Public Broadcasters Big Data applications development strategies
The Case of NHK and BBC

Santiago Ruiz Navas サンティアゴルイスナバス Miyazaki Kumiko　宮崎久美子.

1 Objective

The objective is to explore BBC and NHK's big data applications development strategies. We present a research question: What are the common and divergent points in the BBC and NHK's approach to developing big data applications?

2 Methods

We analyzed NHK and BBC's scientific paper's abstracts between 2008 ~2016. We obtained the big data keywords from previous work by the authors (Ruiz-Navas and Miyazaki 2018a, 2018b). Furthermore, we created the public broadcasters' dataset from the scientific publications reported by BBC and NHK.

3 Results

We identified common points between the BBC and NHK, the two were familiar with big data sources such as audio, video and extensive metadata. Also, both developed applications to automatically create metadata and camera tracking technologies to implement augmented reality. As for their differences, BBC implemented recommender systems while NHK did not. NHK thoroughly developed speech recognition applications.

Linked data: The BBC used linked data to improve its processes, e.g., indexing and content publishing; this helped provide new services such as radio archive.

Recommender systems: BBC successfully implemented them in their VOD service; we argue that recommender systems are a fundamental technology for broadcasters or suppliers to implement as the over-the-internet video providers.

In the case of NHK, NHK used speech recognition to generate captions for programs automatically, transcribe scripts and create metadata to index content such as TV or radio programs. The previously described applications can lead to cost reductions in content production.

Augmented reality: Augmented reality can improve the programs' viewer experience and help producers create new forms of immersion. We believe that AR development is essential for the near future of broadcasters because of these two reasons.

4 Conclusion

We analyzed the abstract of NHK and BBC's publications related that contained keywords related to big data and identified groups of big data applications for BBC and NHK. We concluded that most of them will positively impact broadcasters' value chain in the mid or close future.

References

Ruiz-Navas, S., & Miyazaki, K. (2018a). A complement to lexical query's search-term selection for emerging technologies: the case of "big data." *Scientometrics*, *117*(1), 141–162. doi:10.1007/s11192-018-2857-9

Ruiz-Navas, S., & Miyazaki, K. (2018b). Developing a framework to track knowledge convergence in "big data." *International Journal of Technology Intelligence and Planning*, *12*(2), 121. doi:10.1504/IJTIP.2018.096101