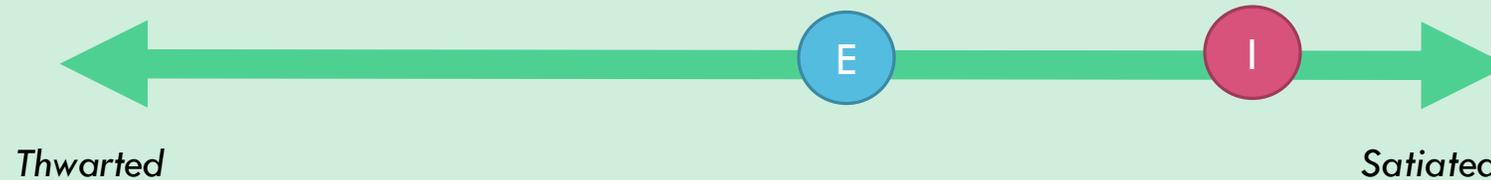
*“preheating:...this was brilliant, set your heating to a target temperature and Nest works out how long it will take to achieve this”* (NEST)

# TYING THE FRAMEWORK TO HOME ENERGY MANAGEMENT TECHNOLOGY

## HOW WILL INCLUSIVE VS EXCLUSIVE TECHS INFLUENCE NEED SATISFACTION?

### Autonomy needs

('controlling the course of our own lives')



*"I want to make a cup of tea when I want to make a cup of tea"*

(Automated HEMS concept)

*"Having automated switch off is a good idea as it allows you to take control of your energy usage"*

(Automated HEMS concept)

*"I'd like to have information but I think I would want to be able to make decisions for myself".*

(Automated HEMS concept)

*"Automatically downloads software updates to the device and there is no way to stop this except disconnecting it from the internet, which defeats the point of the thermostat"*

(NEST)

*"Can control from anywhere in the world"*

(NEST re. Remote heating)

*"Recently it became a bit too over keen and was refusing to come out of auto away when it should"* (NEST)

*"I think it's a good idea, you have control, I mean you might not have control at that minute, because you've chosen not to have control, but it's still up to you".* (Automated HEMS + override)

# TYING THE FRAMEWORK TO HOME ENERGY MANAGEMENT TECHNOLOGY

## HOW WILL INCLUSIVE VS EXCLUSIVE TECHS INFLUENCE NEED SATISFACTION?

### Relatedness needs

(‘having good relationships’)



*“My only complaint is that heating the house to a disgraceful, indulgent, tropical temperature that would make a polar bear cry was my treat while my wife was on a business trip. She can now remotely check on the house temperature and turn it down remotely.”*

(NEST)

*“I can...see how much energy the kids are wasting”*

(IHD)

*“This is a great idea but my kids would hate it as they leave everything on but they'd soon learn to save their games files”*  
(Automated HEMS concept)

*“I think it [automated appliance switch off] has the potential to change the behaviour of even those who do not care about energy usage”*  
(Automated HEMS concept)

*“Because everybody’s different aren’t they, everybody’s got different kinds of need usage and stuff, so if you could customise it for each individual, I think it’s a great idea”*  
(Automated HEMS concept)

*“Very pleased with Nessie so far”*  
(NEST)

## SO WHAT? WHO CARES?

- Increasing prevalence of the digital into our daily lives means real need to consider how different aspects of technology may impact our well-being and work-life balance.
- Could build into future design and marketing of technologies consideration of these three needs.
- Moves beyond the usually targeted motives for home-energy management systems of environmental or monetary concerns.

# ASK THE AUDIENCE

- Does inclusive/exclusive aspects of technology make sense? Are there better terms?
- What are your own experiences of inclusive vs. exclusive aspects of technology?
- Are we trying to cram too much in here? Lots of concepts (inclusive and exclusive, three human needs, illustrative data, work-life balance)? Want to also incorporate the assumptions designers are making about end-users.
- Does the work-life balance portion 'gel' or does it feel tacked on?
- Structure...could make it more about work-life balance and less about three needs.