Towards a sustainable media system

Explorative studies of emerging media consumption trends and media processes for content production

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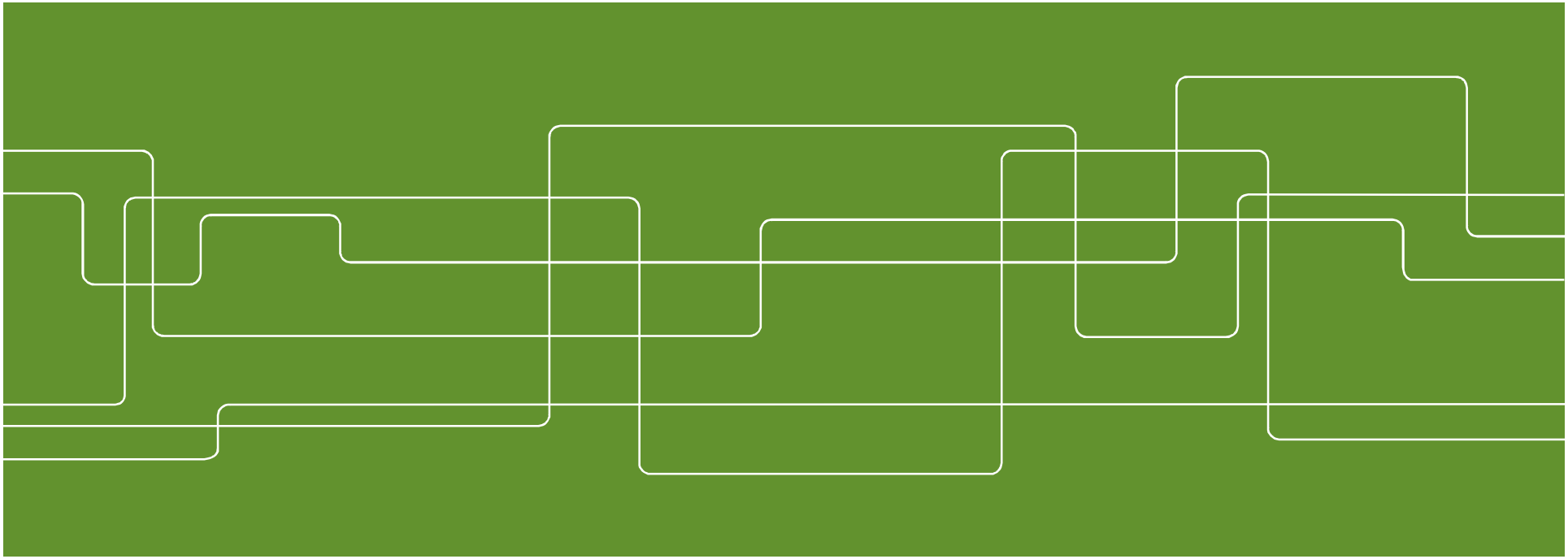

What is sustainability?

- There is no universally accepted definition of *sustainability.*
- *Sustainability* is often described as being threefold: *economic*, *social* and *environmenta*l.
- In my thesis, I mainly look at sustainability in connection to media production and media consumption.
- The focus is primarily on the environmental challenge of climate change.

Why Media and Sustainability?

- Environmental concerns are maybe less pronounced in the media business compared to many other industries, but nevertheless the environmental aspects of media consumption are often discussed, and consumers may refuse to use a certain product due to its environmental impact (Wilberg and Wadbring, 2013).
- Environmental concerns will become even more important for media consumers in the future (Teljas et al., 2009).
- Many consumers feel confused about how harmful the different media consumption channels are for the environment (Rademaker, 2013).

--> Consequently, there is a need to increase our general understanding of what parameters are important when it comes to environmental aspects of media consumption, as well as the production and distribution of media content.

What is a sustainable media system?

Dimensions of media and environmental sustainability:

- The overall environmental sustainability issues concerning **the entire media industry sector,** both on a national and on a global scale,
- environmentally sustainable **media consumption** (that is: media consumption with a life cycle perspective, e.g. how much electricity is used when we watch television or to what degree we recycle newspapers),
- environmentally sustainable **media production** (that is: e.g. the environmental aspects of printing and distributing newspapers or broadcasting television, and of the editorial side of the content production),
- **editorial coverage** of environmental sustainability issues (that is: what and how much journalists publish or broadcast about environmental sustainability in the media).

In defining *a sustainable media system,* I include all dimensions mentioned above.

The word “system” implies that all these dimensions are interconnected functioning well enough to constitute a viable entity.

Research questions

1. What are the main media consumption trends today, and what could the characteristics of media consumption be in relation to different future scenarios?
2. What parameters are central to future scenarios of media consumption, seen from an environmental perspective? How will changes in these parameters affect the environmental aspects of media consumption?
3. What are the major editorial processes at media companies today, and how can their workflows be visualized in order for us to discover how the processes can be optimized and how this in turn could affect the environmental impact?
4. What is the relationship between the editorial processes and a general assessment of the carbon footprint of the content production at media companies?

Research methods

	Paper I	Paper II	Paper III	Paper IV	Paper V
Literature studies	x	x	x	x	x
Qualitative interviews	x	x	x	x	x
Workshops	x	x			
Futures studies/ scenarios	x	x			
Design fiction	x				
Grounded theory			x	x	x
Case studies			x	x	x
Process studies			x	x	x
Life cycle assessment				x	x

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Case studies			x	x	x
Process studies			x	x	x
Life cycle assessment				x	x

Why using scenarios?

- One of the most important aims of future studies is not knowledge and images of the future, but **to learn about the present and about what can be done now to achieve a desired future,** for example (Svenfelt and Höjer, 2012).
- Future studies are more an aid to making more informed decisions and choices when **trying to manage the processes of change** (Bergman et al., 2010).
- Scenarios can denote descriptions of possible future states and **descriptions of developments** (Börjeson et al., 2006).
- Scenarios both describe a possible future situation and the **path of development** leading to that situation. Scenarios have a knowledge function (Kosow and Gassner, 2008).

Methods for collecting data to papers I and II

Scenario generation process

- **Aug 2013:** 1st workshop with reference group on trends.
- **Sept 2013:** 2nd workshop with reference group on trends and scenarios.
- **Sept 2013-Jan 2014:** Trends and scenarios were presented to 7 media experts in Sweden and Finland, at semi-structured interviews with Delphi-like features. (And 4 interviews with media scholars.)

Consumer input

- **Oct 2013 and Jan 2014:** Interviews with 9 consumers in Sweden.

Environmental experts' input

- **Nov 2013:** Workshop with 5 environmental experts in Sweden.
- **Dec 2013:** Workshop with 6 environmental experts in Finland.

Additional input

- **Sept-Dec 2013:** Design Fiction course Future of News at KTH.
- **Nov 2014:** Adding quantitative data from the SOM-institute.

Results – RQ1

1. What are the main media consumption trends today, and what could the characteristics of media consumption be in relation to different future scenarios?

Results: Current media trends

1. More mobile devices

2. Multiple devices used

3. Always connected, always synchronized

4. More news channels

5. More (co-)creation and sharing

6. Personalized/individualized news

7. More non-text formats for news

8. Increased need for high-speed, high-quality infrastructure/networks

9. Hurried, time-pressed news consumers

10. More commuting

11. Big data & surveillance

Results: Parameters or key factors influencing the development of the future

- Legislation in the media area
- Political development
- The world economy
- The technological development
- Electricity supply, electricity consumption, and energy costs
- Consumer habits, consumers' media consumption and the general demand for new and old media products.

Developing the scenarios

- I made the assumption that the scope of the government's influence, combined with the strength of commercial powers is a major determinant of the future of media.
- The scenario cross is constructed around four possible combinations of this duality.
- The scenarios do not exclude each other, but could exist in parallel.
- Each scenario has a slightly different emphasis –
  scenario 1: political aspects,
  scenario 2: includes environmental aspects,
  scenario 3: business oriented,
  scenario 4: more general.

Scenarios of the future

	Strong governmental control	Weak governmental control
Strong commercial powers	Scenario 2 	Scenario 3 
Weak commercial powers	Scenario 1 	Scenario 4 

Reactions to the scenarios

1. Which of the scenarios do you *believe* could become true in the future?

2. Which of the scenarios would you *like* to become true in the future?

3. Which of the scenarios do you *fear* could become true in the future?

→ Media experts
→ Media consumers

The experts' view of the scenarios

	Strong governmental control	Weak governmental control
Strong commercial powers	Scenario 2  Most probable and desirable	Scenario 3  Most frightening
Weak commercial powers	Scenario 1  Most improbable	Scenario 4  Desirable but improbable

Expert interviews:

- The most desirable future society combines a balanced mix of governmental control and commercial powers.
- The ideal is neither too much governmental control nor too little.
- A combination of “healthy” governmental control and “healthy” commercial influence would be the most optimal future.

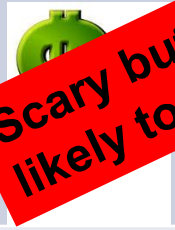
The experts added these trends:

- Economic interests are increasingly important for media content producers
- Entertainment in media content is increasing
- General knowledge in society is shifting – knowledge gaps between different groups are increasing

The interviewed consumers' input

- Few connected media consumption with environmental concerns.
- Printed media was considered more environmentally damaging than electronic media.
- Commercial powers in society have already taken over the media.
- It is difficult sometimes to trust traditional media companies.
- The general public needs to be more critical about sources of information, and to find alternative and more trustworthy sources of information.

The consumers' view of the scenarios

	Strong governmental control	Weak governmental control
Strong commercial powers	Scenario 2  Describes today's society	Scenario 3  Scary but most likely to happen
Weak commercial powers	Scenario 1  Most improbable	Scenario 4  A fantasy

Trust and confidence

- Data from the SOM-institute shows that trust in public service media has grown in Sweden in the last 10 years.
- Both public service television and public service radio rank high when it comes to confidence among the public.
- At the bottom of the list were evening tabloids, commercial television and commercial radio.

SOM = samhälle, opinion, medier

Results – RQ2: What parameters are central to future scenarios of media consumption, seen from an environmental perspective?

- **Number of electronic devices used in society, and type of devices.**
- **Average frequency at which electronic devices are replaced.**
- **Environmental impact of energy use when using electronic devices. (Type of energy and energy efficiency.)**
- **Environmental impact of the production of electronic devices.**
- **Environmental impact of disposal of electronic devices. (For example, is the waste informally recycled, placed in landfills or formally reutilized?)**
- **Volume of consumption in society in general.**
- **Environmental impact of network infrastructure, e.g. supporting ICT in society.**
- **Volume of travel among citizens. (Do citizens travel to purchase media products?)**
- **Volume of transportation of goods and services. (How are e.g. newspapers and other media products distributed to consumers? Is there a subscription-based model with home delivery?)**
- **Environmental impact of print products, full life-cycle.**
- **Amount of environmental information available, as well as the accuracy of the information and the degree to which consumers and other stakeholders have received it.**

The environmental impact in relation to the four scenarios

Environmental parameters	Scen 1	Scen 2	Scen 3	Scen 4
Number of electronic devices used in society	FEW	MANY	MANY	FEW
Average frequency at which electronic devices are replaced	SELDOM	OFTEN	OFTEN	SELDOM
Environmental impact of energy use when using electronic devices	HIGH	HIGH	HIGH	LOW
Environmental impact of the production of electronic devices	LOW	HIGH	HIGH	LOW
Environmental impact of the disposal of electronic devices	LOW	HIGH	HIGH	LOW
Volume of consumption in society in general	LOW	HIGH	HIGH	LOW
Environmental impact of network infrastructure	LOW	HIGH	HIGH	HIGH
Volume of travel among citizens	LOW	HIGH	HIGH	LOW
Volume of transportation of goods and services	LOW	HIGH	HIGH	LOW
Environmental impact of print products, full life-cycle	LOW/ HIGH	LOW	LOW	LOW
Amount of environmental information available	LOW	HIGH	LOW	HIGH/ LOW

The environmental impact in relation to the four scenarios

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Environmental impact of network infrastructure	LOW	HIGH	HIGH	HIGH
Volume of travel among citizens	LOW	HIGH	HIGH	LOW
Volume of transportation of goods and services	LOW	HIGH	HIGH	LOW
Environmental impact of print products, full life-cycle	LOW/ HIGH	LOW	LOW	LOW
Amount of environmental information available	LOW	HIGH	LOW	HIGH/ LOW

Results

The most central environmental parameters around **media consumption** are connected to:

- Electronic devices
- Travel
- Transportation
- Energy use
- Waste

The environmental aspects depend on:

- The total number/volume of devices, travel, transportation, energy and waste
- How devices are produced and used
- How travel and transportation occur
- What kind of energy is used
- How the waste is disposed of

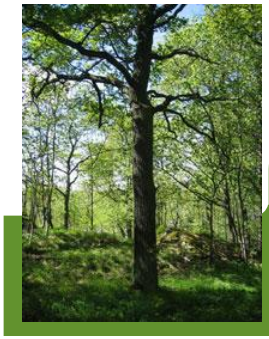
Results – RQ 3 and RQ4: Editorial processes and their environmental impact?

The carbon footprints of the **editorial production processes** in the three case studies are very similar.

Major sources for environmental impact are:

- business travel,
- trips when commuting to and from work,
- use of electronic devices,
- energy use.

Simply put, you have to include the whole lifecycle in order to assess the impact of a media product or service



Discussion and conclusion

- It is vital to increase knowledge and awareness among consumers, politicians, business developers and other stakeholders.
- Encourage the development of energy efficient equipment, and sensible disposal of waste.
- Governmental laws and regulations are important.
- Different media channels (social media and traditional) could prove to be efficient in disseminating crucial environmentally related information.
- New voices need to be heard in society.
- It is crucial that media and journalism invent and test new procedures for communication when facing a global challenge such as climate change/global warming.

Discussion and conclusion

- The more accurate the available information is, the greater the chance that consumers, politicians and other stakeholders such as business developers become aware of their environmental impact and their possibilities of minimizing it.
- However, economic interests are increasingly important for media content producers, and entertainment in media content is increasing.
- Because both public service television and public service radio rank high when it comes to confidence among the public, public service media was considered an important counterbalance to commercially oriented media companies and when disseminating crucial environmentally related information.

Discussion and conclusion

- My research results show that scenario 2 (strong commercial powers and strong governmental control) was considered the most probable and desirable scenario.
- However, this scenario is mixed or negative from an environmental perspective.
- Consequently, the level of consumption in society is an important area to look into, as well as the whole lifecycle of media products and services.
- Regarding the production side, new technology could be beneficial for the overall environmental impact of a media company.
- It is especially important to look into business travel, commuting to and from work, use of electronic devices such as computers, energy use (electricity, heating and cooling).

Conclusions

- Given the seriousness of the global challenges, such as climate change and global warming, and the fact that digital media will continue to increase in the future, it is important to focus on making the production, distribution, use and disposal of digital media products or devices as environmentally sustainable as possible.

- I believe that it is possible to create a sustainable media system, but it will take some conscious efforts by people working in the media industry, by consumers, and ultimately by society's regulating powers.

Thank you!

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