New Business Models for Sustainable Solutions

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Selling Products is "out"

Companies should switch their focus on selling need fulfilment, satisfaction, or experiences because that is what clients want and need and what gives companies competitive advantage, enhance added value of their offering, and improve their innovation potential.

(e.g. Pine and Gilmore 1999, Wise and Baumgartner 1999, Davies et al. 2003, LaSalle and Britton 2003).

What does that mean for us ?

From Products to Services and Systems

More than 75% of GDP in US
more than 50% of GDP in Europe is generated
by services NOT products.

Consumers choose products because of better
service not because of product qualities, as
most are all the same.

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*I we take final consumer
needs – rather than the
product fulfilling the need –
as a starting point, the
degrees of freedom to
design need fulfilment
systems with considerable
sustainability improvements
are much higher.*

This means to start with the needs of consumers and society and to search for ways to fulfil these needs with the best solutions that have the least negative – or most positive – effects on the natural and social environment.
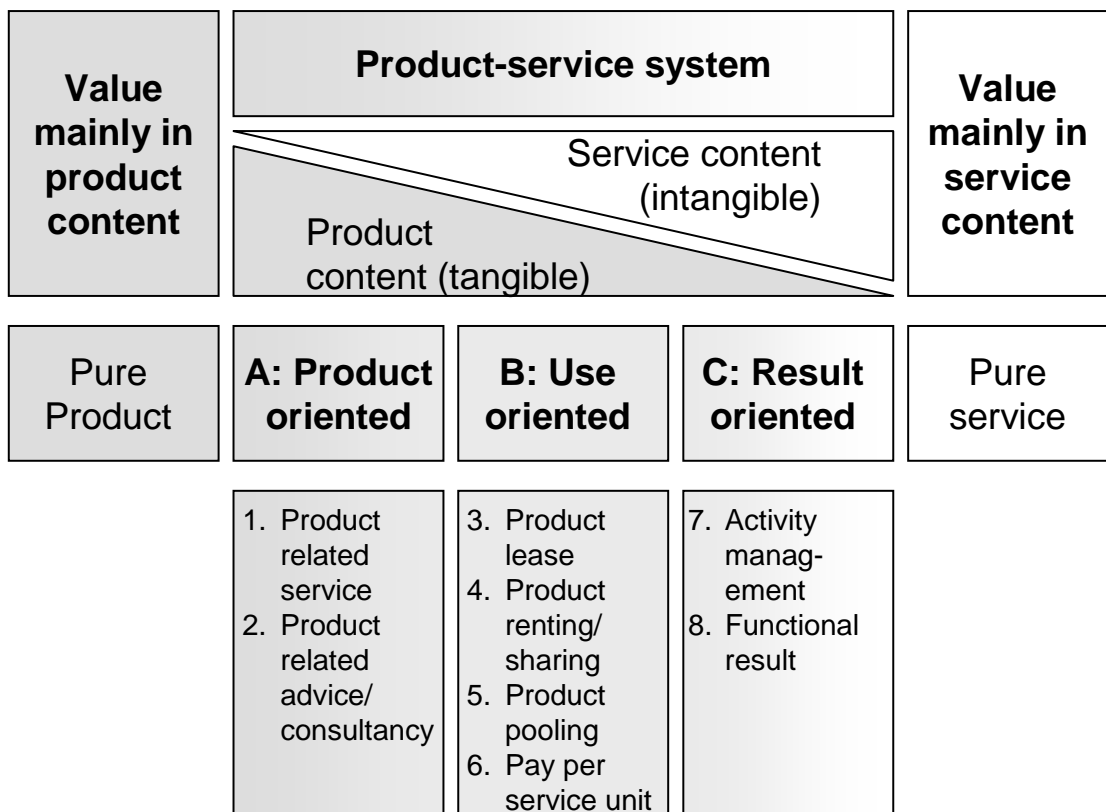
From Products to …

Meanwhile Sustainability Designers deal with **Product-Service-Systems** (PSS, cf. Tukker and Tischner 2006) or **Sustainable-Consumption-Production Systems** (SCP, cf. the series of books by the European SCORE project, e.g. Tischner et al 2010) or **Social Innovation** (Ezio Manzini, www.desis-network.org) to enable radically more efficient, effective and social/fair solutions to fulfil the needs of the present generations without compromising the possibilities of future generations to fulfil their needs (in the true sense of the Sustainable Development definition (WCED 1987).

From Products to …

Product-Service-Systems PSS

Definition/ Categorization PSS

Value mainly in product content	Product-service system			Value mainly in service content
	Product content (tangible)	Service content (intangible)		
Pure Product	**A: Product oriented**	**B: Use oriented**	**C: Result oriented**	Pure service
	1. Product related service 2. Product related advice/ consultancy	3. Product lease 4. Product renting/ sharing 5. Product pooling 6. Pay per service unit	7. Activity manag-ement 8. Functional result	

Common Cases

From Car Sharing to Mobility Card

Interface Carpet Tile leasing

Common Cases

Sharing/ renting randomly
used products/ infrastructure

Sheep/Goat Rental

Task Farms maintains a Sheep flock size of approx. 60 head, ranging from lambs

to older test sheep. Goats, and Ducks are available for rental upon request.

Please contact Terry about times, price, availability and possibly special conditions, such as lambing or events scheduled

Mieten mit Sicherheit und Qualität. Testen Sie unsere langjährige Erfahrung.

RENT IT!

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Common Cases

Pay Per Use

Common Cases

Pay Per Result: 'Least-Cost-Planning' or 'Contracting

e.g. Energy Service Companies / ESCOs

Service provider takes care of energy (and financing) services for consumers or companies for agreed price and organizes the delivery system of the desired energy based most effectively.

ESCO
THE ENERGY EFFICIENCY EXPERTS

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Becton Dickinson

Annual Cash Savings: $571,931
Annual kWh Savings: 5,419,725
Total Rebate for projects: $176,693
Payback: 2.33 yrs
ROI: 43%

"Many contractors work in our facility. ESCO's performance definitely stands out as exceptional."

Becton Dickinson

View full case study

BEFORE   AFTER

Dematerialization

Conclusions PSS

PSS have the potential

=> to be a new and profitable business model and a design challenge

=> to leapfrog to drastically reduced environmental impact,

=> A field that is worth being explored.

However it is not THE golden path to sustainable solutions ! Sustainability has to be designed into the ystem !

New Business for Old Europe

PRODUCT-SERVICE DEVELOPMENT, COMPETITIVENESS AND SUSTAINABILITY

EDITED BY ARNOLD TUKKER AND URSULA TISCHNER

Difficulty: Behavioral Change

80% of every day choices are happening as **routinized behavior**:

We have learned e.g. to buy a specific brand or a specific type of product and every time we shop we select the same without thinking about it.

If routinized behavioral patterns are un-sustainable it is a great challenge to work with consumers on reflecting about, questioning and changing these towards more sustainability.
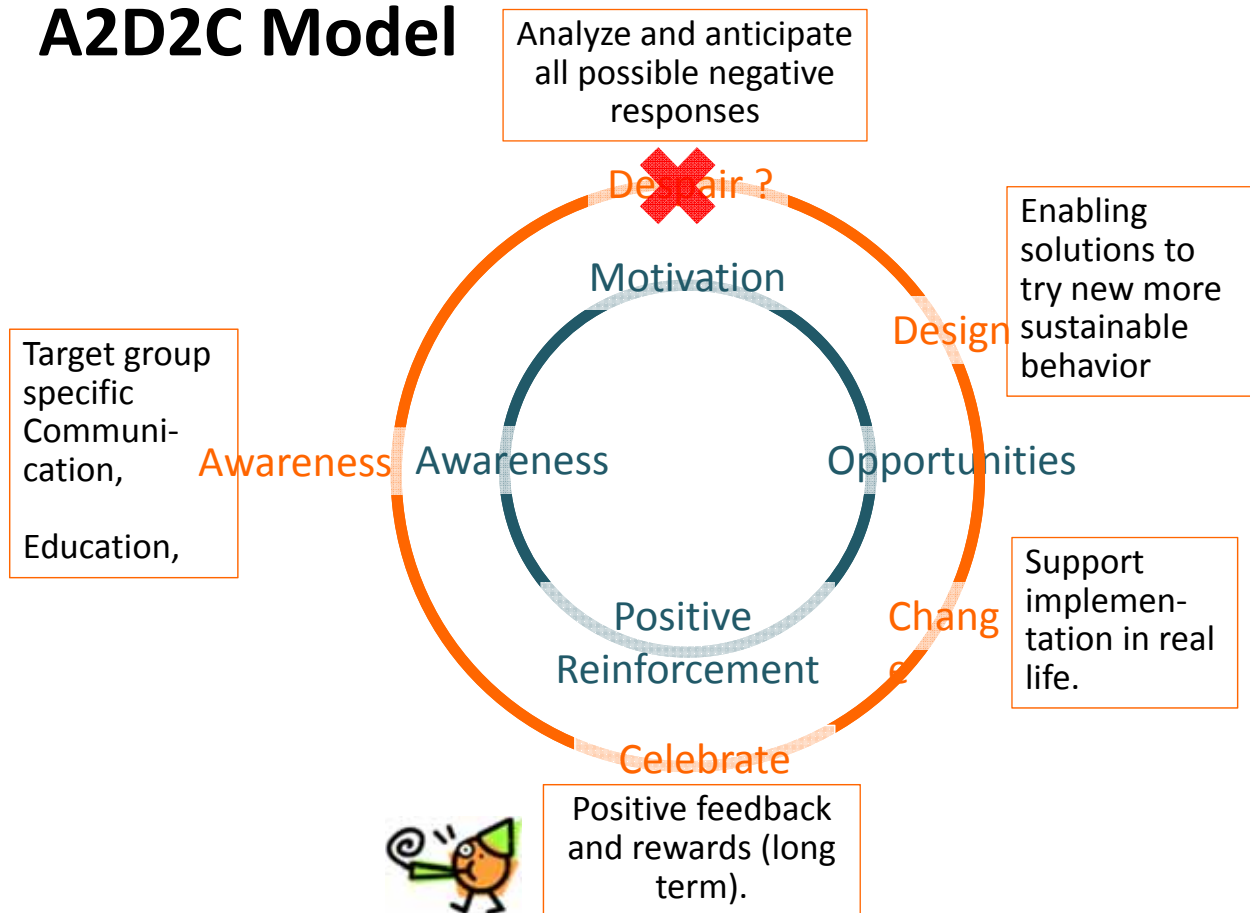
(Tischner et al. 2010, SCORE project)

Why is it so difficult?

General obstacles to changing behavior are particularly, that

• every change in behavior is more work than keeping known routines,

• every new behavior seems to have unknown consequences for the individual,

and thus changing behavior can be scary/risky.

Our new solutions have to be extra attractive and super easy to access !

A2D2C Model

Analyze and anticipate all possible negative responses

Despair ?

Motivation

Target group specific Communi-cation,

Education,

Awareness

Awareness

Design

Opportunities

Enabling solutions to try new more sustainable behavior

Change

Support implemen-tation in real life.

Positive Reinforcement

Celebrate

Positive feedback and rewards (long term).

The Role of Design

1.   **Communicate better**, more engagingly and entertainingly about severe sustainability issues, targeted to specific audiences.

2.   **Create motivation** to change by showing great role models or visualizing the benefits of the new behavior, and make change desirable.

3.   **Design opportunities** for change, feasible options and a positive environment to test new behavioral patterns with new products, infrastructure, services, systems and strategies.

4.   **Organize positive reinforcement** and reward in several dimensions from awards and user communities to financial gains or peer group attention etc.

*Designing products
and infrastructure
to motivate change*

User centered Design

Usability

Design Semantics

e.g. Urinals

http://www.urinalfly.com/

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Design with Intent Cards

Emotional engagement

Can you design your system to engage people's emotions, or make them emotionally connected to their behaviour?

The open beak of these 'baby bird' litter bins at a city farm (visited by lots of children) suggests that they are hungry and would like to be fed

developed by
and Neville A. Stan
http://www.danlockto

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Instant Feedback as Reward

Instant feedback devices, e.g. which monitor energy, water, or other consumables, are important to enable people to see that 'their actions have effects that are local, immediate and concrete'. (Coghlan, 2008)

(User) Experience Design

'Good experiences are engaging, meaningful and enjoyable.' (Shawn Borsky 2011)

Experience prototyping and experience probing are very promising fields for participatory design and co-design together with users providing good opportunities to develop more sustainable behavioral patterns.

HausSchneiderei!

Social Change
The Power of the Community
can lead to radical change.
Bottom-up Social Innovation.
Enabled by Internet and Social
Media.
Critical Mass = 1

Viral Change Model

The recent revolutions in the Middle East can be seen as examples for radical and fast cultural/political change started by small activist groups and enabled by Internet and social media.

Social Media, e.g. Mobs

Recycling Flash Mob

http://www.youtube.com/watch?v=GYnd5JRu86E

Carrot Mob

http://vimeo.com/2913530

Fashion Swopping and Library

Albright NYC Fashion
Library

Fashion Swop on
Facebook

Brand Hacking and Maker Movement

Brand Hacking and Maker Movement

Social Innovation Cases

Community Gardens

Community Supported Agriculture, CSA

Purchasing Collaborations

Walking Bus

Gipsy Taxi

Local Exchange Trading Systems, LETs

"Business without Business"

See e.g. www.desis-network.org/casespage

Socio-Preneurism

www.bcorporation.net

Certified B Corporation

New Financing Schemes

e.g. Crowd-Funding like kickstarter.com
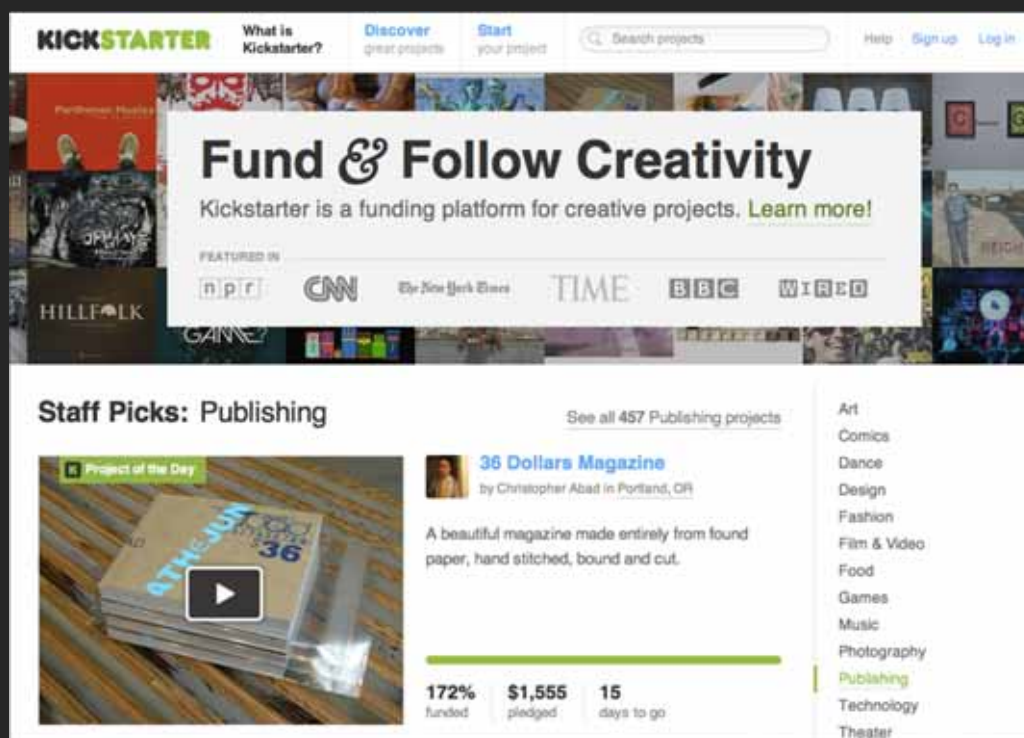
There a lot of divers and very interesting new business and social innovation ideas, models and movements emerging that start with the core motivation of improving quality of live AND the environmental, social and economic sustainability of our way of living and our way of producing and consuming. Although some of them exist already for a very long time and some of them have been traditional models that got lost during industrialisation, we have merely seen the tip of the iceberg in terms of what is possible.

Important Aspects

1. **Several parties** (companies, consumers, citizens, GOs and NGOs) **collaborate** in delivering product-service-systems, new alliances are created, ways to organize them effectively need to be established.

2. The **distinction between producers and consumers gets blurred** especially in co-creation models, consumers become co-producers or the only producers that start providing to others.

3. **Return on investment** for the providers can be **more long term**, thus **new financing schemes** are established e.g. **crowd funding** and **micro loans** .

4. **Initial cost for the consumers/clients can be lower** than when buying products, thus more expensive technologies and products become more **accessible**.

Important Aspects

5. The **value creation and proposition (tangible and intangible) in the system is extremely important** in two ways: as a starting point for the providers ("How can I offer most value for the clients?") and as an effect and satisfaction of the system for clients ("This is a very individual service created especially for me and/or I even have participated in the creation of it.")

6. The **value in the system** is closely related to offering the best service/ function continuously at lowest effort in terms of cost, resources and energy – not necessarily time.

7. **Starting point for these systems can be social innovation** without any company involved, like car sharing originally started among a group of neighbours.

Important Aspects

8. Organizations often **start small in niches** and then **up-scale and/or multiply** the model. There is a challenge of keeping the character, quality as well as human scale and sustainability in the system during the process of growth.

9. **During up scaling** and maturing normally **some kind of (for-profit) organization is formed** to run the product-service-system in an efficient way.

10. **Not** all new systems are **automatically sustainable**. Sustainability has to be designed into the system carefully. Evaluation of Sustainability is recommended!

Finally… The Sustainability Maker

Coming soon:

www.sustainabilitymaker.org

Open Innovation, Crowdsourcing, Crowdvoting, Crowdfunding, Online Marketplace for Sustainable Solutions

funded by the European LIFE program.