

Experimental Comparison of the User Experiences of Different Digital and Printed Newspaper Versions

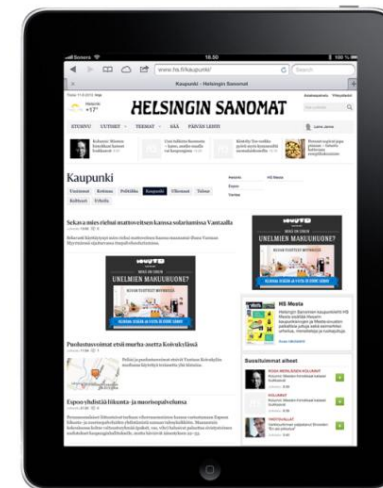
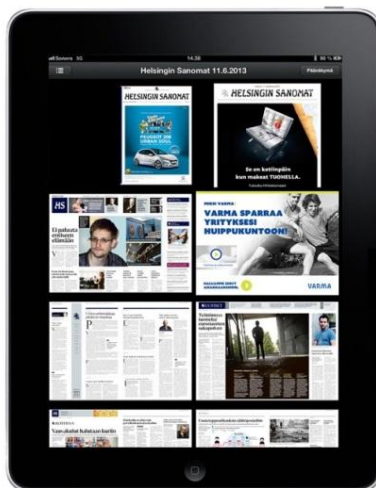
iarigai 2015, Helsinki, September 6th – 9th

Janne Laine

VTT Technical Research Centre of Finland

Introduction

- The ongoing digital transformation is strongly affecting the news reading habits of consumers, which are evolving with digital newspapers and news services. The traditional newspaper design rules do not necessarily apply as such in the digital world.
- Need to understand the user experiences of digital newspapers
 - what kinds of experiences are preferred and how different design choices affect them?
 - how the user experiences of various kinds of digital editions compare to the conventional printed newspaper?



5 versions of Helsingin Sanomat newspaper: How do people read and experience them? Which ones do they prefer? Why?

A: Printed newspaper



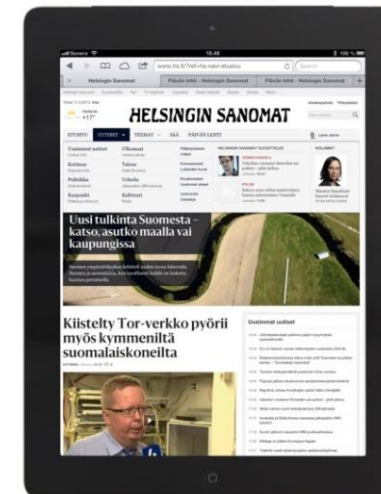
B: iPad app



D: Browser newspaper (Päivän lehti)



E: HS.fi news web site



C: Digital edition (print replica)



Approach

- Experimental setup in laboratory conditions, combining eye-tracking, observation, questionnaire, retrospective comments and interviewing
- ~ 2 hour experiment / participant
 - Answer background questions
 - Introduction and guidance to using each publication version
 - Set up the eye-tracking device
 - Browse each version for ~5 minutes (randomized order). After browsing each version:
 - Answer questionnaire containing statement concerning the publication and the layout
 - Interview and retrospective commenting of participant's own actions and experiences while viewing a video recording of the browsing session, with gaze path shown
 - Order the versions according to preference, give reasons for choices

Retrospective commenting of news reading session based on eye-tracking video

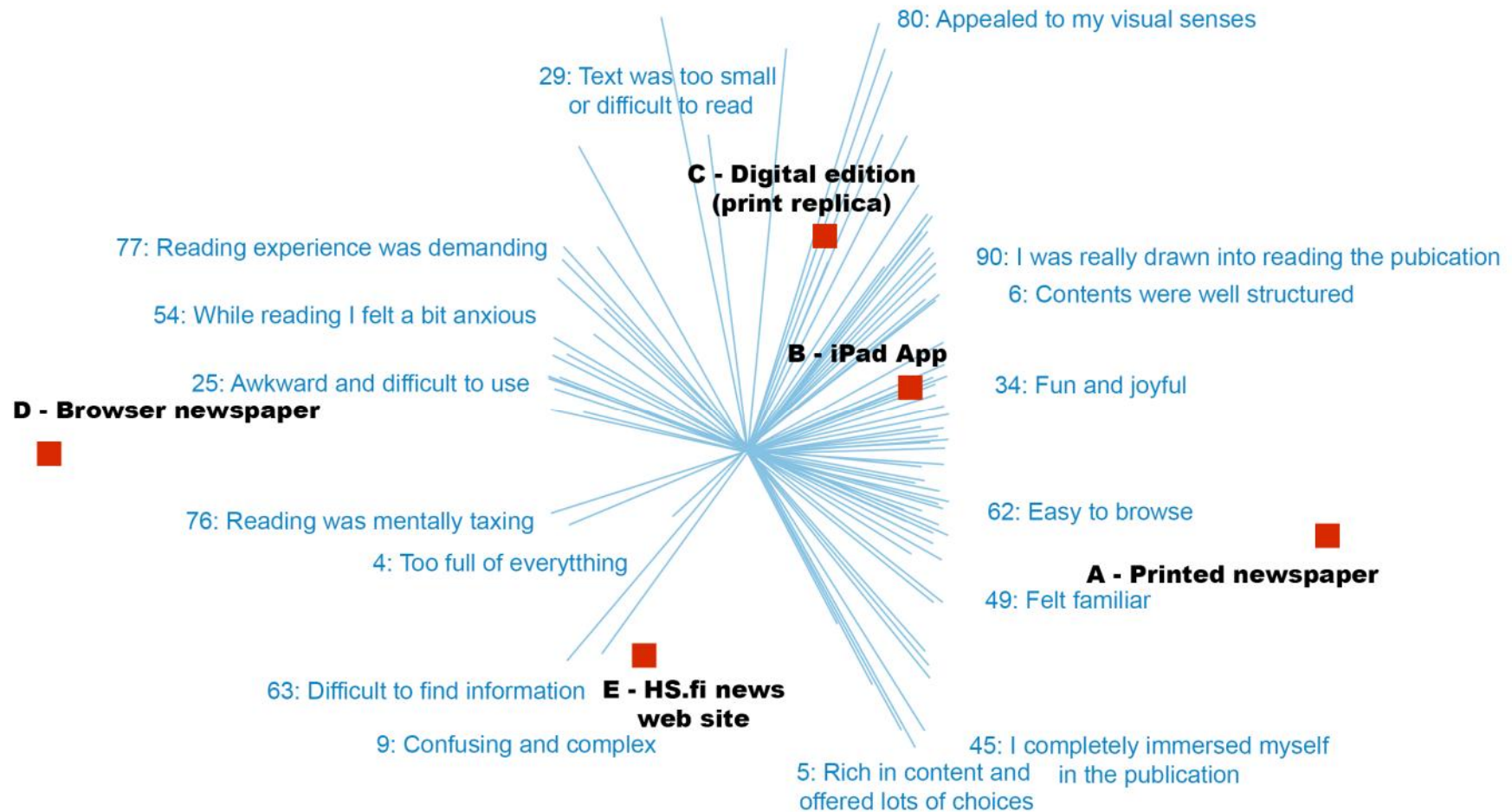


RTA-kh34b-[088d0529-4e30-4726-8f72-e1572d3c8a8b]-01

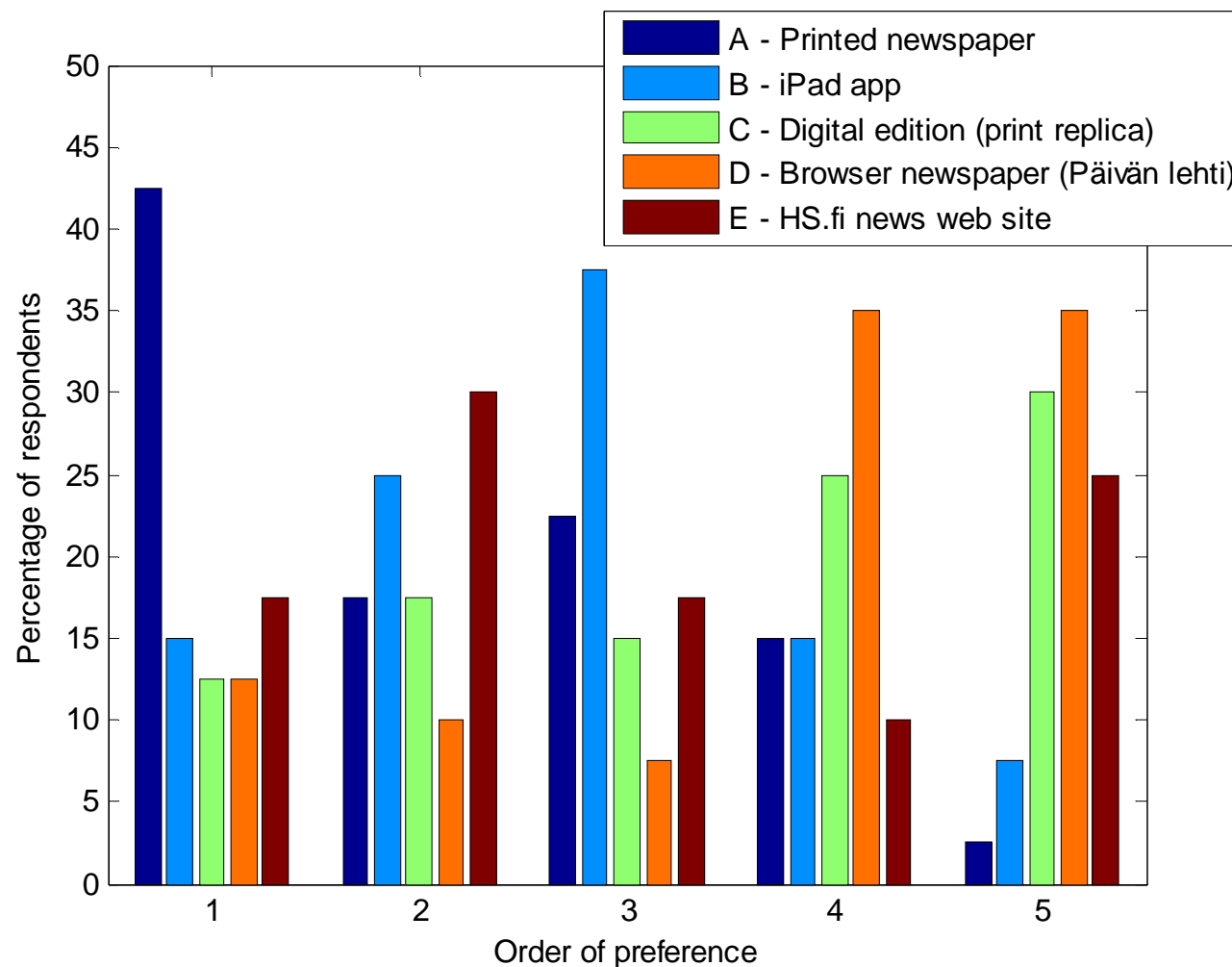
Eye Events for kh34b
 User Events for kh34b
 Details for kh34b

Property	Value
Length	00:04:53:919
Sampling rate	30 Hz
Eye(s)	Binocular
Number of samples	8812
Number of fixations	883
Number of saccades	833
Number of blinks	102

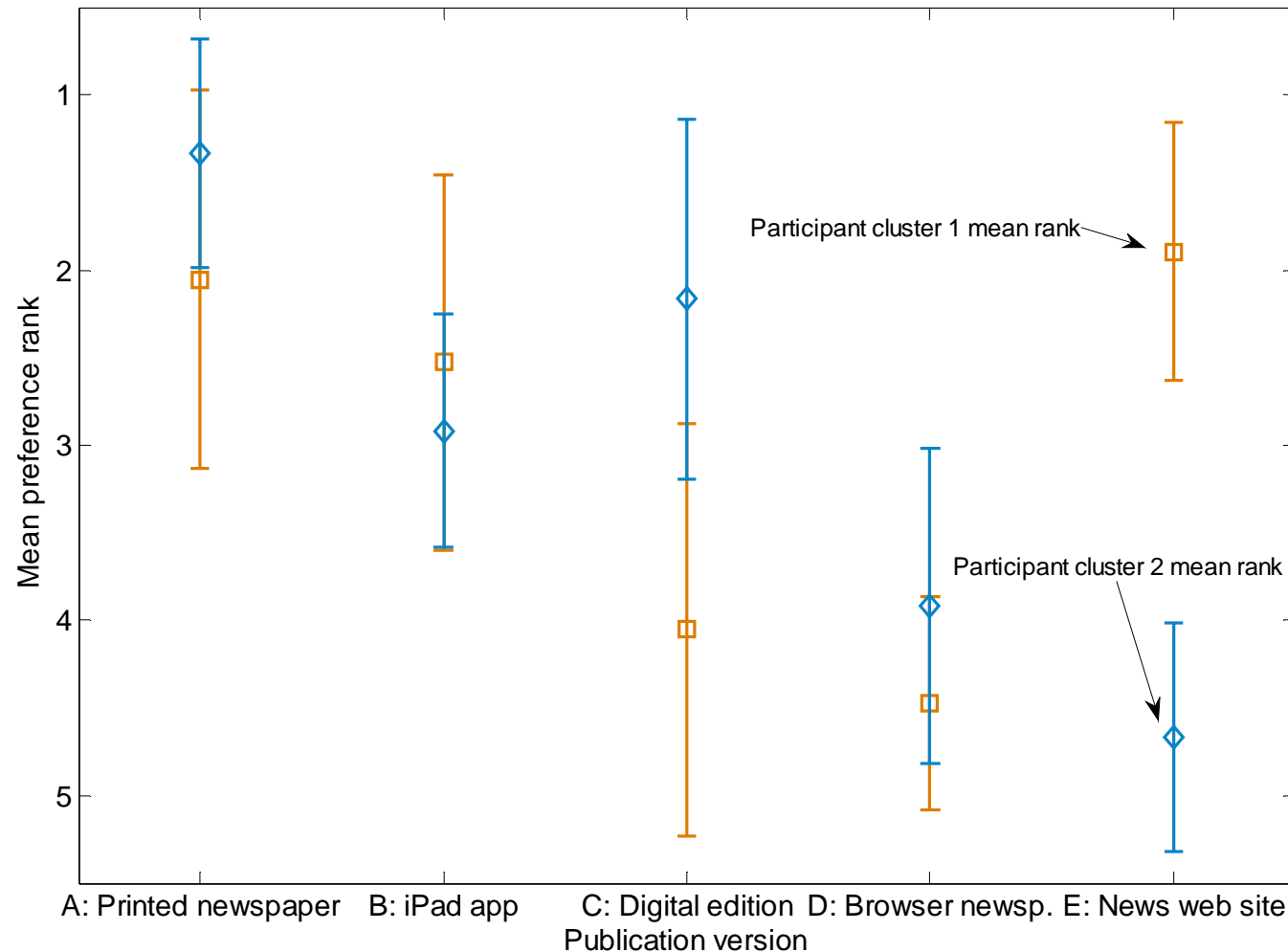
Experience map based on responses to 92 media experience questionnaire items



Distribution of preference rankings of different newspaper versions



Multivariate analysis of preference judgments revealed two distinct clusters of participants



General motivations and styles of news reading evident among participants

1. Finding something interesting or entertaining to read, quickly and easily.
 - The motivation is not to read news of any specific category or to find specific information, but rather to read news content as an enjoyable pastime.
2. Keeping up with what is going on in the world generally.
 - Readers with this motivation typically want to browse through the whole publication, stopping to focus more on articles that they consider to be important.
3. Keeping informed of what is going on in specific areas that are personally interesting.
 - Readers with this motivation value quick access to sections that are of interest to them, without having to pay attention to anything else.

Attention, visual perception, and different design choices

- A pleasant flow of attention is a central aspect of a good news reading experience
 - Advertisements can enhance and degrade the user experience, depending on how they are presented.
 - Readers want to be aware of advertisements (and other content) but maintain control over where they direct their attention – providing options versus distracting attention
 - The printed newspaper excelled in this regard, with more variability among the digital versions
 - A newspaper spread allowed one to smoothly direct one's attention to interesting parts, quickly noticing different elements such as advertisements but not paying much attention unless they appeared interesting

Attention, visual perception, and different design choices (continued)

- Digital versions struggled to various degrees in giving the user an intuitive feel for all the content that is available in the publication and allowing the reader to perceive her current position in the publication
 - Printed newspaper has all the benefits of a tangible physical object
 - In digital versions the layout choices, including the implementation of the navigation system, had a strong influence on how this was perceived
 - For some readers it was very important to have a good understanding of where a newspaper starts and where it ends, and to have a good idea of how to go back to a specific place in the publication
 - Others were fine with and preferred a web style continuous stream of news over an easier-to-perceive set of news that they could digest

Comments on methodology

- Retrospectively commenting their own newspaper browsing session while viewing a video recording of it with eye-tracking glasses, with augmented gaze path visualization, was found to be a very useful and inspiring way of getting the participants to describe their experience with using different publication versions → valuable information for interpreting other results.
- The extensive media experience questionnaire used in the study revealed meaningful differences between the tested publication versions on the different dimensions of media experience that it was designed to measure, and the measures were consistent with the data acquired from other approaches. The questionnaire has not yet been properly validated, however.

Conclusions

- Printed newspaper most popular choice in the comparison of individual publication versions
- However, the majority of participants preferred one of the digital versions over the printed newspaper
 - None of the digital version surpassed all the other versions in answering the needs and preferences of all readers
 - Attitudes towards web-style news a significant dividing factor among the participants
- Different digital versions suited to different reading styles
- Can digital news publications and news services reach the level of versatility that the printed newspaper has in lending itself to different styles of reading?

Thank You!

Contact:

- Janne.Laine@vtt.fi