

Innovation and collaboration in PSM news and journalism

Draft paper for RIPE 2014. Do not quote or cite without permission

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1. Introduction

Over the past decades Public Service Media (PSM) in Europe have been experimenting with innovations in the production, distribution and content of online news and journalism. These include, amongst others, mobile, personalized and context-aware news services, news apps, data journalism, user-generated news, smaller and smarter production and editing tools and new ways of distributing news through social media platforms. Many PSM have innovation as part of their remit and PSM have sometimes been front-runners in introducing new services in the market.

In current, competitive media markets, with strong international media companies, declining newspaper revenues and difficulties in building viable online news services, there is an increasing need for collaboration between media companies, ICT providers, researchers, lead users, etc. Collaboration can be used to develop more innovative ideas, to accelerate the innovation process, to share the costs and risks of innovation and to increase productivity in providing new services. At the same time there have been complaints from competitors that some PSM innovations are distorting the market. The combination of the need for PSM to innovate, which is sometimes even part of PSM's remit, and competitive market relations with increasingly strict regulation regarding PSM's innovation and online activities make this a challenging field of investigation, both from a practical and academic point of view. As PSM are exploring public-private collaborations for innovation, this paper presents valuable information about the possibilities and limitations of specific types of public-private collaboration for specific types of innovation.

In this paper we therefore intend to explore some of the innovations that PSM have been involved in, and the kind of collaboration with third parties these have involved. The study is based on an empirical study of collaboration in innovation in four smaller European countries (Austria, Belgium, The Netherlands and Sweden) as the need for collaboration is likely to be strong in these small markets and languages.

Our paper will focus on innovation in news and journalism because these genres are at the heart of PSM remits. Moreover the study covers a variety of relevant activities and actors, from technology development to media production, distribution and use, and from researchers and professionals to citizen journalists and users. The paper will conclude with the main challenges for public-private collaboration for PSM.

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2. Context: collaboration in innovation, why and how?

Before we elaborate on the conceptual framework of the study, we mention the context of the study. *First*, the study acknowledges the challenges and opportunities that **digitalisation** (and the internet in particular) creates for Public Service Media (PSM). There are substantial opportunities for innovation in all steps of the news production and distribution process (Leurdijk, 2013; EBU, 2014). *Second*, innovation not only serves the purpose of providing **higher quality products** to large groups of users, but also to do so at **lower costs**. Different forms of public-private collaboration have become one of the ways in which PSM address the challenges of innovation and of developing viable online services. In addition, many PSM face budget cuts and austerity measures and these push PSM to look for cost saving opportunities and synergies in collaborating with third parties. Only by sharing resources can small or national media companies continue to invest in innovations or uphold their online presence (Raats et al., 2014). *Third*, media innovation often requires **collaboration** within a national or regional ecosystem of actors such as PSM, suppliers, business partners, users, universities, public research organisations and consultants (Karlsson and Picard, 2011). Collaboration is not just an economic need but also - to a certain extent - a characteristic of the online ecosystem (Fransman, 2010). In the online domain innovations often imply sharing data, skills and information across institutional boundaries. The digital environment also makes it possible to combine content in order to create new services, as for instance happens when data owned by public agencies are processed by journalists and ICT experts to produce weather, traffic, health, education and other information services for the public. *Fourth*, collaboration takes place between **a mix of public and private actors**. It can involve research institutes, NGO's, citizen journalists, but also commercial companies like platform owners, commercial broadcasters, newspaper publishers and online news providers (De Prato, Sanz and Simon, 2014). At the same time the remit of PSM often includes limitations on and requirements for public-private collaboration. Still, the scale, experience and non-profit character of PSM allow them to stimulate innovation in their national or regional ecosystem.

3. Aims

Our analysis contributes to persistent and emerging debates on public-private collaboration by PSM. The distinction that is made between various types and advantages of collaboration allows for a detailed and nuanced discussion of public value versus market distortion and state-aid concerns. The *first* target group is PSM management that is responsible for innovation (R&D, technology and product development), external relations (suppliers, partnerships, etc.) and strategy in general. *Secondly*, the study will be relevant for ministries that design the requirements for public-private collaboration by PSM and that wish to stimulate and/or regulate innovation. *Thirdly*, the conceptual framework and empirical data may be of interest to an academic audience.

4. Methodology

The methodologies used are desk research and expert interviews². We have also used our expertise, contacts and previous work on PSM, journalism, R&D and innovation. This includes examples of public-private collaboration that were analysed as best practices in the EBU Vision2020 project. Note that the interviews addressed collaboration and innovation, which implies that the emphasis is on innovations that involved collaboration. As such, the set of innovations discussed below is not a full overview of innovations by the four organisations that we interviewed.

5. Conceptual framework

In this paper we differentiate between five different innovation domains for PSM and six different types of public-private collaboration (Table 1).

Table 1 Typology of PSM innovation domains and types of collaboration

		Innovation domains				
		<i>Journalistic products and services</i>	<i>Content sharing and access to data</i>	<i>Production technologies and organisational innovation</i>	<i>Distribution to and interaction with users</i>	<i>Human capital and learning potential</i>
Types of public-private collaboration	<i>Supplier relations</i>					
	<i>Technology licensing</i>					
	<i>Strategic alliances</i>					
	<i>Joint ventures</i>					
	<i>Research consortia</i>					
	<i>Networks and clusters</i>					

The innovation domains that are mentioned in Table 1 are derived from OECD definitions of innovation and are specified for news and journalism by PSM (OECD, 2005). In short, there can be innovation in products and services, in selecting and sharing resources, in the processes and technologies used to produce

² Interview partners: Olov Carlsson, editor-in-chief SVT news; Björn Löfdahl, SR director of programming; Luc Rademakers, editor-in-chief VRT news; Jan de Jong, editor-in-chief NOS news, Konrad Mitschka ORF.

products/services, and in the ways they are distributed and presented to audiences. Linked to this, innovation can be facilitated by investments and innovation in human capital and learning potential. Innovation implies that a product or process is new to a specific PSM organisation. In some cases, it may also be new to the market. The study will address:

- The introduction of new journalistic **products and services** refers to innovations in news content. Examples are mobile, personalized and context-aware news services, new ways of visualising and presenting news, news apps or embedded news players that can be used by third parties.
- Closely linked are innovations in the **use of data and news sources, and in content sharing**. Although this refers to new ways of collecting and sharing data and content, it generally implies the creation of new journalistic products. Examples are data journalism, citizen journalism, new ways to include digital archive material in news reports and content sharing between PSM and private media organisations.
- Examples of innovation in **production technologies and organisational processes** are innovations in production equipment, servers and encoding tools. Many news broadcasters have for instance developed more integrated news production and publishing systems, that allow a better integration of radio, television and internet workflows. The study does not address pure and simple replacement investments ('buying the same machine').
- Innovation in **distribution and interaction with users** concerns the use of new digital networks (DAB) and new (online) platforms to distribute content to users and communicate with users. Examples are the distribution of news items on social networks like Facebook and Twitter or the distribution of news items in embedded online video players or the distribution of radio news through DAB or IP networks to mobile phones. Some of these new ways of distributing also allow users to share news clips with friends and to respond more directly to the news and start discussions.
- A specific type of innovation or, rather, a precondition for innovation is to increase the **human capital and learning potential** of PSM and their staff. With increased competition, budget constraints and shorter innovation cycles, it becomes more important to accumulate knowledge, invest in knowledge management and build the skills to innovate continuously. Skills not only refer to technical skills, service development skills and innovation management but also to skills for interacting with external partners and to accept and mitigate risks.

Of course these categories are often strongly interrelated. The distribution of news through mobile platforms for instance often also implies a different way of presenting news content (e.g. single item video clips instead of in full programmes). Many PSM are combining this with a mobile first strategy, in which they publish news as soon as it is available on their mobile internet platforms, instead of withholding it till the scheduled time of their flagship news programme (often the eight o'clock news). A mobile first strategy implies different workflows, including a more integrated newsroom that is able to produce news for both broadcast and online platforms. Likewise the production of news content based on data journalism implies innovation

in content, but also touches upon the use of new production tools (for data analysis and visualisation), on the relation and interaction with end users and journalism skills and attitudes. We have distinguished these five categories, because they often do correspond with different phases and different aspects of the production process of news and journalistic content and often imply different types of collaboration with different kinds of external partners.

The study explores for which types of innovation public-private collaboration takes place. We differentiate between six types of collaboration, as described by innovation management scholars such as Tidd, Bessant and Pavitt (2001). We do not extensively discuss the advantages and disadvantages of different types of collaboration, but will discuss PSM considerations for adopting a particular form of collaboration for particular types of innovation.

- **Supplier relations** refers to pure market transactions between an organisation and its suppliers. This concerns procurement of services or goods that are input into the innovation process (research and consulting services, test equipment, etc.) or that allow the organisation to provide services that are new to the organisation itself (such as new equipment, software and processes that facilitate significant process innovation). In nearly all cases, there is collaboration in the sense of implementation, training or support services. The main advantages are risk and cost reduction, reduced lead time and, in case of close collaboration, procurement of services that fully match the requirements (Tidd et al., 2001; Faems et al., 2005; Schiele, 2012).
- **Technology licensing** is a specific type of market transaction. The organisation secures access to the Intellectual Property Rights of another organisation ('licensing-in') by paying licensing fees, sharing royalties based on sales, or another compensation mechanism. Technology licensing can be linked to services or goods that are procured (see above) but the emphasis can also be on permission to use concepts, technologies and proprietary standards that are protected by means of IPR. The main advantage is low-risk acquisition of technologies and solutions (Tidd et al., 2001; Chesbrough, 2003).
- **Strategic alliances** concern a formal or informal agreement between organisations to collaborate in the development of a new technology, product or process. As such, there often is a clear application area (in terms of markets or users), a clear goal and clear timelines. The main advantages are flexibility (low commitment) and access to markets (Tidd et al., 2001; Hagedoorn and Duysters, 2002).
- A **joint venture** is more formal and more long-term. Two or more organisations can create a joint venture by setting up a new legal entity or by signing a contract for the joint activities. A joint venture can be created for the purpose of innovation but also for commercialisation. The main advantages lie in bringing together complementary know-how and benefiting from dedicated management (Tidd et al., 2001; Sampson, 2007)
- **Research consortia** are temporary and flexible and allow actors to collaborate on (basic) research. There need not be clear and direct links with developing

specific products or processes. The main examples are research consortia, consisting of universities, firms and other actors, in European and national research programmes. The main advantage lies in sharing expertise and funding, e.g. in working on pre-competitive research and standards (Mowery, 1998; Tidd et al., 2001; Chesbrough, 2003).

- **Networks and clusters** can be very complementary to other types of collaboration. From the perspective of an individual organisation (such as an PSM organisation), networks and clusters refer to investments in a set of weak links and tight relationships that may be of value for current and future innovation activities. Whereas networks can refer to any size, location and structure of the social network and the position of an organisation in this network, clusters refer to a specific regional setting. In both cases, there is special attention for the variety of actors (SMEs, large firms, public research organisations, higher education institutions, citizen-journalists / end-users etc.). The main advantage lies in increased learning potential (Powell et al., 1996; Cooke et al., 1997; Tidd et al., 2001; Gilsing and Nooteboom, 2005; Karlsson and Picard, 2011).

5. Case descriptions

Sweden: SVT and SR

In Sweden TV and radio broadcast are separate companies: SVT and SR. Each of them has extensive online presence.

Innovation in services

SVT news has an extensive online presence. It is the second or third main news website in Sweden after the news tabloids Aftonbladet and Expressen. SVT's news site is fully responsive and designed to produce news items first for distribution on mobile platforms, because already between 60-70 per cent of the visitors consult SVT's news on their mobile phones. All SVT's national and regional news programmes are available online until seven days after broadcast. Most news clips and video items remain available afterwards in SVT's extensive online video archive.

SVT is currently expanding its online services, in particular with content based on online data journalism and crowdsourcing. A prominent example is the 'election compass', produced for the September 2014 general parliamentary elections in Sweden, in which users can compare their views with those of political parties and members of parliament and get advice on which party or which parliament member is closest to their own views. Another example are a number of projects in which SVT collects location based data on for instance the occurrence of crime or environmental pollution. Users can add data to these projects and they can view the specific crime or pollution incidence in their own street or neighbourhood. It also did a project on a government unemployment programme, and a project on incomes and income distribution shifts between now and 20 years ago, to which users could add their experiences. SVT journalists always double check the data before they are published.

In these projects SVT collaborates with both citizens and academics. The software

for these types of data journalism and crowd-sourcing are developed in-house. Collaboration with citizens in these projects is not formally arranged: citizens voluntary contribute, especially when they are subjects they care about and directly affect them, in exchange for the satisfaction of having contributed to socially relevant projects. SVT collaborates with academics in these projects, in order to ensure that the research questions are phrased accurately and in a clear and neutral way, and that the data are processed and interpreted in a methodologically correct way. SVT hires the academics specifically for these projects. After publication, interested parties can use the data. The pollution data were for instance used by regional authorities, which used them to inform citizens about polluted areas in the environment and the income data were used by scientists and county governments in studies on income distribution.

Content sharing

Since 2010 SVT makes all its news videos generally available for all interested parties, be it competitors or individuals who want to share particular items. The videos (full programmes and single items) can be embedded in the form of a SVT branded video player, and viewers are directed to SVT servers when watching the content. There are no particular conditions for the use of the news video player; newspapers can use the video to enrich their own webpages and also place advertising next to the clips. They are not allowed to cut- re-edit and make mash-ups of the news videos. Newspapers – mainly the regional newspapers - incidentally use the videos, especially when SVT has exceptional or exclusive videos on events of particular importance, but so far they have not used the videos regularly, as they increasingly produce their own video content, and also prefer to use their own video content in order to express their own brand identity. In this sense making available the video content might be considered more as a strategic move to quiet commercial media companies' criticism of supposed market distortion or damage by SVT's online services, rather than as a impactful form of collaboration. SVT also incidentally collaborates with regional broadcasters and national newspapers in investigative journalism projects that require high investments, in for instance analysing large amounts of data and documents. It intends to increase these kinds of collaboration in the future. One example was the collaboration with national and foreign newspapers in the publication of the Wikileaks and Snowden files.

Innovation in distribution and user-interaction

SVT intends to expand its presence on social media networks like Twitter, Instagram and Facebook. It already distributes news items through its own Facebook pages, but also intends to produce particular video content for Facebook that users will likely share amongst their Facebook friends. SVT intends to improve its distribution strategies on these platforms, based on more in-depth knowledge on media users' behaviour and preferences. This knowledge is partly generated by the in-house SVT research department, but specialised market research companies hired by SVT also contribute. SVT uses YouTube as a PR channel, but does not have a separate news channel on YouTube.

SVT has developed its own streaming video platform. Before, it used the platform of another company. The problem with using this third party platform was that they wanted to brand the platform with their company name, and SVT - as a public service media company - is not allowed to advertise company names in its news content.

Innovation in production technologies and organisational processes

SVT has separate content management systems (CMS) for TV and internet. SVT licences the CMS software from ICT companies. When new functionalities in the CMS system or its other production facilities are required SVT hires ICT and hardware companies and collaborates with them in making the required adaptations. Sometimes SVT is a forerunner that tests new applications for ICT companies.

SVT is currently reorganizing its regional newsrooms by expanding the number of news offices all around Sweden from 11 to 21, while simultaneously centralizing the control rooms and broadcasting process. This enables SVT to have more reporters and photographers on the street, to narrow down the coverage area to get closer to the people and events it reports on. It is a specialisation that also saves money. The hardware is bought by SVT and all engineering is done in-house. SVT does exchange knowledge with the commercial broadcasters on technical issues.

Innovation in human capital and learning potential

As a PSM organisation SVT considers it as its obligation to share its knowledge on technologies, innovations etc. with competitors, in informal networks. It does this during yearly conferences as well as in individual, informal meetings. To some extent, participation in these networks also provides SVT with access to knowledge about innovation by other actors in the sector. SVT does not participate in European R&D programmes like the EU Framework projects, apart from indirectly through the EBU.

There is a debate on the extent of SVT's presence on digital platforms, especially now commercial media are in economic difficulties and have a hard time in making money online. SVT has just entered a new charter period from 2014-2020, which allows SVT news to be present on all platforms. However, the charter also stipulates that new digital services have to be tested against the charter requirements, and should not damage the market. There are some official complaints launched against SVT's online activities (i.e. against a new streaming web channel, which includes news and also against the use of text on SVT's news website), but so far these have been unsuccessful. SVT does not foresee new restrictions for its services as this would require the breaking up of the charter, which is not easy, and therefore not likely to happen.

Sweden: SR case description

Innovation in services

Since 2011/2012 SR's regional and national channels have been building audience networks (panels of lead users), in an attempt to build on-going, long term relations with its audiences. The networks consist of a few hundred people with different skills, who can be used as experts to formulate or answer to questions and contribute to debates. Due to building the audience networks SR has improved its overall interaction with the audience. Listeners now realize that SR is interested in what they think and the number of phone calls, emails and other interactions with journalists have risen. The networks are also used for upcoming elections to collect questions for politicians and they help SR to become more relevant on the local level. People in the networks who provide information are treated as any other source, so journalists will always check the information. People can also upload pictures to the SR website.

Content sharing

All SR radio stations have radio players that can be embedded by third parties. Everyone, newspapers as well as individual bloggers, can embed the player, and share individual items, interviews, programmes or even the full channel. The player is not yet used very frequently. Newspapers embed news stories more or less daily, especially when SR has a good news story first that no one else yet has. SR expects the service to grow over time. For now it is more considered as an important statement by SR to inform tax payers that SR is available where-ever they are.

Innovation in distribution and user interaction

SR has no news on YouTube, but SR is very present on Facebook and intensively uses Twitter, as promotion channels to inform the audience what news is available on its channels and websites. All regional and national SR radio stations have a Facebook page and some programmes have their own Facebook pages as well. From time to time the Facebook pages create large debates. When that happens SR considers it very important to be there and interact, explain, follow-up etc. SR collaborates with Spotify and publishes the music playlist of the popular channels P3 and P4 on Spotify. The inclusion of news in Spotify is being discussed. The fact that news is already available everywhere on the web might reduce the added value of having SR news on Spotify.

SR has no legal restrictions on their internet activities and is allowed to use social platforms. Occasionally there are discussions on SR's online activities, but there are no formal complaints. SR does not foresee any changes in what it can do online.

Innovation in production technologies and organisational processes

SR is currently in the middle of a large process to fully integrate all its production systems and methods, which now consist of approximately 20 separate systems. The process is expected to be completed in 2 years. The new integrated system will be more efficient and allow SR journalists to produce, publish and distribute news programmes through one system for all platforms. The new system will also make the news production systems more flexible and integrate stationary and mobile

production systems. It will enable SR to be more in the middle of society instead of being shut up in offices and studios.

There are no fully fitting systems that can be bought off the shelf, so SR buys systems from technology and ICT providers, with whom it collaborates and who need to collaborate among each other to make the systems fit SR requirements. This is a complicated and laborious process. SR needs to push the technology partners to make them develop the systems they want. As such, SR is a demanding and ambitious client. From collaborating with SR the technology companies can learn a lot, and benefit when developing systems for other clients. When SR intends to buy (expensive) new technologies it has to comply with the Swedish law on public procurements and produce a bid document with all requirements, which is open to all industry companies and to which all can respond by offering a bid. The law prevents SR to collaborate exclusively with one partner in for instance joint ventures.

Innovation in human capital and learning potential

SR is not participating structurally in professional media networks. SR's web developers are part of an informal network of web developers in Sweden, sharing experiences and knowledge and trying to solve problems. SR is not involved in R&D projects, apart from collaborations with the EBU.

Flanders, Belgium: VRT case description

Innovation in services

The VRT has an integrated newsroom (430 people), which produces 12 TV news programmes, radio news every half hour and which has its own website: redactie.be. In 2013 VRT created a live news centre with 430 people that are responsible for news distribution 24/7. In this core team incoming news is checked and approved and subsequently distributed to the different platforms. VRT employed a consultancy firm to accompany the process of transformation into a fully integrated newsroom.

Since 2013 VRT has launched a number of new, innovative services. These include Rekening14, a tool that enables website visitors to check the promises made by Flemish politicians in their party programmes, in the run-up to the May 2014 general elections. In the development of this tool VRT collaborated with universities, as well as with the two main quality newspapers (De Standaard en De Tijd). The universities analysed the election promises of political parties and checked to what extent political promises were realistic. The private media partners and the VRT delegated journalists to a special task force to support the research and to produce news stories based on the research. These stories were published in the newspapers, on the newspapers' and VRT websites and in VRT news bulletins. The initiative was set up as a joint venture between the different partners and was unique in its kind because it was the first time in the Flanders media market that competitors collaborated in analysing data sources and producing news. VRT was the project's initiator. As a PSM organisation it was best equipped to act as a broker in creating this type of public private partnership and helping to overcome competing interests

and mutual distrust. The project enabled news productions for which the individual partners would not have had sufficient resources themselves. The output was appreciated by the audience and generated largely positive publicity.

The joint venture contract included strict and precise agreements on which partner could publish which content, when and where, in order to enable each partner to fully realize impact with the projects' results. It was for instance stipulated that if the newspapers wanted to publish a particular news item in their Saturday newspaper – an important edition in terms of circulation figures - that VRT could not already include this news extensively in its Friday night bulletins or on its website.

During the 2012 local government elections VRT also collaborated for the first time with the popular newspaper Het Laatste Nieuws in co-financing and co-branding political polls.

Content sharing

Since Summer 2014 VRT makes available up to 20-25 video news items per day that newspapers and online news publishers can use on their own websites. The newspaper publishers can build their own business model around these video offers. The exact terms for using the VRT video clips and the accompanying business models will be negotiated at the end of Summer 2014.

All main national newspapers³ and some regional newspapers use the news clips on a daily basis. This model for sharing news video items has benefits for both sides: it enlarges the audience for VRT news with approximately 5-15 per cent and contributes to the number of newspaper website visitors. The project is in a test phase until the end of Summer 2014, but VRT expects it to be continued and even expanded to include magazine websites. VRT also offers clips to the online only news service Newsmonkey in a test project.

VRT and the commercial media partners have a formal agreement for the test phase. After that VRT will make long lasting contracts, including stipulations on the business model. For VRT this project – and other projects in which it might share content - needs to cover the cost, either by having third parties pay a fixed fee or by means of a revenue sharing model. Based on European law the VRT is not allowed to make the news video clips freely available.

VRT is open for citizen contributions, but does not look for it in a structural way. Content has to be relevant and has to be correct. Checking UGC and responding to users who submit content is very laborious. But VRT does use Twitter as a source for news. Here it is not necessary to respond to individual people posting. UGC is of less importance for VRT than for regional print media. The latter are under great

³ I.e. the newspapers owned by De Persgroep (Het Laatste Nieuws en De Morgen) and the newspapers owned by Het Mediahuis (De Standaard, Het Nieuwsbad and+ 2 regional newspapers De Gazet van Antwerpen and Het belang van Limburg)

economic pressure and therefore rely to a larger extent on voluntary contributions to their news websites.

Innovation in distribution and user-interaction

VRT participates in DAB distribution projects, but these are not specifically driven by the news department.

VRT uses social media platforms like Twitter, Facebook and YouTube as promotion channels for its news, and to boost the distribution of its news videos. But it has no structural partnerships with these companies. VRT has its own Facebook page but does not have its own YouTube channel. Because the platforms are popular with media users, it is difficult to ignore them, but VRT sees a risk in using these platforms, because they can change the rules of the game (e.g. algorithms that determine search results or prominence) from one day to the other, and in that case VRT can only adapt, to ensure that its content will still be found.

Another form of collaboration between VRT and private media companies takes place in the context of the Media-ID project⁴. Media-ID is a web shop where users can buy media products from different media providers, but only need to log-in and provide their personal data once. VRT entered the project to enlarge the project's basis and the number of consumers that can use the platform. Media-ID, a strategic alliance, was initiated by Flemish news media (Vlaamsnieuwsmedia.be) and VRT was invited to join. Universities are also involved in the research part of this project (cf. a research consortium). The media partners involved share the consumer data generated by the Media-ID service at the level of the use of the Media-ID. Access to data on the use of individual applications remains the exclusive possession of the participating media partners offering these applications.

Innovation in production technologies and organisational processes

VRT has no structural collaboration with ICT companies, other than in their role of hardware or software suppliers.

VRT has in recent years increased its collaboration with third parties and generally has adopted a more open attitude towards competitors and third parties. This is also based on the philosophy that both VRT and commercial Flemish media have more to fear from international media companies (Google, Yahoo, YouTube, eBay, LinkedIn) than from each other. The international media companies increasingly take advertising money out of the market and own user data, while national media companies are struggling to make profits and survive. In order to secure the production of national, Flemish language content in general and national, Flemish language news and journalism in particular, PSM and commercial media agreed to increase their collaboration. The choice is to diminish in a shrinking market, or to combine forces and become stronger vis-à-vis the international companies.

⁴ vlaamsnieuwsmedia.be

VRT is legally allowed to collaborate with third parties, as long as it doesn't privilege one partner over another. It therefore takes care that it doesn't always collaborate with the same commercial party, or exclusively with one party. Commercial news media are not always willing to collaborate, because they have to contribute financially as well, and are not always willing or able to do this.

Apart from market distortion considerations, VRT news' statutory Independence also limits the possibilities for collaboration. Although the benefits are sometimes evident, they can also present a risk for VRT's independence.

Innovation in human capital and learning potential

VRT also shares knowledge in a number of domains. It has for instance developed a code on how to use social media, based on an advice by a deontological advisory council for VRT news, which is also available for commercial media companies. Almost all commercial media companies use these codes, or have applied them in their own context.

VRT provides an overview of the print media in its morning radio bulletins. In this sense it promotes the print media. It does this more consciously than before, taking care that VRT does not privilege particular players.

Medianet Vlaanderen is a knowledge exchange platform that collects and distributes the technological knowledge available in Flemish and technology media companies. It organizes seminars, company visits, trips abroad (to Silicon Valley) etc. with the aim to allow Flemish media companies to stay up to date in technological developments. All Flemish media companies, public and private – as well as universities are involved in Medianet. To some extent, Medianet Vlaanderen is linked to iMinds, the Flemish research and innovation institute for ICT, media and related innovations. The VRT participates in several iMinds projects/consortia.

VRT has also launched two news related research projects/start-ups, which both involve research into media use, the use of new technologies and how best to combine images, sound and text. They are aimed at developing new services for news distribution on mobile digital media platforms.

- Sambal: an initiative to find and distribute news images on social media platforms.⁵
- Ninja news: snapshots of 15-30 seconds, with a number of short news shots.

In these projects VRT hardly collaborates with external partners.

VRT news has no substantial involvement in EU Framework Programmes or other European R&D projects and consortia.

In principle VRT is open to collaboration with start-ups. But although there are startups in Flanders, not many of them are working on news. One of the exceptions

⁵ <http://beta.sambal.be/about>

is Monkeynews, that is initiated by former Persgroep employees.

Austria: ORF case description

Innovation in services

ORF has launched a number of new online services over the past few years, including a sports (ski-ing) app and an app related to the elections. It is now developing a news app in collaboration with an ICT partner.

In 2014 ORF started to integrate its TV, radio and internet news desks, which are currently still located in different buildings across Vienna. It hopes to complete the new, integrated newsroom in 2020-21. This process is supported by ICT companies (building a new content management system), architects (designing the integrated newsroom) consultants (advising on HRM and organisational issues) and researchers.

ORF is also involved in data journalism. The stories based on data journalism are produced in-house, without external partners being involved.

The Austrian News Agency contributes to the online presentation of archive material by offering transcriptions of TV programmes. This is done in a public-private-partnership. As ORF is 45% owner of the news agency, it is a logical and close partner for these kinds of projects.

Collaboration with citizens does not happen systemically. Viewers can contribute to debates, but are not involved in producing news, and ORF does not offer opportunities to upload video or pictures. ORF considers itself responsible for all its news output and therefore needs to check any material from outside.

ORF's elaborate quality control system requires it to treat its viewers as citizens, not as consumers. ORF has panel debates and offers citizens other opportunities to get involved in these debates, in addition to scientists and other stakeholders.

Content sharing

ORF does not collaborate with newspapers. There is a debate in Austria in which some claim that ORF should collaborate with the quality press to ensure the future of quality journalism, against increasing market impact of international companies like Google. So far this discussion has taken place on a very theoretical level, with no concrete results. Collaboration with newspapers would be hard to accomplish as the Austrian newspaper market is highly concentrated and the owners of the largest newspapers also possess commercial TV channels. Collaboration would thus only strengthen an already powerful market player.

Innovation in production technologies and organisational processes

ORF collaborates with hardware, software and other ICT companies regarding technologies used for producing, editing, archiving, publishing and broadcasting the news. Regarding the content management software, this is usually a matter of buying

the license to use a system, including maintenance and training. Outsourcing the (re)development of hard- en software systems is a matter of money and skills. Small PSM like ORF cannot afford to have large technical and ICT departments, but ORF's technicians and ICT people closely collaborate with hardware and software companies. This happened for instance when ORF's TVthe interface had to be redesigned in order to enable thematically arranged archive material and offer more programmes for a longer period of time.

ORF is relatively restricted in launching new services. Like other PSM, new services have to undergo a public value test (Auftrags Vorprüfung) and gain the regulator's approval. ORF is for instance not allowed to produce games, to collaborate with social network companies like Facebook or to develop its own debating platform, unless the debates are directly related to an existing news programme. Earlier, ORF had a debate platform (debatte.orf.at). This debate platform was discontinued, because the regulator ruled that ORF could only deal with current news.

The Netherlands: NOS case description

NOS is the news organisation of the Dutch national public broadcaster. Like other PSM, the NOS evolved from islands for TV, radio, teletext and internet ("your colleague already called us") to one integrated multimedia news organisation. The main difference now is between news gathering/production and news reporting/presentation. There are distinct radio and TV readers, different lengths of videos, and a different tone of voice per platform and target group. The rationale for the evolution was to increase quality. Over the years, the main aims have become efficiency (cost reductions) and innovation. In the integrated approach, the key words are internet first and video first. Note that NOS was quite slow with their online news service (NOS.nl) but they were quick with apps and other mobile services. NOS.nl and its two main competitors (nu.nl and telegraaf.nl) reach around 35% of the population, on a daily basis.

Innovation in services

Most of the innovation is in packaging and versioning of news items for different platforms. In addition, there are services that add more interactive elements. Collaboration with users is one of the priorities. NOS mentions the possibilities but also the limitations of citizen journalism. There are positive experiences with user panels, user feedback, suggestions, scoops, photos, etc. However, NOS has to secure quality and independence and avoid that news is influenced by stakeholders that are active on websites, mobile platforms, etc.

A small yet interesting of a new service, together with partners, is a website for whistle blowers. NOS developed and launched this website as a strategic alliance with two large Dutch newspapers (NRC and Volkskrant). Users can choose which news organization they trust or which media outlet fits their information (e.g. a video or a long report).

Content sharing

The press agencies are crucial suppliers of NOS. The incumbent Dutch press agency, ANP, is becoming more of a normal supplier, now that the old model is falling apart of 10+ users/clients of ANP, all sharing part of the costs and paying low prices. With less users of ANP, the prices per news item rise, while competition from Novum, Reuters and other press agencies forced ANP to cut down its staff by nearly 50%, over a period of 10 years.

Second, there is increased collaboration with regional public broadcasters, individually and via the association of regional broadcasters (ROOS) in the so-called Bureau Regio. Via this strategic alliance, NOS and regional broadcasters exchange video material. There is client-supplier element to this strategic alliance because there is financial compensation if one actor uses more videos than the other. Bureau Regio is one of the means to reduce regional public broadcasters' costs. One of NOS' main concerns is that regional news is 'drying up'. There are budget cuts by national and regional newspapers and broadcasters, and online competitors are not stepping into this emerging vacuum.

Before Bureau Regio was launched, NOS experimented with a model in which it made their videos available, free of charge, to a range of online news websites in the Netherlands, including those of newspapers and regional public broadcasters. However, there were legal constraints. This concerned the checks and balances for ensuring that videos were available for all actors interested, with no exclusivity allowed, a pricing scheme that is 100% cost-based, and a restriction on the revenues that other media may raise (e.g. advertising revenues) by re-using the videos that were produced by the NOS. There were complaints from press agencies and commercial broadcasters.

Innovation in distribution and user-interaction

For marketing and wider dissemination of news videos, NOS collaborates with YouTube. Technically, it's a strategic alliance. Given the power imbalance, there are also client-supplier elements to this relation, with NOS being a small supplier to a large client. Still, NOS managed to strike deal with closed pockets. YouTube gets access to short versions of selected NOS videos, which means that users may be tempted to go to NOS.nl to see full videos, or other videos. The deal also covers advertising revenues and sharing data about user behaviour. However, there are risks in sharing valuable content and user data. The implication could be that international platforms such as YouTube become smarter and larger, which reduces the added value of dedicated news websites. At some point, we may become a provider of news videos and stop our own website.

NOS calls upon national policy makers and media regulators to acknowledge the international and online media landscape, when applying the rules on collaboration between PSM and private actors. Press agencies and commercial broadcasters are invited to reconsider their complaints about initiatives between NOS, regional broadcasters and Dutch commercial news websites. Dutch actors have to collaborate to remain innovative and financially healthy. Even large Dutch actors such as several newspapers are now owned by foreign investors with a short time-horizon. This

should be an additional reason for governments to adopt a 'agree, unless' approach when assessing collaboration requests by NOS or other actors.

Innovation in production technologies and organisational processes

Collaboration with suppliers of IT or content management systems is very limited. NOS prefers in-house development because the needs and requirements are highly customized, and there are few proven solutions available on the market. In apps, for example, NOS managed to become one of the market leaders by developing its own apps. Moreover, in-house expertise is valuable when there is a need to work with suppliers. In-house expertise allows for preparing the requirements, asking the right questions and overseeing the implementation process.

NOS is exploring options to provide regional public broadcasters or even commercial broadcasters or commercial websites with access to the NOS editing and content management systems. This would be a service supplied to peers. It would reduce the need for each actor to reinvent the wheel, and waste money in development and operating small-scale systems. It may even be to the benefit of ICT firms, providers of content management systems and production facilities. There will be demand for large-scale solutions that are specific for the Dutch context and that are flexible in the sense that several users can use one system. The knowledge created when developing these systems, can be leveraged in projects in other countries.

Innovation in human capital and learning potential

NOS seldom collaborates in training programmes. Training mostly concerns the use of new systems and procedures, such as those for NOS.nl. Nearly all training is done in-house, in the NOS Academie. It starts with professional training (in-house or outside) of so called super users. These users will then train the rest of NOS staff.

Research consortia are not an important vehicle for NOS. Occasionally, NOS participates in European research projects. The main trigger is an invitation from suppliers or Smart TV partners such as Philips and Samsung to join their consortium for the 6th or 7th Framework Programmes from the European Commission. These projects allow NOS to monitor but also to steer a bit the development, so that NOS can prepare for discussing tailor made solutions. In addition, there is collaboration with peers in the context of EBU. Examples are projects on technical standards and on large events (e.g. the world cup soccer app).

More important are regional networks such as the iMMovator network/association for cross-media organisations. NOS uses these events and contacts to follow market and technology developments. Moreover, NOS tries to steer developments, e.g. promote Smart TV standards or inform regional public broadcasters about the possibilities for collaboration.

Networks such as iMMovator, combined with reduced restrictions on collaboration, can allow NOS to innovate and collaborate more. Compared to many other actors, NOS has the scale, expertise and the long time horizon that are needed for innovation. Being a non-profit organization, NOS could become a catalyst for innovation in the Dutch media and internet sector.

6. Types of collaboration per innovation domain

Table 2 provides a first indication about the types of collaboration, for specific types of innovation that emerged most clearly from the cases. Note that in the interviews open questions were asked about innovation and collaboration. As such, the emphasis is on innovations and collaboration that are ‘top off mind’, which is an indicator for their perceived importance. Also note that the table below differentiates between types of collaboration that were mentioned explicitly and types of collaborations that were referred to implicitly (in the table, these are mentioned between brackets). For example, the role of production technologies suppliers was mentioned and there was some technology licensing involved. There was however no explicit mention of technology licensing in the sense that PSM obtained access to patents or copyright, as input for developing an in-house solution.

Table 2 PSM innovation domains and types of collaboration: observations

		Innovation domains				
		<i>Journalistic products and services</i>	<i>Content sharing and access to data</i>	<i>Production technologies and organizational innovation</i>	<i>Distribution to and interaction with users</i>	<i>Human capital and learning potential</i>
Types of public-private collaboration	<i>Supplier relations</i>		VRT, NOS	SVT, SR, VRT, ORF, NOS	SVT, SR, VRT, NOS	
	<i>Technology licensing</i>			(SVT), (SR), (VRT), (ORF), (NOS)		
	<i>Strategic alliances</i>	SVT	SVT, SR, NOS		SVT, SR, ORF, (NOS)	
	<i>Joint ventures</i>	VRT	VRT			
	<i>Research consortia</i>	(VRT), (NOS)			VRT	
	<i>Networks and clusters</i>	(SVT), NOS		(SVT), (SR) VRT, NOS		(VRT), NOS

In the following paragraph the categorization of types of collaboration in different innovation domains are elaborated in more detail, in particular concerning their current limitations and future potential.

7. Comparing the cases

Integrated news rooms publishing 24/7 for all platforms

Many European PSM have or are in the process of integrating their radio, TV and internet newsrooms, content management systems, workflows and other supporting systems. Of the four cases in this study, the situation in Sweden is somewhat different because Swedish radio and Swedish TV are separate organisations that hardly collaborate, but each of them has integrated its online division with its radio and TV news desks respectively. VRT and NOS have already largely completed the integration, ORF has just started the process, which it expects to take a number of years to complete. The main objectives of this integration are to organise news production more efficiently, to share information and sources and – most importantly - to enable a 24/7 news flow, in which news, including video and audio reports, can be published as fast as possible on websites and mobile platforms, and can be regularly updated. This involves a complete shift in work processes and mindset. No longer are reports produced exclusively for the regular news bulletins, with the most important news items 'saved' for the 8-o'clock flagship broadcasts. In the internet domain news travels fast, and in order to remain relevant, news providers need to produce much faster and almost deliver 'on-the-fly'. Although these processes require support from technology partners and sometimes from hired consultants that guide the reorganisation, these innovations are largely developed and implemented in-house.

Data journalism and crowd sourcing

Relatively new forms of collaboration are those with universities and sometimes users in crowd-sourcing and data journalism. Data journalism is rapidly becoming a new way of finding news based on the analysis of large (public) data sets. Often the results are not only processed in news items, but made available on news providers' websites as well, in order to enable visitors customized, location based searches in these databases. Both SVT and VRT have developed a number of these projects, in collaboration with universities. In the case of SVT audience members could contribute as well and add data to the databases, based on their own knowledge and experiences. All PSM emphasize that they remain responsible and always check the data's reliability. For ORF this is a reason not to base news services on audiences contributions at all. In the SVT projects the crowd-sourcing is restricted to the data-input, and the coordination remains central. This is unlike other online crowd sourcing initiatives, in which there is often much less centralized control and users often also perform quality controls, like for instance in Wikipedia. Universities are partners in these projects as well. In the case of SVT to guarantee a certain quality standard, in the case of VRT the universities can also directly use the results for academic publications. VRT has gone a step further in collaborating with competitors in these projects, actually setting up a joint team and jointly publishing the projects' results. SR has since 2011 started to build audience networks – stemming from Jay Rosen's ideas, who initiated a similar project in the US. In these networks people can make themselves available for consultation based on their expertise, or for contributing to debates and raising questions to journalists.

Content sharing

A special case of innovation are the content sharing deals in which PSM make available their news footage for others to include in the websites of newspaper or other online news services, usually in the form of embedded news players. From the perspective of PSM these can be considered as new ways to distribute their content to audiences. The content and production technologies in themselves do not necessarily involve any innovations, but they do require 'new' technologies such as video players that third parties can embed in their websites. Rather than innovation in content or technologies, this is an example of innovation in collaboration between competitors, largely driven by newspapers' deteriorating economic position in European markets and the search for ways to accommodate both PSM's online activities and their competitors' complaints of unfair competition. In Sweden and Flanders these projects have been quite successful. In Flanders they involve formal contracts between VRT and newspaper publishers that allow newspapers to build their own business models around the content. In Sweden, both SR and SVT make available the content for free, for any interested party. In Flanders the footage is used relatively often, in Sweden - so far - only occasionally. But SVT and SR consider the possibility for anyone to embed PSM news content in their websites as an important statement to tax payers; it declares that PSM news content is in principle available for all. ORF has no such news content sharing initiatives and a recent Dutch NOS initiative failed. The situations in the Austrian and Dutch media markets show that there are still obstacles to overcome and that collaboration between public and commercial news organisations is still controversial in many media markets. However, in a converging media landscape, collaboration between public and commercial partners seems to be one of the more promising ways to strengthen the national and regional journalistic infrastructure, especially vis-a-vis international competitors in the news domain.

Distribution and user-interaction

All the PSM companies in this study use new distribution platforms such as DAB. They also increasingly use social media platforms for promoting and distributing their content, be it in varying degrees.

All news departments have Facebook pages. ORF seems most restricted in this respect and initially had to close down its Facebook page because it was not allowed by the government to be active on a commercial platform. After complaints the news department was allowed to re-open its Facebook page. At the other end of the spectrum are SR and SVT who are very active on these platforms. SVT even considers the production of special news clips for distribution on social media platforms, whose form and content should be based on in-depth studies of user behaviour and preferences on these platforms. Most PSM have so far used Facebook, Twitter, Instagram, YouTube and other social media platforms mainly as ways to promote their content. They also indicate that their presence on these platforms leads to debates and questions from users to which they need to respond. User-interaction has thus increased and users enrich their news output.

The kind of collaborations between social media platforms and PSM varies. None of the companies has special deals with Facebook, other than the codes any user has to agree to when opening a Facebook page. NOS does have a formal contract with YouTube.

Generally speaking, PSM see collaboration with these international partners as inevitable, as they increasingly are the platforms used by audiences for news consumption⁶. At the same time this development is also seen as problematic, due to the power imbalance between small national news organisations and the large, global internet companies. Some PSM feel that by sharing their content on these platforms they help to strengthen their competitors. It often also implies 'giving away' access to user data. These developments should be – and to some extent already are – an incentive for closer collaboration between national media organisations, including PSM and commercial companies. The Flemish Media-ID project is a good example. In many countries those types of collaboration between public and private partners are still cumbersome and also face legal obstacles, but are likely to become inevitable to ensure the future of quality and diversity in national and regional news production.

Production technologies and innovation in organisational processes

The most common forms of collaboration are those with technology partners in the implementation of for instance recording equipment and content management systems. These mostly concern purchasing hardware and equipment and licensing software. They usually involve some collaboration in implementing, maintaining and updating the systems. Often systems or system-elements are bought 'of the shelf' but need to be adapted quite thoroughly to fit PSM news departments' particular wishes and requirements. The interviewees stated that many of the systems they buy are 80% ready to use, but need 20% adapting. In these situations the technology partners respond to PSM wishes and collaborate with PSM technology and ICT departments to find the best solutions. In the four cases studied there was no joint development of new technologies, systems or services with technology and ICT partners.

Only a few of the large PSM still have their own R&D departments (notably BBC, German public broadcasters (IRT) and the Italian RAI) that develop new production and distribution technologies. One of the reasons is that the production and distribution technologies are becoming fully digitalized, IP based and – to a certain extent – more standardized. In these domains PSM traditionally do not have special knowledge and therefore are more likely to buy soft- and hardware from ICT companies. None of the news departments in our case study was involved in R&D projects with third parties, apart from participating indirectly in joint initiatives under the EBU umbrella. An exception might be the VRT's participation in the Media ID,

⁶ Analytics from Parse.ly's authority report (January 2014) reveal that most traffic to the large newspaper and broadcast news websites originates from social media platforms. The second place is for search engines. See: <http://marketingland.com/facebook-cuts-googles-lead-top-traffic-driver-online-news-sites-report-75578>

which is now a service that has been introduced to the market, but which was preceded by a R&D project funded partly by the Flemish government (IWT), and in which commercial media companies, ICT companies and universities collaborated.

Knowledge sharing, human capital and learning potential

Remarkably, the PSM news departments studied for this paper participate relatively little in regional or national clusters and networks, nor in national or European R&D projects. All PSM organisations mention collaboration in research projects in the context of the EBU, but none of them was able to mention specific projects.

Especially these kind of loose networks and precompetitive forms of collaboration can help PSM to keep on top of technology and services innovations, to have a better insight in ICT companies' qualities, and to get access a wider circle of potential partners. PSM can also play a positive role in these networks and clusters, as a catalyst and driver of innovations. Because of their scale and reach they are in a good position to test technological and organisational viability and user acceptance of new services.

8. Conclusions

Based on this (limited) number of cases, one can observe that PSM news departments are relatively self-contained departments that only collaborate to a limited extent with outside parties. This is perhaps not surprising, as journalism is one of the key defining genres for PSM, on which much of the audience's trust in its brand depends. This means that PSM, even when collaborating with third parties, always want to be have the final control and responsibility for the news and journalistic output that they publish. Checking and double-checking data and sources are emphasized as important procedures to ensure a high level of reliability. The way in which for instance SVT and SR are investing in forms of crowd sourcing, shows that it is possible to become more open to the outside world and collaborate with audiences, without giving up final editorial responsibility.

A second conclusion is that there are hardly any joint ventures, in which PSM and private companies jointly develop new technologies or services. An important reason for this is that PSM as publicly funded companies are often not allowed to exclusively collaborate exclusively with one or more partners. Often they are bound to public procurement rules that stipulate that they should make any procurements, beyond a certain financial threshold, open for bidding by any interested company. Of the cased in this study, only VRT had recently entered a joint venture with Flemish quality newspapers in order to collaborate in data journalism projects.

A third conclusion is that several PSM, especially SVT, SR and ORF, appear to be reluctant to join research consortia and to be active in (regional) innovation networks and clusters. Here, there are few legal constraints. The reluctance to collaborate and to use networks/clusters to increase learning potential may be explained by time constraints of PSM staff and the small size of R&D departments.

Fourth, there is consensus that collaboration is potentially beneficial for the national

media ecology. It can improve the quality and diversity of news and journalism. It also contributes to PSM ability to connect to changing media behaviour, especially of young people. However, collaboration can also be controversial, for instance for creating market distortions or crowding out markets that commercial players would otherwise have been able to serve. Other potential controversial issues concern clashing professional standards, ownership and revenue sharing models, cultural differences and management problems.

Fifth, comparing the levels of collaboration of the news departments in the four different countries, there are remarkable differences, with SVT, SR, VRT being the most open to partnerships, ORF relatively closed and NOS in between. But the general trend seems to point at an increase in collaboration and more openness, even though PSM are no frontrunners in this respect, and still need to overcome – partly justifiable - reluctance, and many organisational and legal obstacles. The future challenge lies in developing mutually beneficial forms of collaboration that strengthen all partners, without endangering PSM's brand as independent and trustworthy news providers.

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