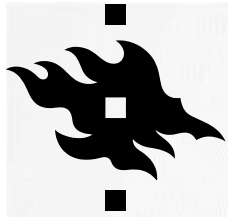


CITIZEN PARTICIPATION TO THE CIRCULAR ECONOMY

Angelina Korsunova

HELSUS / Faculty of Agriculture and Forestry, University of Helsinki



ABOUT ME

- Research fellow and teacher at the Department of Forest Sciences and Helsinki Institute of Sustainability Science
- Passionate about making sustainability science accessible and relevant to wider audiences: companies, policymakers, youth, the wider public
- Founder of Helsus Youth initiative
- Project Lead of Circular Citizens / funded by Kone Foundation





THE CIRCULAR CITIZENS PROJECT

<https://www.circular-citizens.com/>



2021

Rich interview data

on motivations, behaviour and challenges of pioneering citizens who are implementing zero waste lifestyles

2022

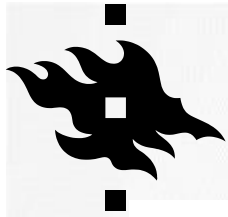
Large scale survey

mapping motivations, opportunities and abilities of regular citizens to participate in the circular economy, especially with precycling behaviours

2023

Participative research

doing repurpose experiments in high schools to support lifestyle changes through experiential learning



INTERSECTION OF SUSTAINABLE CONSUMPTION AND CIRCULAR ECONOMY



Preventing waste is the preferred option, and sending waste to landfill should be the last resort.

The waste hierarchy of the EU Waste Framework Directive emphasizing waste prevention

Circular economy focuses on value retention: prolonging the life of goods & materials, enhancing reuse opportunities, and developing efficient recycling systems

No matter how efficient are recycling processes, nothing is 100% recyclable.

from 3R, 4R, 5R....10R

re-assembly, recapture, reconditioning, recollect, recover, recreate, rectify, recycle, redesign, redistribute, reduce, re-envision, refit, refurbish, refuse, remarket, remanufacture, renovate, repair, replacement, reprocess, reproduce, repurpose, resale, resell, re-service, restoration, resynthesize, rethink, retrieve, retrofit, retrograde, return, reuse, reutilise, revenue, reverse and revitalize... (Reike et al., 2018)



Study: How does circular economy relate to everyday life?

- Perspective of young adults in Finland
- Five high schools
- Altogether 249 responses



Korsunova et al., 2021

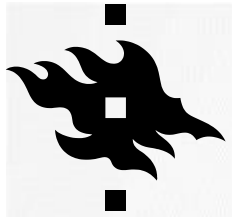




BARRIERS OF CE IMPLEMENTATION



- Consumer lack of interest and awareness of CE among top-rated barriers as reported by businesses and policy-makers (Kirchherr et al., 2018).
- General inertia, existing consumer habits and lack of awareness towards all possible CE choices among reasons for slow diffusion of CE models (De Jesus and Mendonca, 2018)



WHY BOTHER? CIRCULAR BEHAVIOURS REQUIRE ADDITIONAL BENEFITS



MONETARY GAINS



CONVENIENCE

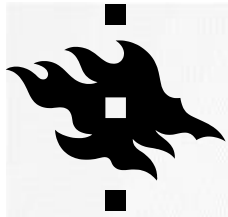


MORALITY



TRENDINESS

Tunn et al. 2019



EXAMPLE: FINNISH BOTTLE RETURN SYSTEM

- Price of the bottled drink includes a "deposit" that can be regained after returning the bottle
- Return points are located in shops where deposits can be cashed in
- Return points are easy-to-use and accept all bottle types (no need to take certain bottles to certain locations)
- Returning bottles is a societally accepted activity, encouraged from childhood



The return rate of bottles & cans in Finland is over 90%

(www.palpa.fi)





CHALLENGE #1

THE PUZZLE OF GOING PLASTIC-FREE

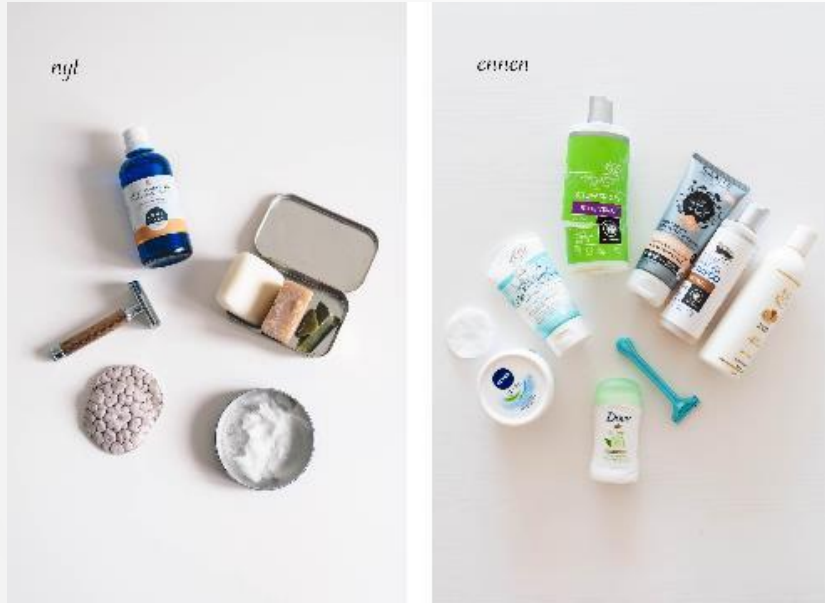
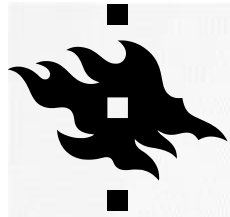


photo by @iisaraita

- Conventional supermarkets sell liquid household goods in plastic bottles
- Finding alternative products packaged in cardboard requires going to "eco-shops" or making timely orders online
- Almost no options available for doing "re-fills"
- Many influencers prefer making their own products, like deodorants or washing detergents



This data should be cited as: Korsunova, A. 2022. The Circular Citizens Project. <<https://www.circular-citizens.com/outcomes>>



CONSUMER PERCEPTIONS, BIAS & ACCEPTANCE OF CIRCULARITY



Certain categories of goods are perceived as less "personal" and are easier to re-sell (e.g. sport equipment)

Typical cognitive bias as barriers to circularity

Worse performance (of product /services)

Hygiene issues

Suspensions of pests

Risk aversion

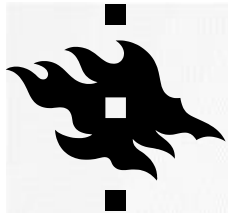
Lack of awareness

Lack of trust

Inertia



Singh & Giacosa 2019



Lutikkakoirilla kova kysyntä – lahjomaton nenä paljastaa lutikat hetkessä

Koulutettuja koiria tilataan erityisesti taloyhtiöihin, joista epäillään löytyneen lutikoita. Kierrätyskeskus yrittää säännöllisillä tarkastuksilla varmistaa, ettei lutikoita päätyisi kierrätyksen kautta ihmisten koteihin.



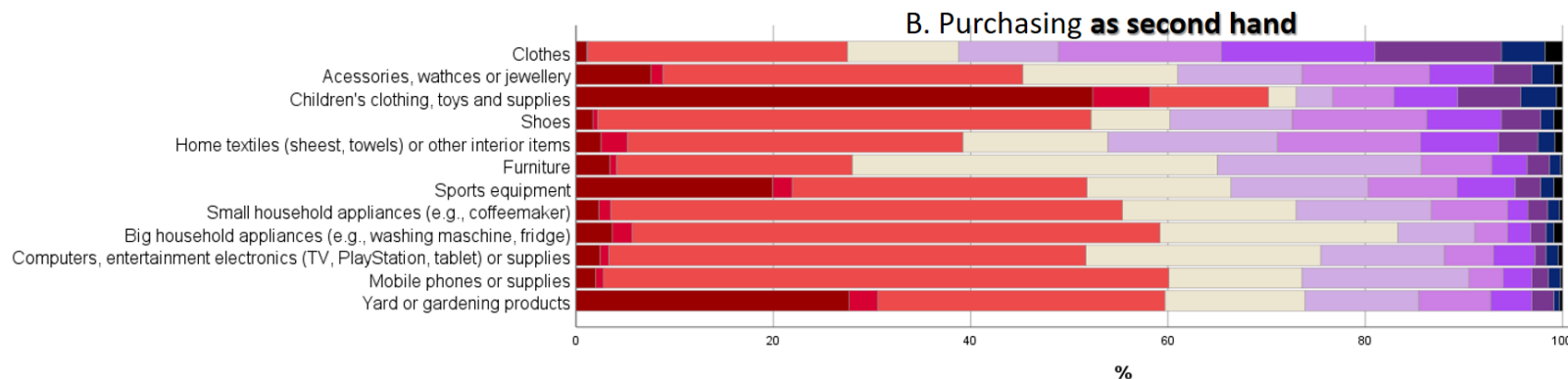
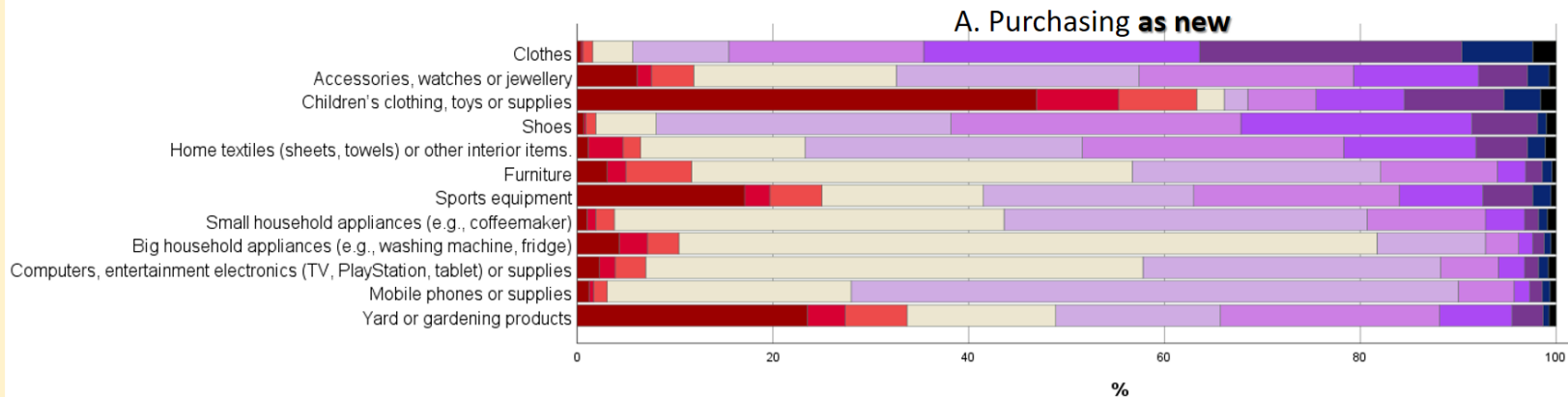
Lutikkakoiria Ruu haistaa mahdolliset lutikat hyvin suurella varmuudella. Lutikkakoiraohjaaja Karita Häkkinen taustalla. Kuva: Tero Ylioja / Yle

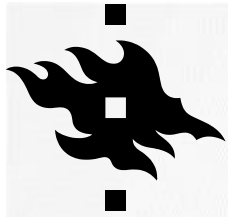


Kierrätys-
keskus

The Re-Use Centers in Finland accept furniture, clothing, sports equipment, toys and other donations from citizens

Due to concerns that there might be bed bugs their facilities have been checked by dogs trained to find domestic pests





Sorting by size



Ironing



Earn some money

Displaying
for a good photo

SELLING BABY CLOTHING ONLINE

Feeling good
from
doing good

Ecological deed

Freeing up space

Selling in season

Adjusting
the pricing

Posting on
social
media



Image: lähiömutsi

Communication
with potential
buyers

Sale & pick-up
arrangements

Dealing with complaints



CHALLENGE#2

TIME FOR UPDATING THE SKILLS

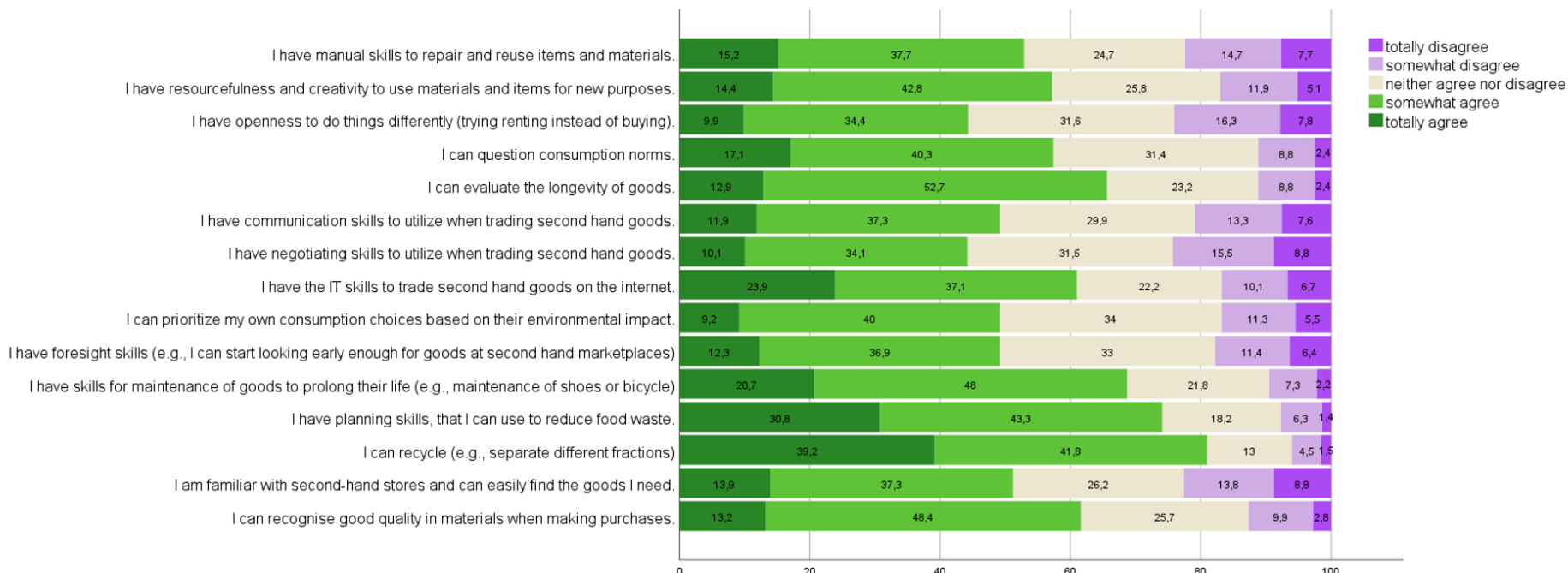


photo by @iisaraita

- Photography and display skills
- Skills for repair
- Maintenance skills
- Knowledge of different materials
- Creativity in cooking: using left overs and reducing food waste



Own CE-skills and abilities (Q5.2)



Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|----------------------------------------------|------------|
| ,890 | ,890 | 15 |





CHALLENGE#3

WHAT IS REALLY SUSTAINABLE?



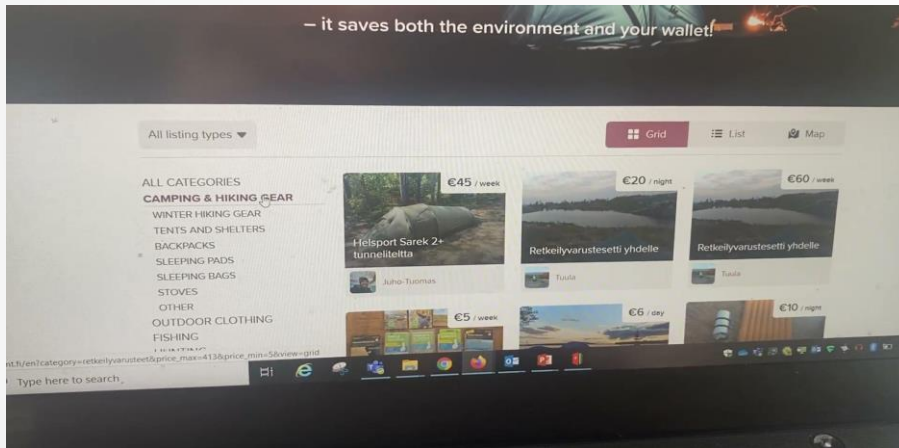
photo by marikaborgblogi.fi





CHALLENGE#4

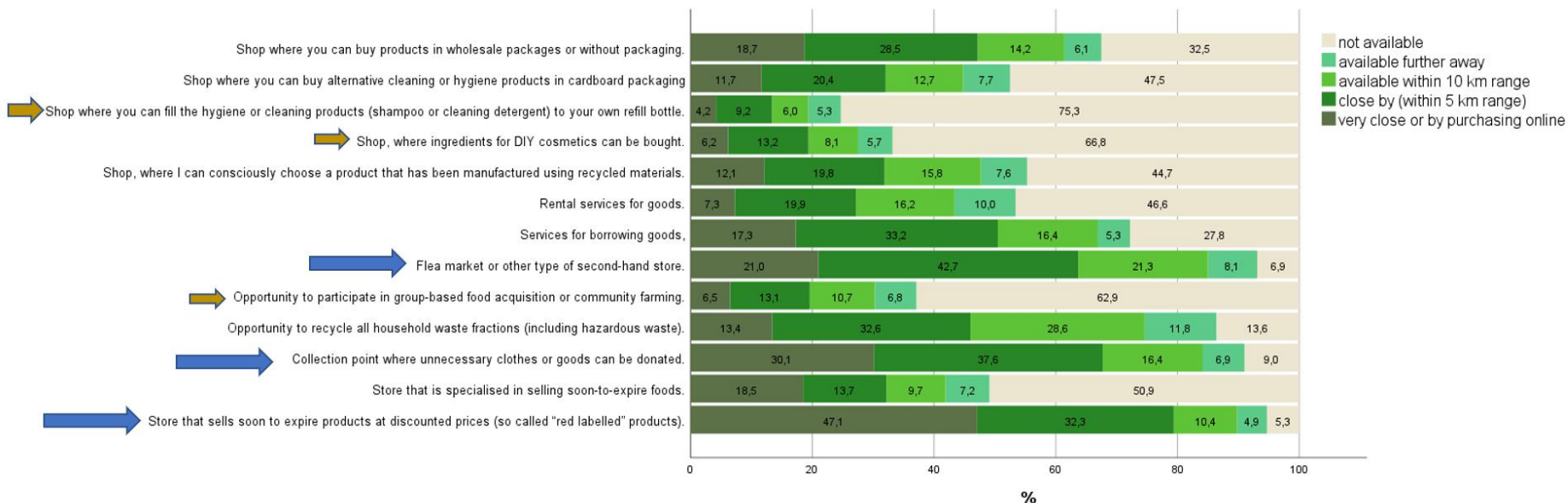
INVISIBLE RENTING SERVICES



- Libraries offer only a small fraction of goods for borrowing
- Different platforms exist – but not very well known
- May need to visit several pick up locations if renting from different users



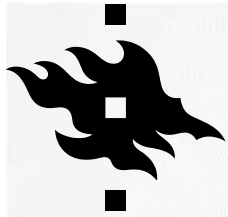
Availability of CE-related services (Q2.6)



Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|----------------------------------------------|------------|
| ,824 | ,825 | 13 |





WASTE AMOUNT ON THE RISE

- Total amount of waste per person has been growing in Finland: from 500 to 550 kg/person/year (2018)
- Also the share of mixed waste has grown by 20% compared to previous years: the sorting of waste decreasing

National Statistics, Finland



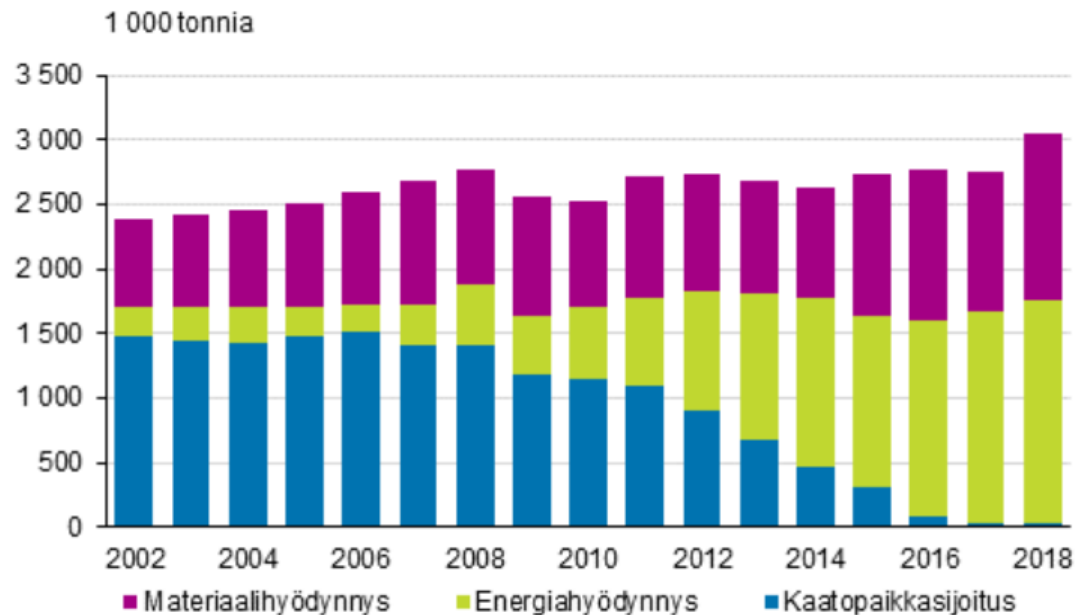
Suomalaiset tuottivat ennätysmäärän jätettä, paljastavat Tilastokeskuksen uusimmat luvut – ”Vastaavaa kasvua ei ole aiemmin nähty”

Jätteen määrä kertoo muun muassa kasvavasta kulutuksesta.



WASTE AMOUNTS ARE INCREASING, BUT ALSO INCREASINGLY RECYCLED INTO ENERGY

Yhdyskuntajätteet käsittelytavoittain vuosina 2002–2018



Jätteiden materiaalihödyntämisen osuus kasvoi, ollen 42 prosenttia. Yhdyskuntajätteiden kaatopaikkasijoitus on loppunut lähes kokonaan: sen osuus vuonna 2018 oli enää noin 0,7 prosenttia. Tämä on osaltaan vuonna 2016 voimaantulleen orgaanisen jätteen kaatopaikkakiellon ansiota, joka on ohjannut jätteitä energiahödyntämiseen.

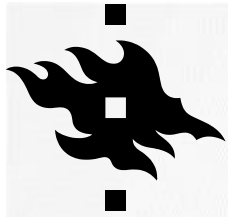


Image: Ville Paso / Yle

Struggling to keep up, Finland exports plastic waste

Experts criticise Finland for urging residents to recycle plastic the country was not prepared to handle.

But today state-owned energy company Fortum, which runs Finland's only plastics recycling facility in Riihimäki, says it doesn't have the capacity to process the waves of plastic waste arriving on-site. This means excess plastic gets shipped abroad.



Yle Uutiset · @yleuutiset · 21. syysk. 2020

Moni meistä ajattelee kuin Jari Matikainen: Biojätteen lajittelu on liian hankalaa – siksi valtava määrä ruokaa poltetaan sekajätteen mukana



Moni meistä ajattelee kuin Jari Matikainen: Biojätteen lajittelu on liian ... Biojätettä lajitellaan edelleen laiskasti, mutta uusi laki voi pian velvoittaa siihen.

[yle.fi](#)

”Many of us think like Jari: sorting biowaste is too challenging”



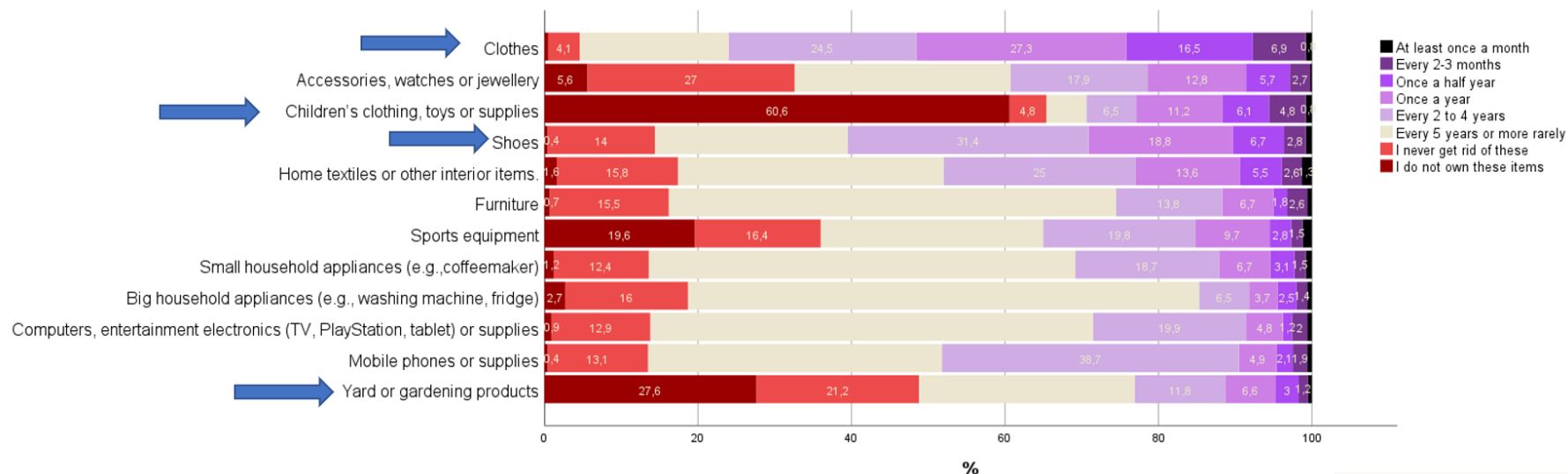
CHALLENGE#5

THE "STAGES" OF SORTING

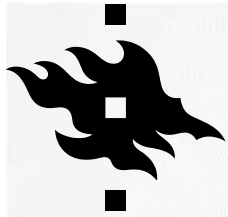


Getting rid of goods (Q3.1)

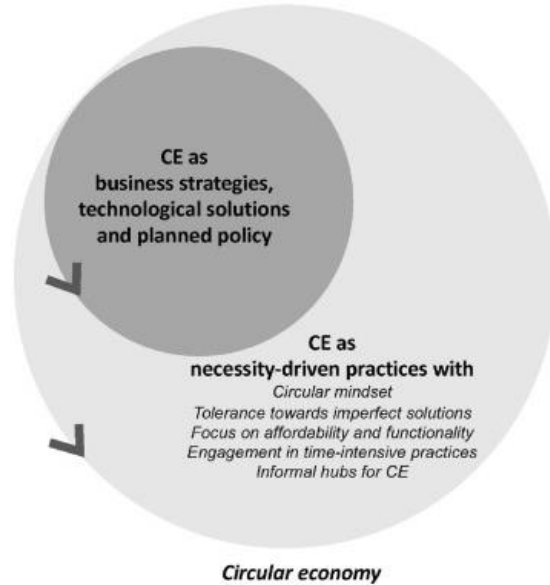
How often do you get rid of (recycle, donate, throw away) the following products?



This data should be cited as: Korsunova, A. 2022. The Circular Citizens Project. <<https://www.circular-citizens.com/outcomes>>



CAN WE LEARN FROM EMERGING MARKETS?

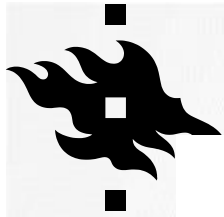


= CE as conceptualized in academic discourse

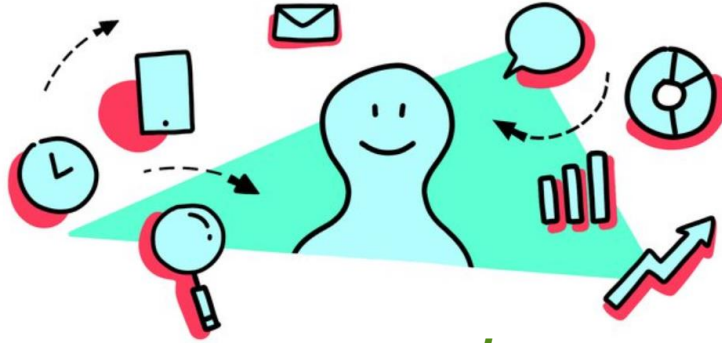


= The phenomenon of endogenous necessity-driven CE practices in low-income emerging markets which has not made its way into academic discourse and policy-making as CE.





MOVING BEYOND THE "CONSUMER"



recycler

upcycler

user

designer

crafter

"sharer"

repairer

gardener

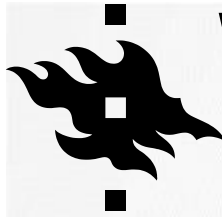
What might be needed to support these transformations to new roles?

- Education
- Skills
- Access to tools
- Working spaces
- (research is ongoing)



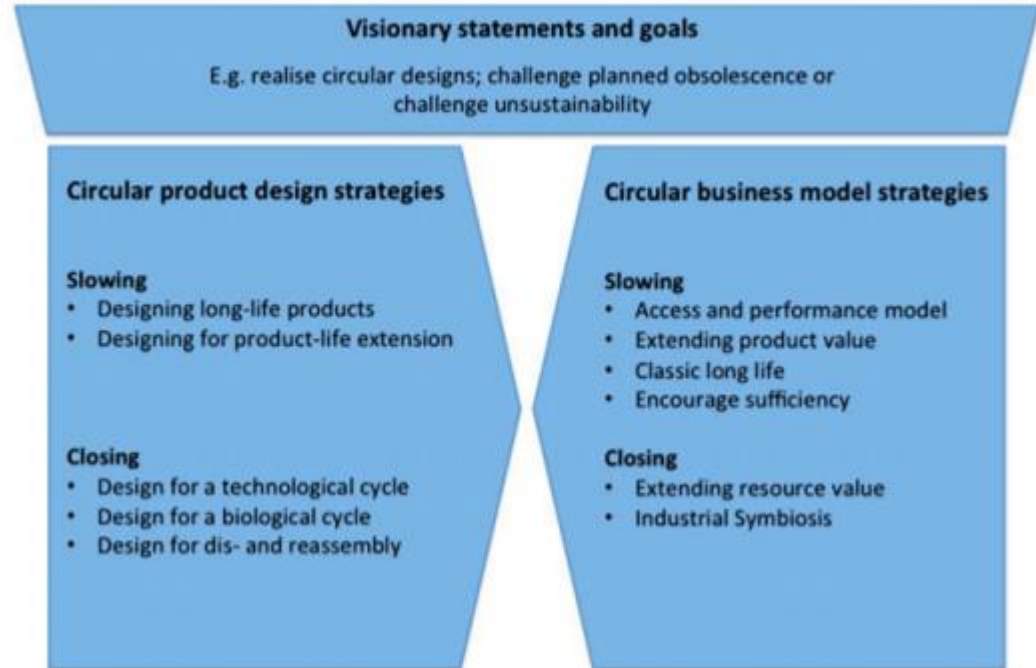
WORKSHOP

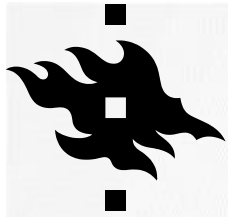




WHAT BEHAVIOURAL ASPECTS ARE RELEVANT FOR YOUR BUSINESS MODEL?

To fully capture the business potential of circular economy, design and business model strategies need to be implemented "in conjunction"





MORE RESOURCES ON CIRCULAR ECONOMY

- Bocken, N., de Pauw, I., Bakker, C., van der Grinter, B. (2016). Product design and business model strategies for a circular economy. *Journal of Industrial and Production Engineering* 33(5), 308-320. <https://doi.org/10.1080/21681015.2016.1172124>
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- Kirchherr, J., Piscicelli, L., Bour, R., Kostense-Smit, E., Muller, J., Huibrechtse-Truijens, A., & Hekkert, M. (2018). Barriers to the circular economy: Evidence from the European Union (EU). *Ecological economics*, 150, 264-272.
- Korsunova, A., Horn, S., Vainio, A. (2021). Understanding circular economy in everyday life: Perceptions of young adults in the Finnish context. *Sustainable Production & Consumption* 26, 759-769.
- Korsunova, A., Halme, M., Kourula, A., Levänen, J., & Lima-Toivanen, M. (2022). Necessity-driven circular economy in low-income contexts: How informal sector practices retain value for circularity. *Global Environmental Change*, 76, 102573.
- Murray, A., Skene, K., Haynes, K., (2017). The Circular Economy: An Interdisciplinary Exploration of the Concept and Application in a Global Context. *J Bus Ethics* 140(3), 369-380. <https://doi.org/10.1007/s10551-015-2693-2>
- Reike, D., Vermeulen W.J.V., Witjes, S., (2018). The circular economy: New or Refurbished as CE 3.0? — Exploring Controversies in the Conceptualization of the Circular Economy through a Focus on History and Resource Value Retention Options. *Resour Conserv Recycl* 135, 246-264.
- Zink, T., Geyer, R., (2017). Circular Economy Rebound. *J Ind Ecol* 21 (3). <https://doi.org/10.1111/jiec.12545>



Kiitos!



<https://www.circular-citizens.com/>



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