



TOPSECTOR ENERGIE
Empowering the new economy

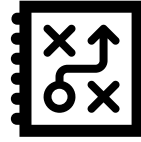
Green Wedge

Dialogues on sustainable technology

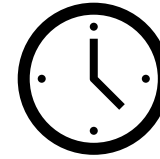




You know more than the person you talk to



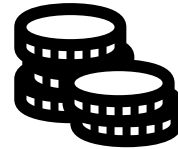
Information that is presented first is most remembered



People prefer the current over the future



Climate change is a complex, future issue.



People are not purely driven by money



Also in B2B sales emotions play an important role



When there is too much choice, people do not choose

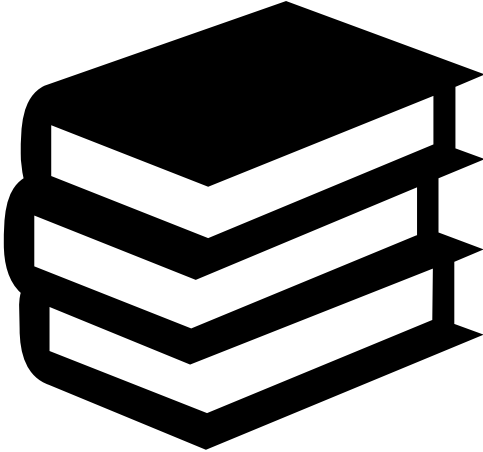


People prefer to keep things the same

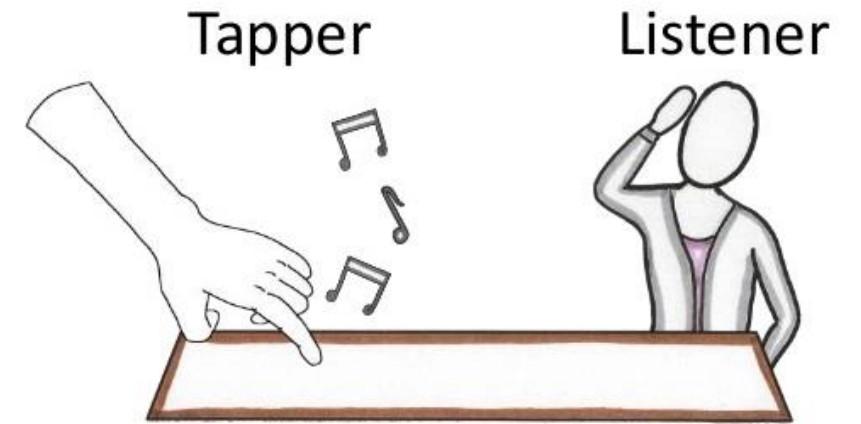


Nobody wants to be the only one that acts

Curse of knowledge



- In 1990, PhD student Elizabeth Newton from Stanford University developed a game: ‘Tapper vs Listener’
- Tapper was asked to pick a well-known song, such as “Happy Birthday,” and tap out the rhythm on a table.
- The listener’s job was to guess the song.



- 120 songs were tapped out.
- Listeners guessed only three of the songs correctly: 2.5%.
- Before the guess, tappers predicted probability that listeners would guess correctly. They predicted 50%.

Curse of knowledge



- When a tapper taps, it is impossible to avoid hearing the tune playing along to the taps. But the listener hears a kind of bizarre Morse code.
- Once we know something—like the melody of a song—we find it hard to imagine not knowing it. Our knowledge has “cursed” us.
- We have difficulty sharing it with others, because we can’t readily re-create their state of mind.

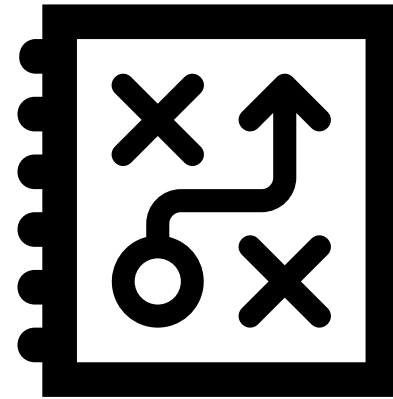
Curse of knowledge and (sustainable) technology

- Studies show that technology users (consumers) do not understand how to use it. Developers make it too complex.
- For instance:
 - Consumers return their appliances thinking they are broken, but instead they use them wrong (48% of returns; Den Ouden, 2006)
 - Almost half of programmable thermostat users do not program it (Peffer e.a., 2011).
- Technology suppliers have a very specific type of knowledge

Take home message

- Think about the story you want to tell: make it easy, understandable and suitable for your conversation partner
- Use examples to clarify
- Affirm if your conversation partner understands what you tell
- But take into account that people do not want to feel inferior. For example, involve someone in the conversation that is no expert, so you can explain things in a simple manner
- Remember that your story will most likely be told to other non-experts.

Primacy effect



Given these two descriptions, which version of Steve do you prefer?

1. Steve is smart, diligent, critical, impulsive, and jealous
2. Steve is jealous, impulsive, critical, diligent, and smart

Given these two descriptions, which version of Steve do you prefer?

1. Steve is smart, diligent, critical, impulsive, and jealous
2. Steve is jealous, impulsive, critical, diligent, and smart

Two groups assessed Steve:

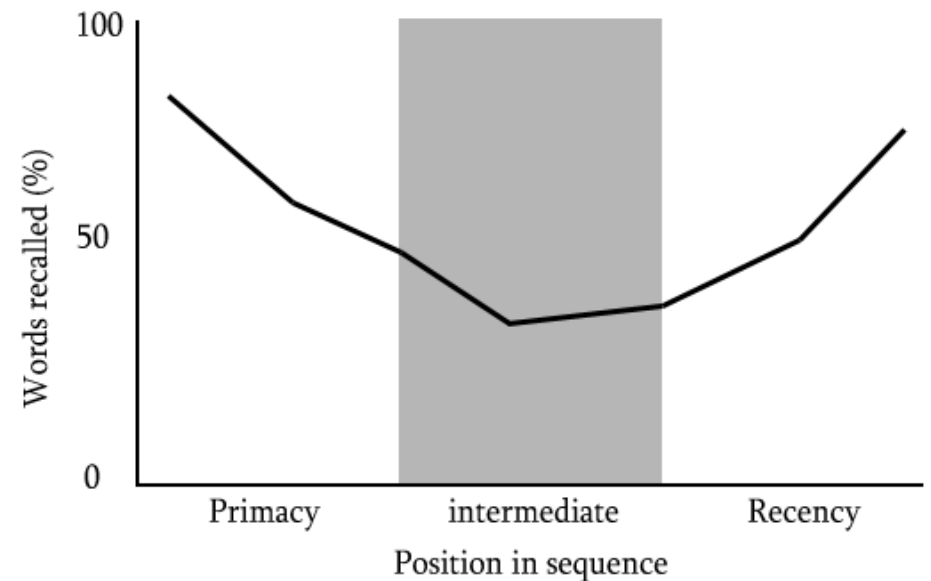
- First group rated Steve positively
- Second group rated Steve negatively

Study: remembering words from a list

- wanweird
- pluvial
- williwaw
- punnet
- mot
- slake
- wayfarer
- contiguous
- coxcomb
- farceur
- hibernaculum
- schmaltz
- fiddlesticks
- cathexis

Study: remembering words from a list

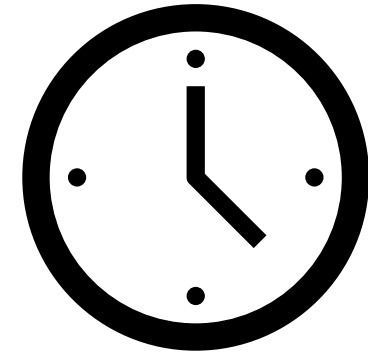
- More than likely you will only remember the first word. Maybe the second. (*primacy effect*)
- Possibly you'll remember two or three words at the end of the list (*recency effect*).
- What you won't remember are any of the words in the middle.



Take home message

- Put your most important message up front
- Remind your audience of your most important message by summarizing at the end

Intertemporal choices



Steve's doctor tells him his cholesterol is a bit high, and that in order to avoid the risk of a heart attack, he should reduce his consumption of fried foods. However, shortly afterwards, Steve and his friends go to a sports bar, and a big order of Steve's favorite greasy onion rings is placed on the table. Even though he remembers the words his doctor said, Steve wants to dig in.

- Making decisions involving tradeoff are difficult for most people
 - Often choose the immediately rewarding option
 - Only to regret their decision later
- **Temporal discounting:** people under weigh the impact of future outcomes compared to present ones

Temporal discounting and (sustainable) technology

- Characteristics of sustainable technology:
 - Sustainable technology is often not profitable immediately
 - The investment costs are often higher than the alternative technology
 - The operation costs are often lower than the alternative technology

Take home message

- Find ways to delay immediate costs (lease constructs or pay back without interests)
- Find ways to pull benefits up front (social approval)
- Use arguments to counter temporal discounting
 - Emphasize that companies with future plans are more successful on the long run. [ref]
 - Use anticipated regret: people want to avoid the feeling of regret after they make a decision. A focus on possible regrets leads people to anticipate and incorporate in their choice their desire to eliminate or reduce this possibility.
 - If a change has to happen anyway (e.g. law changes in 2024), the later you implement, the more potential savings you lose...

Perceptions of climate change



Characteristics of climate change

- Although people are aware of climate change, people do not perceive risks as vivid, relevant, or alarming
- Effects of climate change will mostly take place in the future.
 - We like to live in the moment, preferring to satisfy our immediate needs.
- Climate change is not felt day-to-day
 - Negative effects are mostly felt in other parts of the world
 - People act on fast and immediate issues, while the changing climate is a slow problem
- Personal decisions have only small impacts

Awareness of climate change (Netherlands)

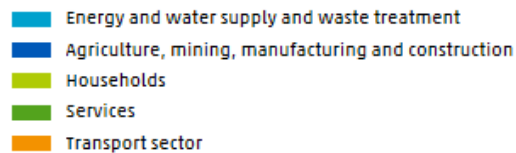
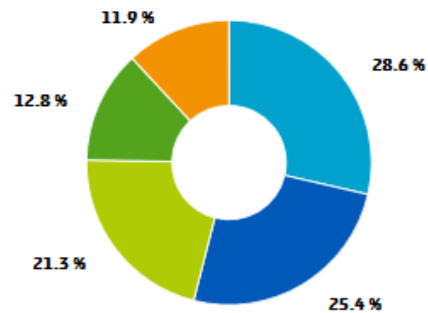
Study PBL and SCP (2019).

Majority of Dutch citizens and business representatives:

- Acknowledge that the climate is changing
 - 90% citizens (n=1.275),
 - 88% business representatives(n=832)
- Acknowledge that climate change is due to humans causes
 - 85% citizens
 - 84% business representatives

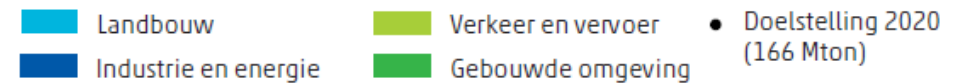
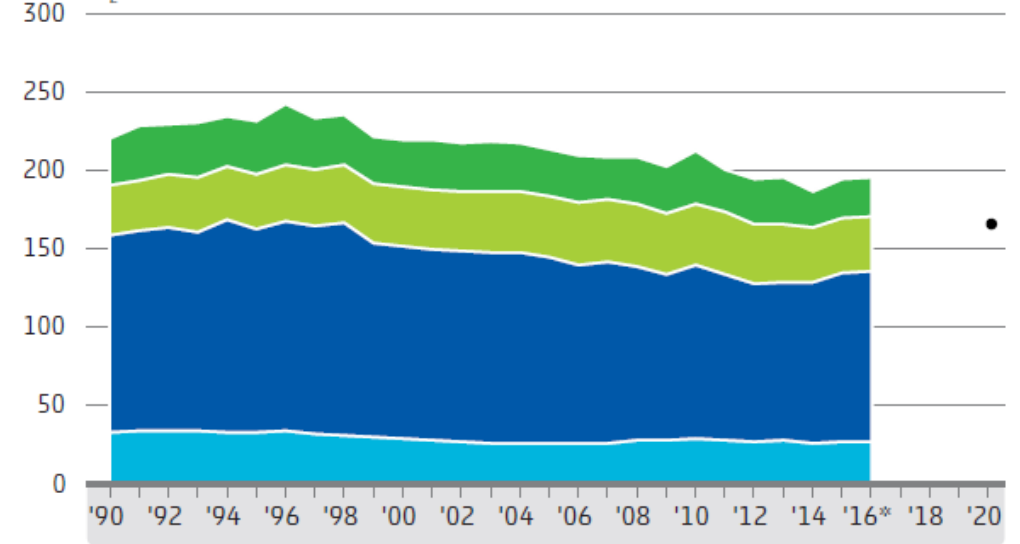
CO₂ emissions and trend

Contributions of CO₂ emissions by households and industries, Q4 2018



Emissie broeikasgassen per sector

Mton CO₂-equivalenten



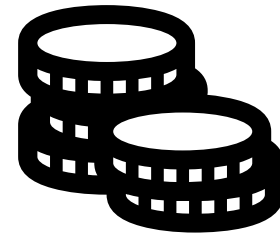
There is potential for energy saving

- Ecofys report: 'state of the art' technology could lead to 30% savings in European refineries.
- Vleeming e.a. (2010): If Dutch installations in the process industry would follow best-practices they could save up to 37% on energy.

Take home message

- When you talk to someone professionally, chances are high that this person is convinced of the climate change issue and its causes.
 - So you can talk about it. And do talk about it.
- If someone is not convinced, focus on other downsides of not making sustainable choices, for instance rules and regulations, consumer demands.

Myth of self interest



- In a study by Handgraaf, Van Lidth de Jeude, Appelt (2013) electricity use was measured in a Dutch firm for 13 weeks.
- Each week, employees were rewarded for conserving energy
 - Half received monetary rewards (€0–€5)
 - Other half received social rewards (grade points with a descriptive comment)
- Rewards were either privately or publicly given

- Public rewards outperformed private rewards (both short and long term)
- Social rewards outperformed monetary rewards (both short and long term).
- Private monetary rewards were ineffective.
- Public social rewards may be more promising to stimulating energy conservation.

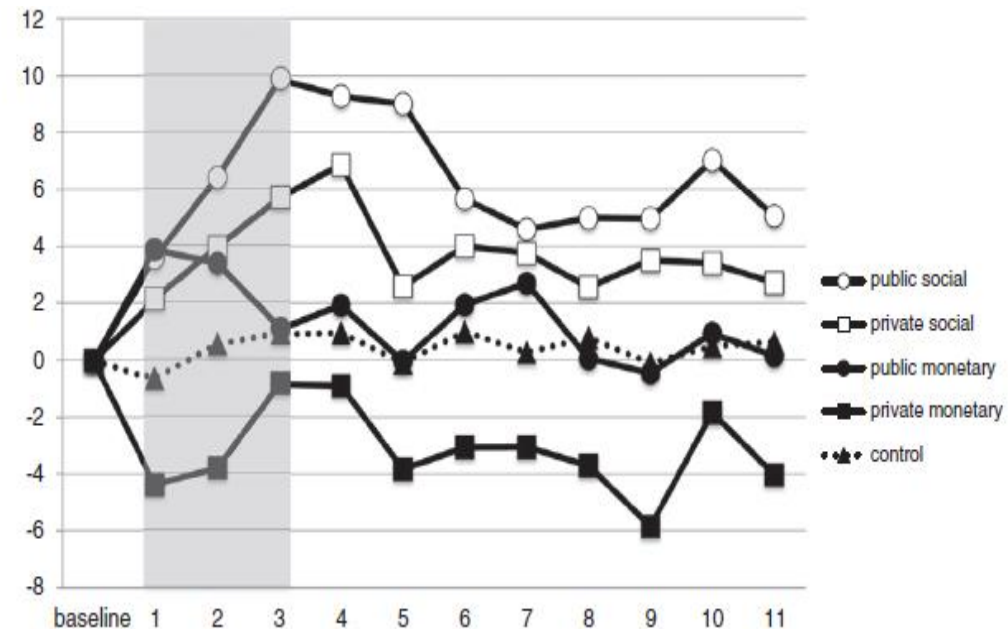


Fig. 1. Percentages of energy saved in each of the conditions (including control) over the entire period (the 11 weeks following baseline measurement). Rewards were given during the shaded weeks (weeks 1, 2 and 3).

Myth of self-interest

- It is often assumed that money is the most important factor in decision making, but this is not true.
- People also think of themselves that they are driven by money.
- Holds both for consumers and businesses

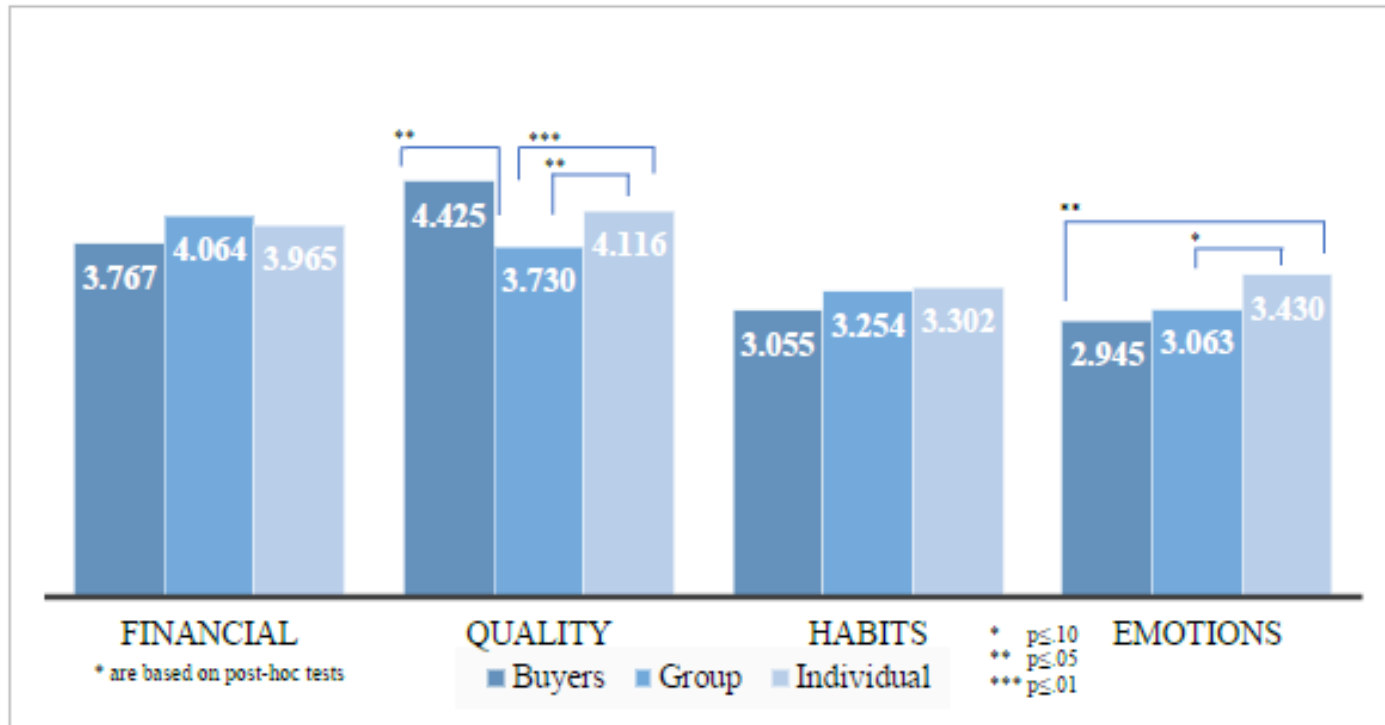
Study on saving energy at home

- 509 Californians received messages (printed doorhangers) on how to save on energy use
- Five different messages:
 - descriptive norm
 - self-interest
 - environment
 - social responsibility
 - information-only (control)
- Energy use data was collected four times during two months
- Afterwards people were interviewed

- Participants believed that the behavior of their neighbors—the descriptive norm— had the least impact on their own energy conservation.
- Results showed that the descriptive norm actually had the strongest effect on participants' energy conservation behaviors.
- More than messages on protecting the environment, being socially responsible, or saving money.

WUR study on decision making by consumers (136) and professional buyers (73)

- When I buy a product, ... play an important role.



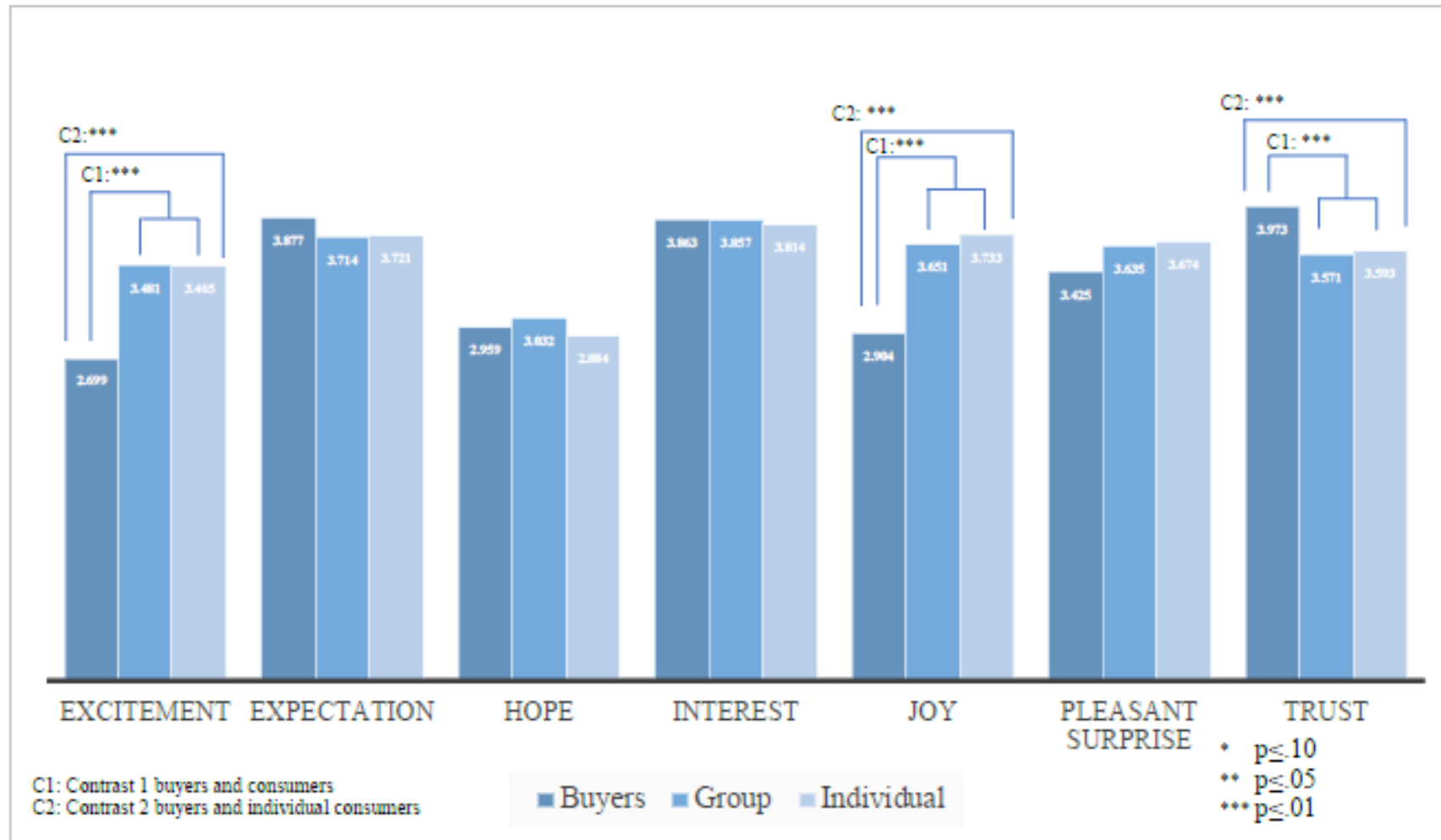
Take home message

- Money is a driver of behaviour, both for consumers and professional buyers
- But other factors also play a role, like social norms or doing something for the environment.
- Do not focus solely on money

Decision making based on emotions



WUR study on decision making by consumers (136) and professional buyers (73)



“During my decision to purchase something I am influenced by the emotion ...”

- Both for consumers and professional buyers emotions play a role.
- Professional buyers seem to be most influenced by trust, while joy and excitement are more relevant for consumers.

Decision making based on emotions

- In 2006 Richard Bagozzi researched salesperson-customer interactions
- Four positive emotions are essential salesperson-customer relations:
 - pride
 - attachment
 - empathy
 - (emotional wisdom)

Decision making based on emotions

- Six negative emotions (and how they are handled)

guilt

shame

embarrassment

envy

jealousy

social anxiety

Decision making based on emotions

- In 2018 Kemp, Borders, Anaza en Johnston interviewed 12 B2B marketing professionals
- Emotions are prevalent at all stages in the organizational decision-making process.
- Buyers must see the functional value of a product or brand, but companies need to consider how to connect with buyers on an emotional and personal level.

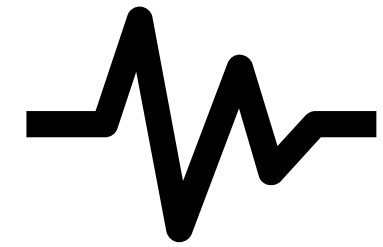
Take home message

- Think about how connect with buyers on an emotional and personal level.
- Learn about emotion management:

Table V Marketing techniques for emotion management

Fear and anxiety	Reassure in content and messaging Use humor in messaging
Frustration	Share helpful information and resources Maintain regular contact
Regret	Provide exceptional post-sales service support Reinforce decision in content and messaging
Trust	Use testimonials from previous customers in content and messaging Personalize messaging Encourage joint value creation in communications
Interest, excitement and expectation	Offer innovative white papers Provide free consultations
Pride	Reinforce decision in content and messaging

Information and choice overload



Study at supermarket



Typical of this supermarket:

- 300 varieties of jam
(Strawberry & Champagne, Tiptree Strawberry, East Anglian Strawberry, Little Scarlet Strawberry flavor)
- Tasting booths

Study at supermarket

- On some days, there were 24 jams for sale, while on other days there were six.
- More shoppers stopped by to try a sample of jam when there were more options
- The more jams that were for sale, the less likely shoppers were to actually make a purchase.
- The smaller selection of six jams resulted in a tenfold increase in jam purchases.

Study on retirement plans

- Study among 800,000 US employees on investing in retirement saving plans
- As the number of retirement investment options a company offers increases, employee participation declines.
 - If two funds offered, participation rates were 75%
 - If 59 funds were offered, participation rates dipped to around 60%

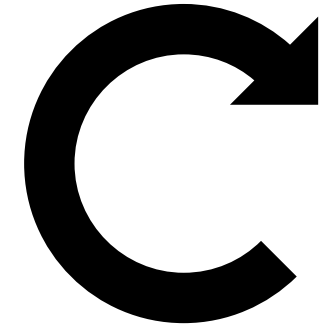
Choice overload

- More isn't always better.
- We can become overwhelmed by the number of options that we face.
- This often results in making suboptimal choices, or no choice at all.

Take home message

- Limit the amount of unnecessary information
- Decrease the number of choices
- Increase meaningful differences between choices

Status quo bias



Switching energy suppliers

- In the UK, 9.5 million households can save over £300 a year by switching energy supplier.
- £1.4 billion a year more than in a fully competitive market
- Study in 2016 showed that 34% of respondents had never considered switching supplier.

Switching energy suppliers

Why?

- People have preference for the energy deal they are currently on, tending to avoid the risk of changing tariffs
- Consumers may also perceive the current default as the recommended course of action set out by policymakers

Status quo bias

- People prefer things to stay the same by doing nothing or by sticking with a decision made previously.

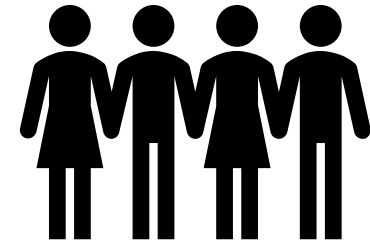
Status quo bias and new technologies

- Win stay, lose change.
 - If a company is doing well it is less open for innovation than when it is not going so well.

Take home message

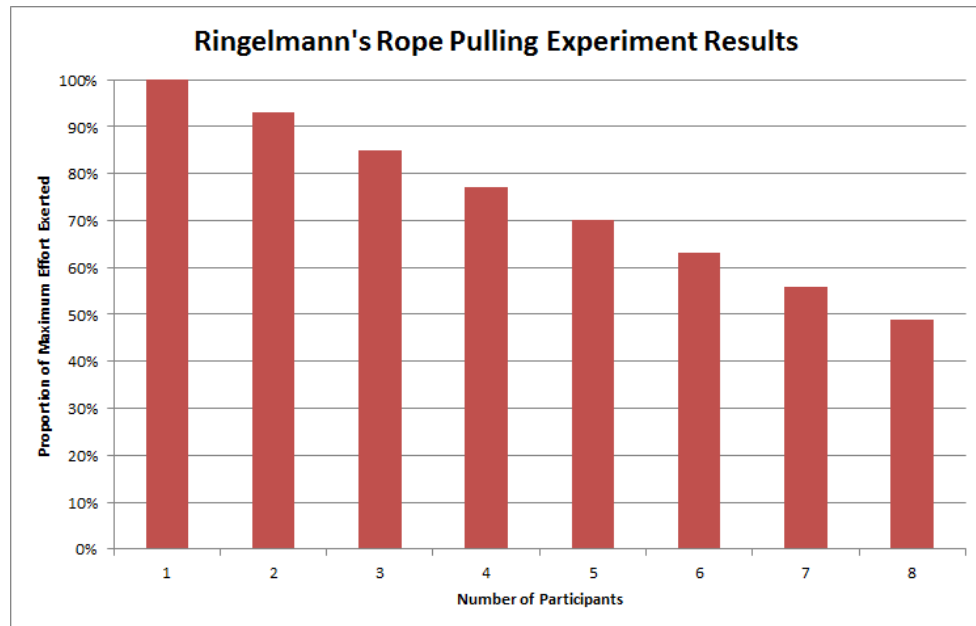
- People only leave the status quo when they win substantially more than they lose. A product really has to outweigh what they have.
- Present them with a choice: imagine you would start your company and its processes from zero, which option would you choose?
- Point out strategic persistence: if this is your approach you will never make any changes. Is that a good strategy on the long run?

Sucker effect



Rope pulling experiment

- In 1913 Max Ringelmann asked a group of men to pull on a rope
- They did not pull as hard collectively as they did when each was pulling alone.



Social loafing: Sucker effect

- Some people feel that others in the group will leave them to do all the work while they take the credit.
- Because people do not want to feel like the "sucker", they wait to see how much effort others will put into a group before they put any in.
- If all the members try to avoid being the sucker, then everyone's effort will be significantly less than it would be if all of them were working as hard as they could.

Sucker effect and sustainable technology

- Why would we be the only one implementing this technology?

'Klein land dat morele supermacht wil spelen'

Braafste jongetje stoot zijn neus



Door **MARCEL VINK**
04 jan. 2019 in BINNENLAND



Lees voor

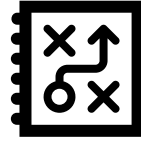
AMSTERDAM - We maken nog geen kwart procent uit van de wereldbevolking en ons land beslaat nog geen drie honderdste procent van het aardoppervlak. Toch willen we op tal van gebieden voorloper zijn, het braafste jongetje van de klas. Nu ook weer met de extreme klimaatplannen. „We hebben vaker onze neus gestoten.”

Take home message

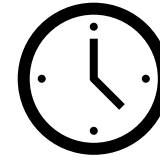
- The sucker effect strongly decreases when there are some others making the sustainable choice.
- Show these positive examples. There are businesses that apply sustainable technology.
- Avoid talking about negative examples. This can lead to cynicism.



Curse of knowledge



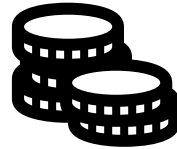
Primacy effect



Intertemporal choices



Perceptions of climate change



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Emotions



Information overload



Status quo bias



Sucker effect



ISPT
Institute for Sustainable
Process Technology