Cross Motion

Work Package 5
Activity 1

Final Sector Report

CROSS-INNOVATION BETWEEN AUDIO-VISUAL AND TOURISM SECTORS

Research team:
Silja Lassur, Külliki Tafel-Viia, Indrek Ibrus, Mikhail Fiadotau

2019

Table of contents

CROSS-MOTION: TOURISM AND AUDIO-VISUAL MEDIA

Contents

Executive summary

The study revealed that the cooperation between audio-visual media and tourism sector is quite traditional for the majority of the companies in these fields. The main reason is that the core nature of the tourism hasn't changed much. Although there are platforms to provide smoother and more customer-centric travelling, the travelling itself and the reasons for that have remained the same. The mediation of tourism experiences is not demanded. If today's trend of increasing accessibility (e.g. cheap flights) worldwide continues, the tourism sector has no demand for disruptive innovations. And therefore they are not so eager to think outside this trend and their initiatives for seeking the cross-innovation partners are rather rare.

The cross-sectoral dialogue is largely driven by public sector. Public tourism promotion offices are forerunners as procurers of new audio-visual solutions for place marketing and using the social media tools and channels. On the other hand, the public sector as owner of different cultural institutions like museums and heritage sites finances the digitalisation of heritage and new solutions to present it. In the case of the sectors in this chapter, the public sector has a central role in creating a dialogue between sectors. This can be highlighted in the example of the Hamburg private sector, with a strong media cluster fostering cooperation with other sectors, but cooperation with the tourism sector is in no way a priority.

Still, the main convergence processes between tourism and audio-visual media lie in marketing and communication. In this area we can almost draw the linear development from pictures of the tourism sitest to film and video formats and next step could be the AR and/or VR solutions to experience the destination before making travelling decisions. The continuation of this linear trend is two-sided, relying on the technological development of the equipment, on one side, and generation change with its habits and skills in using this technology, on the other hand.

Introduction

This is one of the three sector-specific reports of the Cross Motion project. It introduces the results about the dialogues between audio-visual and tourism sectors. The project encompasses six countries including Estonia, Finland, Sweden, Denmark, Latvia and Germany (Northern part of it). We chose Latvia, Riga and Hamburg in Germany as the main case studies for tourism and audio-visual sectors' cooperation.

The research in the project is qualitative in nature, as it aims to identify and explore the core issues and challenges of cross-innovation practices of three sectors (tourism, education and health) and audio-visual sector. The extensive empirical work (altogether approximately 150 interviews in Nordic and Baltic countries, accompanied documentary and policy analysis in these countries) has been taking place the whole 2017 and the first quarter of 2018.

As to the desk research, it predominantly included the policy and document analysis where different existing programmes, strategies, support measures were explored. Specifically speaking, as to this report, the desk research encompassed the measures in the field of innovation in general and, on the other hand, tourism and audio-visual sector support measures.

As to the empirical work, we divided the research into meso and micro level analysis.

Meso level study

Meso level analysis in the field of tourism and audiovisual sector case studies was carried out in Riga, Latvia and Hamburg, Germany. The sample of interviewees consisted of companies from audiovisual and tourism sector, sectors' umbrella organisations, representatives of policy makers and the education organisations. In more detail, the corpus of the interviewees was composed based on the following classification: (1) Entrepreneurs of tourism and audio-visual sector – covering the scale from startup and micro companies to large companies. The tourism company should have collaborated with audio-visual sector company (or have had cooperation with companies from another fields); and vice versa. Altogether 10-12 interviews: about 5-6 from tourism and 5-6 from audiovisual sector; (2) representatives of tourism and audio-visual sector umbrella organisations (e.g. associations, clusters) – 1-2 from tourism and 1-2 from audiovisual sector organisations; and (3) Representatives of innovation and sector policy support system (e.g. policy-makers) on both local and state level. Altogether 2-3 interviewees. The interviewees were chosen and agreements were made by the local project partners who know the local audio-visual and tourism landscape and could choose the most suitable interviewees on this bases. However, the final sample of interviewees was formed on the basis of snowball sampling (Atkinson and Flint, 2004), as each interviewee was asked to recommend another possible respondent. Altogether 17 interviews in Lativa, and 16 interviews in Germany have been carried out. Due to confidentiality reasons more detailed information about the interviewees will not be disclosed.

The interviews were semi-structured, in-depth and generally face-to-face, including some Skype-interviews. One interview lasted approximately 1 hour. The topics of the interviews, in general, went through all interviews, regardless of the profile of the respondent. It was done with the purpose to guarantee the comparability of the responses. The interviews concentrated on four main topics:
(1) General overview of the sector(s) / company;
(2) Sector / company innovation behaviour and pattern;
(3) Co-operation and cross-innovation practices and
(4) Policy / innovation system support.

All the interviews were recorded and transcribed verbatim.

The interviews were analysed using text analysis method and combining various coding practices (Hsieh 2005; Laherand 2008). The analysis started with open coding, identification of main themes and forming of large categories. The initial list of main codes was prepared in advance and used across all cases (health, education, tourism) to guarantee the comparability of the results afterwards. However, during the analysis, the categories were, to certain extent, modified in correspondence to the topics that raised from the interviews. As the analysis of the whole empirical work has been carried out by different researchers (including the authors of the current paper), joint discussions have been taken place to exchange the opinions and interim conclusions about the results to guarantee the coherence of the whole analysis. In analysing the interviews, the Nvivo qualitative analysis software has been used.

The micro level study

The micro level research aimed at elucidating the micro-level dynamics of cross-innovation between audiovisual industries and the tourism sector. The research revolved around the following questions:

- Where do opportunities for co-innovation with audiovisual industries lie in the tourism sector?
- What are the obstacles for cross-innovation and challenges faced by innovators seeking to contribute to them?
- What are the trajectories and intra-group dynamics of up-and-coming cross-innovation projects?
- What sectoral specificities can be identified in each of the areas in question (tourism in that case)?
- What are the future potentialities for innovation and its promising directions in each of the sectors?

In micro level research the interviews and field visits were used in order to study the individual and group experiences of startup teams and contractors working on **innovative projects funded through Cross Motion**, as well as document their interactions with public institutions and observe their project development trajectories. More specifically, the work comprised individual and group interviews with stakeholders, primarily project team members and field visits to observe the settings in which Cross Motion-funded projects were being developed, and the development process itself.

When studying cross-innovation in tourism the main informants were:

- Simon Mayrshofer, developer: Movie Map App (Hamburg)
- Julia Grosch, project manager at Filmförderung Hamburg Schleswig-Holstein
- Alexandra Luetkens, Film Commission Hamburg
- Andrea Onnerfors, project manager at Ustwo Studios Malmö

The primary informant when investigating cross-innovation in the tourism sector was Simon Mayrshofer, a Hamburg-based developer who had been commissioned by Cross Motion partner Filmförderung Hamburg Schleswig-Holstein (FHSH) to work on **Movie Map App**, an augmented-reality application to promote film tourism in the Hamburg area. The application would enable movie fans to construct personalized tours based on locations featured in films and television series shot in the region. Unlike most other Cross Motion projects, the idea application was not selected for implementation during a hackathon-type event but rather had been conceived by FHSH prior to the start of the project, with Cross Motion offering an opportunity to bring it to life. At first Simon and his brother Maximilian (also a collaborator on the project) were interviewed after a Cross Motion event in Tallinn, then again during a visit to Hamburg (when he provided with a demonstration of the prototype), and finally at the project presentation in Aarhus where he showcased his work after submitting it to FHSH. Between these in-person meetings, additionally interviews with him via Skype were made to keep track of the project's progress.

Due to the nature of the project, it was also decided to interview representatives of FHSH, as the organization that came up with the initial idea and that the finished product would be handed over to. They were interviewed in person on two occasions (both times in Hamburg) and additionally via Skype. Overall, three respondents at FHSH were interviewed. A regular email correspondence with both Simon and FHSH were maintained to both keep track of the project's development and clarify additional points.

In the second round of procurements, the informant was Andrea Onnerfors, a project manager at Malmö-based Ustwo Studios, a design studio that had been commissioned by the local municipality (via Cross Motion partner Media Evolution) to work on the conceptual design of **Nordic Noir**, a film tourism application not unsimilar to Movie Map App. Andrea was interviewed in person during a visit to Malmö and over Skype.

General background and overview of the sectors

The Hamburg region in Germany and the Riga Metropolitan area in Latvia were selected to explore cross-innovation in tourism and audiovisual media. First one represents the western city with long trading and business traditions and another one is East-European city, where long trading centre development was disrupted for 50 years by Soviet occupation.

Hamburg has long traditions as important trading city in Germany and also today the city is dominated by the maritime industry, but the media industries have also a large role to play. Hamburg is called Germany's media capital. Besides long-established publishing houses such as Gruner+Jahr, Axel Springer, Spiegel, Die Zeit and dpa, Hamburg is also a major hub in the digital media industry. The global players like Google, Facebook, Twitter and Yelp have set up offices there, also startups scene is vivid. And booming branch is game development.

According to the representative of Hamburg Toursimus GmbH the tourism sector in Hamburg is also strong. Hamburg is one of those fastest growing tourism destinations in Europe. The tourism has grown like 10% or 12% per year for more than 10 years. The main drivers have been on one hand culture tourism, including musical plays and opening of the Elbphilharmonie as a recent example. Second is cruise tourism which has grown from like 250 000 visitors a year to 800 000 within ten years. But the international tourism is not developing as dynamically as the domestic one. The main tourism groups are from Germany, also Austria and Switzerland. But compared to Berlin or Munich the number of international tourism is comparably small.

Riga, on the contrary, is the main destination of International tourists to Latvia. In 2017 more than 2 million foreigners visited Latvia, and vast majority of them visited Riga[1]. The tourism has increased slowly, but steadily. The tourism development is still sort of starting phase in Riga – it's not the Barcelona effect – like the representative of State Development Agency marked. But more and more businesses see possibilities of how to attract more money and how to do things tourists would like. So the new businesses are popping up increasingly.

As to the audio-visual media industries then Riga is the main centre for the companies of this sector in Latvia. The main TV channels (both public and private ones) and film companies are in Riga, main publishing houses, advertising companies and majority of the gaming companies.

The micro level study showed that while the circumstances of the two projects were different—Simon was an emerging developer while Ustwo was an established medium-sized studio—they also share an important commonality: they were both location-based, augmented-reality applications. This appeared to be the most prevalent and promising direction for innovation in the tourism sector.

[1] Latvia's population on the 1st of January 2018 was **1,934,000,** one-third of population lives in Riga (the Central Statistical Bureau of Latvia).

Sector innovation behaviour and pattern

Next an overview of innovation drivers on the one hand, and the obstacles that hinder the innovation activities on the other are given. The global trends as described in the first chapter of this book have certainly influenced the tourism sector. Personalisation of services have also formed one of the rationales for tourism innovation. After digitisation conditioned the emergence online booking platforms as, in effect, a form of radical process innovation for the tourism industry (both with regard to travelling and accommodation services) there has been a lot of discussions about the end of the tourism agencies' core business lines. If people find information on all the services on their own and can also make all decisions and bookings on their own the agencies' business may be threatened. Yet, as respondents suggested that these innovations have only changed the nature of the business:

> *"It is a bit similar as with the story with the internet and the books. So, now 20 years have past and books are still here, they have changed maybe their content and the purpose of, but as a such they are still here. And I think it is similar with travel. There used to be the conversation, I don't know, 2003 –2004, when the e-commerce started in tourism, that this is the end of the business, but in reality the curve has been that it has lead to customisation, as an opposition to the mass tourism."* (Riga tourism company representative)
>
> *"All the companies have faced this change. So they offer more individual Hamburg products. They offer more flexible ones, smaller packages not the four days with three nights and whatever services. That would not work anymore. So it is more about finding very individual approaches to the customers. And that affects all the industry for sure*." (Hamburg tourism agency representative)

Drivers

In the study we asked the interviewees what are **the main drivers** that push them to innovate. As a response 3 main factors were mentioned most often: **demand, technology and competition.**

Most of the respondents see the changes in **demand**. Today's tourists, especially younger generation use new technology to travel and generally represent different type of consumption behaviour. They travel independently using different *apps*, which enables them to consume places and experience cities/countries in their own customised way. A respondent representing tourism promotion agency described the change as following:

> *"People change the ways they book and the ways they travel and we have been feeling that change for years now. /…/ We try to face the digital developments in providing an alternative Hamburg experience. So all the apps and our 360* virtual projects are developing very nicely and are to become some of the core services we provide to visitors.* (Hamburg tourism agency representative)

These changes in demand are enabled by development in digital **technologies** and by the general platformisation of services. The online booking platforms have educated the people that they can plan their trips themselves just like they want. And different mobile tourism apps are expected to further feed the demand for these opportunities by users. The AR technologies have been generally recognised by the industry as the tools that could have lot to offer for tourism experience development. Still the VR and AR technologies are seen among tourist service providers as not yet ready for mass production as they are too expensive to develop and for mass consumption today there is rather little audience. But the digitisation has not only impacted the tourist product and service development, but it has also changed the way of organising the work inside the companies and cooperation between the companies and other stakeholders. The emergence of "social network markets" as a form of market structuration described by Potts et al. (2008), is more and more visible also in tourism sector. It is quite vividly described by one Riga tourism promotion agency's representative: "We do work a lot with Instagram influencers, since everybody now is multimedia content developer. Then we actually have one position in marketing division, where one girl constantly works with bloggers and instagrammers. Of how to get them here, how to get the best content out of them."

The "word of mouth" marketing strategies have long been used by the tourism sector to recommend the best hotels and most interesting sites to visit. But with the digitisation of these practices has and with the raise of 'viral marketing strategies' its significance has increased enormously. On the other side it means that every company should have the basic skills of online marketing, including the skills of visual and audovisual storytelling and this is a bit of challenge as will be discussed below.

The third driver that was highlighted by respondents was **competition**. To keep a profitable market share in a very tense business area – especially if we take the core of the tourism business in case cities like Hamburg and Riga: hotels, restaurants, tourism agencies – one has to be better than competitors and this forces companies to seek new solutions for customising their services or to provide additional services or solutions. This competition drives hotel businesses to find new ways for marketing, e.g. 360 degree videos of hotels or using story telling methods to accompany the cozy atmosphere like in case of 25H hotels in Hamburg: *"The port and the sea. Industry and romance. Cabins and log books. The Port of Hamburg with its overseas shipping containers and the mighty Elbe river don't just provide a backdrop for the 25hours Hotel Hamburg HafenCity; they are all part of it. The Hamburg-based Stephen Williams Associates, in cooperation with Eventlabs, storyteller Markus Stoll and set designer Conni Kotte were all responsible for the interior design. In the central HafenCity district, guests can quench their thirst for travel in their authentic bunks. Sailors' yarns and a history of the port included. The ground floor of the 25hours Hotel HafenCity aspires to be a living room for the whole neighbourhood, and can be a relaxed lounge or a bustling bar, depending on the time of day."* [2] Others opening up for new customer segments like "film friendly hotels", that offer special services for film crews.

Further, we identified that, some innovations in the field are also **policy or public sector driven**. In case of Riga, the public sector's support for tourism development takes also the form of the supply of creative digital tools and trainings (web-design, content development in

[2] https://www.25hours-hotels.com/en/hotels/hamburg/hafencity

web etc) aimed at improving the skills of digital content production by the tourism companies, the quality of their content and their visibility in web. This kind of activities lead to cross-innovation in the form of spill-over. According to Raven, R., Verbong, G. (2007) the spill-over is a kind of inter-sectoral interaction that involves the transfer of rules (skills, knowledge) from one sector to another.

The role of public sector in driving innovation is very much visible in Riga. In recent years, the innovation of cultural objects and creative industries (including the audiovisual sector) has been influenced by several major events of national significance such as the European Capital of Culture 2014, Latvian Presidency of the Council of European Union in 2015 and the Republic of Latvia 100 in 2018. Such major projects have brought additional money to the creative industries sector. Several museums have been renovated and found innovative solutions in partnership with digital media companies. The reopened Latvian National Museum of Art offered visitors the mobile app of the interactive guide to the museum's exhibitions. Riga Motor Museum changed the whole concept of presenting their objects – new solutions include story boards, interactive screens and also augmented reality applications.

In case of Hamburg cross-innovation processes have also been driven by different kind of public sector institutions – those working with the audiovisual sector such as the local Film Foundation. They have initiated cooperation with hotels to compile a list of film friendly hotels in Hamburg. The list motivates hotels to offer suitable conditions to film crews. Film Foundation has also initiated cooperation projects with TV series producers to develop tourism products such as applications about film shooting locations/behind the scenes etc. So, we can see that public sector in both regions has important role in facilitating sectoral cooperation and knowledge spill-over from one sector to another.

Obstacles

On the other hand, the study revealed several interrelated and amplifying obstacles like: **readiness for innovation, lack of coordination, intellectual property issues, lack of resources and technological development problems.**

Interviews suggested that our chosen sectors are different when it comes to their **readiness for innovation** and cooperation. Tourism sector representatives pointed out the need for new developments and new approaches in business development and new tools to be used in developing products and services (more mobile-based services, etc.). They pointed to several co-operation projects and developments together with audiovisual sector. Still they admit that sector is not very eager to innovate. Also the audiovisual sector interviewees suggested that the tourism sector does not come along fast enough and is rather modest and not ready to take risks and try out new things.

One obstacle that became apparent was **lack of coordination of informational resources** needed for developing convergence applications. An example of this were perception on the availability of necessary data resources. Professionals engaged with games or mobile app development argued that there is not enough suitable data for developing, for instance, location-based mobile application for promoting film-related sites as tourism attractions.

Their argument was that this information is not systemised, if there is any data at all. Yet, the respondents in the tourism sector saw that there is instead a lot of unused databases with data on travelling, accomodations, tour registrations, etc. Therefore, figuring out how to collect, systemise and share relevant data between sectors, also developing new open data protocols for such sharing would be necessary to undo the existing obstacles for cooperation and cross-innovation.

Similar kind of obstacle suffering from the lack of communication are the **intellectual property rights.** With new kinds of convergent solutions many of the exhchange relationships, including the the exchange of rights are unsettled. In the process of developing various kinds of AR applications questions on the ownership of copyrights and their settlement are common. Who owns the rights of films' 'making-of'pictures? What is the appropriate settlement fee when film clippings are used in an AR app? And how should these clippings be used so that not to undermine the author's original intent? Who owns the data collected on tour bookings? Who owns the photos and videos shot at museum premises by museum visitors and then uploaded to museum's Facebook wall or museum's webpage? How can these data and materials be used? Such questions are a delicate matter. Especially at instances when popular film and TV productions have been cooperating with local tourism agencies the settlements of relevant agreements have taken time as there are no established ways to do things, also the value production in the process is unclear and, therefore, especially TV and film industries see a risk to their brand value and to their established ways to exploit their rights.

Yet, the main obstacle of the innovation in tourism sector is classical SME innovation bottleneck – **resource scarcity**. While there are, of course, several multinational travel agencies as well as platforms/intermediaries servicing the sector, still most local tourism sector companies are small. These small companies do not have enough resources to invest in innovation. They lack both financial resources and also human resources. The financial resources could be applied from different national or local innovation support programmes, but usually these programmes finance only very technology intensive projects – something that the tourism innovation projects rarely are. These programmes usually mean also a lot of bureaucracy for a company, for which they again do not have resources. The lack in human resources means lack of people to carry out all the necessary tasks, but also **the lack of skills** inside the company. Very often the small tourism companies do not have the relevant digital competences. Even if they have managed to publish a web-page they may not have the skills or they do not find time to update it regularly, as described by one tourism policy development representative:

> *"If you look from the perspective of businesses and small enterprises, then sometimes even the web-page is terrible. And they don't even have a web-presence for example, so, if you want to find a location of the guesthouse, they have this terrible web-page with a few pictures from 2007. And no matter how you say that, it is important to be constantly, maybe just one picture a month telling that you are alive and look good, and you do contact … you do talk with the world. But, it still doesn't work in many-many cases."*

Another major obstacle to innovation that the interviewees mentioned is **technology**. Although the technological development is an important driver of innovation, it can also challenge the most innovative product developments at the same time. The newest hardware is expensive and new platforms in general are quite expensive to develop for. Technologies are also changing quickly necessitating constant investments in updating solutions. As the they age too quickly it is difficult earn back the investments, like described by one development officer at museum:

- *"this app is nearly… we started 2009. So the IPhone 3 was on a market and we thought about what can we do with all our ideas so. A good friend of mine works in the IT scene as a developer. We had an illustrator who made these comic figures so. It was really (emphasizing) expensive and we had lot of time to develop this app and now we have the problem – it's too old for the next generation. Next we have to work with companies because the maintenance of these problems. It's too expensive for us and we have not the competence to develop the next generation of this app."*

That is, both media and tourism sector SMEs are facing often investment or development decisions where a promising technology is expensive and therefore not used so much, and it is therefore risky to develop new solutions and products for these as people are not used to consume them. The problem is explained by interviewee as following:

> *"…the biggest bottleneck of augmented reality is actually technology. Like the phones … actually the phone is just like the same as computer. But it's still not enough for augmented reality, and that's the biggest bottleneck. You see, you have like this iPhone X with ultra-mega cameras in front of it, we were waiting for that like for four years. /…/ the bottleneck is technology, we need better cameras, we need more cameras, we need bigger processing power, we need everything stronger, bigger and etc. So, that augmented reality could be in good quality that people can use it. But the biggest turning point will be in five to ten years. When, and I really believe in this, is that we are going to change phones to something wearable. Like wearable augmented reality glasses or something like that, and that's going to be the biggest changing point. Because then people are going to start to using them more, and it's going to be just natural. So, I think, for AR to fully go mainstream – 10 years.* (CEO of audiovisual company)

The reason of tourism sector being quite static and slow in developments could be also the fact that first wave of digitalization has happened already in context of online booking systems, web-pages or FB-pages available (even if the quality is not good), and the companies usually don't see the necessity or **demand** for digital developments, especially if we think about hotels, restaurants, tour operators. Just like in the case of technology, there are two sides on demand: the changing demand of customers is, on the one hand, favourable for innovations and, the low demand, on the other hand, is a barrier to innovation. The low demand could be also generational issue that today's customers are happy with the available solutions like described by one tourism company representative:

> *„I think, that the tourism itself, in the backbone still remains fairly conservative industry, and I always admire the fact that the most used promotion material in tourism*

industry are still the printed brochures. We still print them! Because the end consumer still demands it. And there is a lot of initiatives to replace it with something intangible, but the situation shows that the companies, who stop doing that, they lose the business."

Another explanation of low demand might lie in the nature of the tourism like vividly described by the tourism company representative:

"you need to dig a bit into origins of tourism, where it all started. Because the tourism started at the moment when you wanted to escape your daily routine including physical place. You wanted to move. /…/ if completely the existing form of tourism could be replaced, I'm not so sure about it. Just for that reason, that it is a bit more than just a senses, these measurable senses – touching, seeing – it's that something is happening more to you once you travel. I think, it's a bit the same as with the sun and solarium. The effort in both cases is the same, you get the skin tanned, right. In one case you dedicate this 10 minutes in your home town, and you don't need to escape from the reality. In another scenario you go out. Even the effort is the same, the memories, they will be different. And even you can sleep in solarium, close your eyes, and imagine, you are next to the ocean. They even put the music, that it sounds like the waves. But still you understand that you are not next to the beach."

Being a tourist means feeling the different and new places not just seeing them like different kind of screens can enable. This explanation does not apply to attraction providers like museums, because their collections very often are not touchable and therefore different interactive screens and -solutions enable visitors to get more experience and better sense of the objects.

Shortly, the study showed that main driver for cross-innovations between audio-visual and tourism sector is changed habits of tourists, which is enabled through technological development. The main bottlenecks for any innovation or cross-innovation in the audiovisual media sector, but the same applies to the tourism sector according to the results of the study, are described very simply by one university representative:

"Main bottlenecks seem to be the company cultures in established companies and lack of venture capital for new companies. Also legacy media – as well as core tourism companies (authors addition) – still earn a lot of profit from their traditional business models making it expensive in terms of opportunity cost to invest in new and uncertain ventures."

So, from the business side, the low demand and resource scarcity hinder the cross-innovations between sectors. On policy side the main obstacle for cross-innovations is probably uncertainty and insufficient regulations of data usage and intellectual property protection.

The peculiarities of tourism sector and institutional landscape for cross-innovations

This sub-chapter describes in more detail the specificities of the tourism sector for cooperation with the audiovisual sector in the given region. It also gives an overview of the institutional landscape influencing the (cross-)innovation.

When talking about tourism sector everyone thinks about hospitality (e.g., accommodation, restaurants), transportation (e.g., airlines, car rental), travel facilitation and information (e.g., tour operators, travel agents, tourist information centres). These are the core sub-fields that come to everybody's mind, including the respondents of this study. But the tourism sector includes also attractions and entertainment (e.g., heritage sites and theme, national, and wildlife parks), which are quite different from the core fields. Mainly because they are largely public organisations and they are first of all cultural objects/ -entities and only then are tourist attractions. Therefor the innovation patterns of these two parts of the tourism sector are quite different. The core sub-fields act under the business logic, the cultural institutions development depends on public policy decisions. In addition to previous the public sector has an important role in tourism sector as the main actor in place (country and city and region) marketing.

The tourism sector is growing in numbers in both case regions as described in the beginning of the chapter. The core sector favours more day-to-day incremental product development and more disruptive co-innovation endeavours are in the background a bit according to the interviewees. If we look at attraction sites, theme parks or museums, then these institutions are more open to develop their products and make it more attractive to the visitors. Since they represent cultural objects, they do not compete only as tourist attractions, but with the wider institutions of cultural entertainment at the local market. On the other side, the museums are very often the 'poor' side who can't afford expensive developments.

Comparing the two case study regions – Riga and Hamburg – we might say that in both regions the audiovisual media sector is a bit more active in seeking cooperation with tourism sector than other way round. Especially digital media agencies are interested in cooperation with this cultural part of the tourism sector as the museums have a lot of content which enable to come out with new innovative solutions how to communicate and present this. The exeptions are public tourism promotion offices that are often eager to use different new AV solutions for promoting tourism attractions and, therefore, have good cooperation relations with the audiovisual sector companies.

Mainly the public institutions in the tourism sector are concerned with developing forms of place marketing and not with directly supporting the sectoral companies to develop and innovate.

> *"We do general country marketing activities. We post, we share, we produce and mostly it is audio-visual content and we have the country's tourism web-page. We run the country's Instagram profile, we run several Facebook profiles. Of course, we organise*

Instatrips, that are gathering the influencers together and make … like last year, we made several videos and for every region of a country. /…/ we do only work in larger or semi-large scale so, we do produce audio-visual content and marketing content for the country itself or we do produce that for the regions." (Riga tourism policy representative)

They also provide training and tools for tourism companies to develop their products.

- *"Well we support, and we encourage them to do that and also, we have the main tourism website: Latvia.travel, and there's a lot of innovative tools there that you can create your own route if you want and things like that. But we don't support in terms of money, like we don't give them finances to invent their products*. (Riga innovation policy officer)
- *"…but we try to offer some [skills and knowledge about] visual trends [in web and social media development] in the form of training, in the form of forums, in the form of other events for industry*." (Riga tourism policy representative)

But on the other side, they act as forerunners in the tourism sector. In both case regions the public tourism departments (public-private enterprise in case of Hamburg) are eager to use new digital and technological formats like different social media platforms, 360* videos and also VR/AR solutions for promotion.

- *To be honest I think, we are one of the best clients, agencies could have. Because we are really open minded, and if they would come with their really crazy ideas, we would probably… If it's actually good and we like it, we would say yes. /…/ We are just trying to follow the newest trends, and it's getting more people satisfied, and we are pretty open about it*. (Riga tourism policy representative)

These kind of activities correlate with the emerging function of the public service media institutions as has been suggested by Ibrus (2016) - that these institutions can operate as important coordinators of innovation systems as they invest in activities creating public value, potentially used also by private players. In tourism section these public-(private) agencies promote alternative forms of tourism promotion, experimenting with new kinds of content formats. These are usually high risk activities or product/service formats without immediate commercial value. Yet, these activities could work in a same way in tourism sector as described in chapter 1 for media sector: "once public service media has either developed functional formats, created brand value for new artist or created wider awareness of specific research areas all kinds of other agents, including commercial forms can build on this value provided". The question, however, is if all the activities are still customised enough to the real circumstances of the sector to boost its development. In the sector the majority of companies are very small – often they do not have enough resources for innovating.

Outside of this, there is not much public support for the development of tourism products and services and neither region has specific funds or programmes available for co-innovations between the audiovisual/media sector and the tourism sector. There are general innovation support funds, which are open to all the companies whatever the sector. The following quote by a Hamburg Tourismus official summarizes the situation of tourism innovation financing possibilities:

- *"if I think about tourism I'm not sure that there's a special programme for innovation tourism. Hm. (long thinking pause) No, this is all - in this general innovation programme. And there are different ones on side - so some come from the universities and science institutions. They are so-called knowledge transfer institutions and they help innovation coming from the research sector to be realized in the industry. And there are different programs for that. Then there is general startup programs for not only tech startups, but for every startup. And there is a Chamber of Commerce in Hamburg very much involved in that. The different banks are very much involved in that. Because they invest in new companies. And they have special innovation programs because they are all interested in new business models. And so there's quite a lot. /…/ There are different financial support programs as well by the city, but we are not giving money just away but it is about investments that are secured by the city. So that the banks give funding to the risky company business plan and the city backs up this investment or there are direct credit contracts between companies and State's Investment Bank. And all these programmes provide some support for innovation and for companies to get started." (Hamburg tourism agency representative)*

So the tourism companies might get some development money from general innovation schemes – like for starting a business (incubation, consultancy), innovation schemes (innovation voucher, competence centre), sectoral development (cluster programmes) or export support (visiting fairs and making the marketing materials for foreign markets). But in reality the companies of tourism sector do not use these support schemes, except the export support in some extent. The main reason is again in human resource scarcity in a way that companies do not have extra people available to deal with the extra bureaucracy that comes along with the public money applications.

So several funds and support schemes are available for innovation and business startups, but not specifically for tourism sector. As the audiovisual media sector is generally understood to fall under the creative industries umbrella policies, then there is a special incubator for creative industries in Riga and there is special funding programme ran by Kreative Gesellshaft[3] for boosting creative industries cooperation with other sectors. Last years neither of these have seen the creative solutions between audio-visual media and tourism field. The tourism related location-based solutions have come from the business incubators/accelerators, but the boom of tourism related startups that came with the platforms like booking.com and Airbnb.com was about 7 years ago in Riga and is over. Today's startups are concentrating on other themes like block-chain and cybersecurity and education according to the manager of the co-working space.

Sectoral funds are available for the audiovisual sector also in the format of public TV channels and film funding. But, as one respondent put it: "*the national financing is a bit, how shall I say, a bit … not so flexible right now, because it is government financing*." (Riga Film Foundation representative) The film funds are generally not eager to finance new film formats (like VR films), and the support for cross-sectoral projects is largely missing. Let us quote Hamburg audio-visual

[3] Hamburg Kreative Gesellschaft – platform for interdiciplinary cooperation and space for creatives to start their business and other projects.

sector organisation representative: "…*we also co-finance series for different distribution formats, but that's about it. As far as innovation goes within the Film Fund*." Hamburg city has also a small programme to support VR sector development ran by Next Media. City gives 100 000 euros this year and next year to the group consisting of VR companies and university professors for building new solutions together with the relevant branches in Hamburg. They have started with companies like Airbus and Ruhrbahn from transport sector. At the moment of the study, it was not known if and when the programme will hit the tourism sector.

Funding possibilities is only one side of innovation support. As the innovation process is also the learning process then knowledge sharing/spreading is quite crucial factor that cross-innovations can take place. It is widely acknowledged that clustering enterprises might foster innovation as cluster involves a large share of tacit knowledge. Enterprises in clusters exchange and create knowledge through face-to-face interactions and with the creation of common languages and institutions. Inter-firms communication and interactive processes of interactive learning play decisive roles in processes of innovation and growth (Maskell, P., Malmberg, A., 1999). Therefor the cluster could be seen as a reduced-NIS (national innovation system), in which the most essential and functional system elements help stimulate the emergence of innovation in various segments of local economy. (OECD, 2001) When compared to Hamburg and Riga, Hamburg companies are more likely to be included in clusters in different fields and the cluster policy seems to be quite active. Media cluster developments is coordinated by an initiative called Next Media[4], which is a public-private cooperation to boost digital and media industries as well as media-related innovations both inside the media sector as well as outside of it. *"All support of startups and new technology are driven especially by Next Media, which is the new media initative by the Senate of Hamburg. And so they are partners of ours [tourism agency]. They are in this building as well. And we are in contact to them."* (representative of Next Media)

There is no media cluster in Riga, but similar initiative in smaller scale is going on as a cooperation between Microsoft and the University of Riga – the joint venture is called the Microsoft Innovation Centre, which main responsibility is to build synergies between the digital technologies and other sectors.

In tourism sector there is no cluster formed in either case region. Although in case of Hamburg the tourism promotion agency, which again is the public-private-partnership organisation functions also as a tourism sector representative especially in cooperation with other clusters and sectors.

In the case of Latvia, the effects of the cluster policy on tourism sector can be seen outside the metropolitan area, where regional companies are asked to cooperate and work together to attract more tourist into the region. Although tourism companies are concentrated in industry associations, the associations are more concerned about resisting their members' rights and less engaged in the innovating the field.

Still, what the different sector (development) organisations do is organising the conferences, seminars and networking events where the people active in their field can share their knowledge and learn from each other. These events bring together the sectoral value-

[4] http://www.nextmedia-hamburg.de/en/initiative/about-us/

networks and more. These events are not open only for institutional participants (members of the cluster or association), but also for individual users – people. These open formats existence is relevant as according to the holistic approaches to innovation systems much of the knowledge crossings the sectoral boundaries are carried out by individual users. (Chaminade et al. 2018) The kind of networking events and formats that bring together the people from different comptences are also highly appreciated by most of the respondents in our survey.

- *"I'm part of some some networks which are initiated by the city of Hamburg for example and these networks are somehow, they bring together new agencies and startups like us and more established businesses like publishers or Hamburg larger touristic institutions or other larger companies. And it's organised like every two months. Sometimes we have breakfast together and sometimes we meet for a drinking in the evening. And it's just, I don't know 30 to 40 people and just having a bit quality time together and for networking and this is, I think, this is something." (Hamburg audio-visual company CEO)*

In addition to networking events, there are great variety of incubators, accelerators and co-working places where interactive learning takes place. In both case regions these entities are managed often with public money or public-private partnership characteristically to Hamburg. Again these places are appreciated by their ability to share the knowledge – especially tacit knowledge. Tacit knowledge is highly personal and difficult to formulise as it is based on experience, know-how, ideas, feelings, etc. Tacit knowledge can be acquired through frequent face-to-face interactions (Polanyi, M. 1958) and these abovementioned institutions are specialised to this through mentor programmes, informal events and even open office spaces. And this kind of knowledge acquisition is especially relevant for young entrepreneurs and start-ups.

- *"I signed up to community working space at Beta House two or three months ago and I see a huge advantage, because there's a lot of freelancers here and that's a great network. Sometimes you just hear people say 'Ou need somebody for this' and everybody's helping each other out and I can definitely feel there's a tendency like the freelancers come together and I think there's a lot of people here that pay monthly fee to be part of this community without even working here. You know, they buy here a membership and they maybe here one time one day a week or only you know three days every three weeks but they don't wanna be excluded because there's an online chat group, Facebook groups and free parties in this network for people. /…/ there are people from different field. Designers and developers and business people, it's I mean… mostly people here are interested in startups. I think also some other freelancers working for larger companies but mostly it's very innovative space here. Very innovative, yeah. /…/This one, the Beta House I really like because they have really good concept also such as co-working rooming like go to other spaces in Berlin and Munch where are the Beta Houses. But you can also go to other co-workers' spaces over the world they have the partnerships so you can go there to work if you are travelling." (Freelancer in audio-visual field)*

Hackaton is maybe the format that can foster cross-innovation the most. The activities at the hackaton correspond well to Chaminade, Lundvall and Haneef (2018) understanding of innovation systems and can be described accordingly as interactive processes where different kinds of knowledge and competences are combined through informal communication across organisational/ sectoral borders. Hackaton is the format to foster innovations, described by one media accelerator representative as following:

- *"And the second kind of event that we really organize very often is hackathon. Always happening together with media houses. So our next ones for example is with Gruner + Jahr and Funke Digital (the digital unit of Funke Mediengruppe) in Berlin and we do them also in the whole Germany. And we actually do them together with our investors and partners, but also with media houses that still don't know much about us. And we just want to actually convince them to open their door to innovation. And a hackathon is the best example to do it. Because for them - they never seen this before, this is the way to get so excited by seeing people from own house as well as outsiders. They come together and play with new product and they come up with great ideas and you see them working hard, really wow, this is crazy. And sometimes we even convince them later to invest in us or part of the team because they saw it is valuable, they really need it."*

Although neither region had tourism specialised incubators, accelerators and only Hamburg has the media accelerator, all the so-called general start-up infrastructure is available and developing in both regions. The format of hackaton is used to bring together also the creative sectors (including audio-visual) and tourism sectors. But there have been only few examples and the initiative has come from the creative sector or digital media sector – their interest is to cooperate with different sectors and tourism sector is only one of many. Meaning that the audio-visual media sector is not considering tourism sector among their first option as cooperation partner.

The higher educational institutions (HEI) are also very often seen as the first initiators of inter-sector cooperation. Both regions have several schools where audio-visual fields and media studies are taught. Also tourism education is available, both as public and private higher education institutions. The representative of tourism university described very good connections with sector enterprises and different tourism field professionals, but they only started the course of social media marketing to their students as first steps in the direction of digital media skills development in tourism sector. The students of audio-visual media fields have more possibilities for cross-sectoral projects during their studies. The major problem is lack of teachers, professors with new digital audio-visual competences as the sector and the technologies in it develop at high speed, the HEI has difficulty providing up-to-date educated people.

Summarising the institutional landscape in case regions, they can be considered quite similar with one big difference. Hamburg has a very strong media cluster, which is very interested in developing cooperation between audio-visual media and other sectors. Though the tourism sector is not their priority partner. Although, there is also available strong partner in the format of PPP, Hamburg Tourism Agency, on the tourism side. In Riga the different associations and development organisations are more scattered between different sub-fields both in tourism sector and audio-visual sector. Therefore, there are no strong players in both sides fostering the development of the sectors and interrelations to other sectors.

Innovation policy measures are broadly divided into two categories: supply side and demand side measures.[5] As described in previous pages the prevailing measures that could foster innovation offered by sectors concerned belong to demand side innovation measures. The most important one was public procurement (tourism marketing solutions, attractions development), then also the measures for innovative culture (creative incubator etc) and implicit support (tools for development) were offered. And also subsidies for film production in audio-visual sector and museums operations in tourism sector. From supply side measures mainly non-financial support was given in the format of information sharing and networking, and some funds for training and export activities. The mix of policy measures is maybe a bit tending towards demand side policy measures and the variety is not very large.

Co-operation and cross-innovation

The following section focuses on describing the cooperation forms between audiovisual and tourism sectors in the two case regions – Hamburg in Germany and Riga in Latvia.

In this study several cooperation forms between audio-visual and tourism sectors are recognised. When adapting the discovered forms of cooperation to innovation theory, we made use of the classification by the object of innovation the results that the innovations will lead to. Most of these forms fall into **product and service innovation** categories and some matched **marketing innovation** category.

Audiovisual media, more specifically film and TV productions have lot to offer for tourism **product[6] development**. Popular content has been used for decades to market tourist destinations, even if sometimes accidentally – as when fake “Baker Street” of Soviet “Sherlock Holmes” movies that were shot in Riga increased the city’s attraction to Soviet and Eastern Block tourists. The unintentional effects, however, proved the emergent trend. As described in the previous chapter there is a lot of film or TV series based tourism products available in Europe. And this was also the case in Hamburg region, our case study. Also next to Riga is the open-air Film Park “Cinevilla”[7], which is used for shooting of films, but is also open for tourists.

Info- and communication technology (ICT) development have brought new tools for AV media production and new technical platforms for content distribution, including more recently the virtual reality (VR) and augmented reality (AR) technologies. These new technologies are starting to find the way also into tourism products. Mainly we can see these **tools used for**

---

[5] According to (Aho et al. 2006; Edler, Georghiou 2007) the supply side measures are e.g.: Equity support and provision, Tax reductions and incentives, Support for public research, Funding of training and mobility, Funding of Industrial R&D, Non-financial support services; the demand side measures are e.g.: System development, Transparent regulations, Supportive standards, Public procurement, Intellectual property, Facilitation of private demand for innovations, Innovative culture and implicit support.

[6] The tourist product is a complete travel stall which consists of a variety of different services, the physical environment, the atmosphere, processes, the hospitality of workers and local people; and many other factors. Tourist services are accommodation, catering, transport, travel agency services, tour guide services. (According to Entrepreneurship Development Office Enterprise Estonia - www.eas.ee)

[7] http://cinevilla.lv/?lang=en

attractions development – innovative stands at museums, AR solutions at historical sites etc. For instance, in Riga Motormuseum after the recent renovation novel audio-visual stands and exhibitions were installed, which used AR technology in innovative ways (looking at the car through a tablet computer one could see the activated motor and its movements). In Hamburg, this type of example is an old historic site – Hammaburg, the first ring-shaped fortification of the 8th century – in the city's business center is to be made alive through the means of an innovative AR application. This is an ongoing cooperation project between Archäologisches Museum Hamburg and ICT cluster Hamburg@work companies at the time of writing this chapter. As a result of the previous cooperation with Google the exhibition of this site "Hammaburg and the Beginnings of Hamburg" is already available as a bilingual App for Android smartphones. This experience shows that the institutions of the tourism sector, which have collaborated with the AV sector, are trying to find opportunities for new collaborative projects. A similar positive attitude was shared by the representatives of other memory institutions in both research areas.

VR and AR tools together with 360* videos are increasingly used for tourism **marketing** purposes. Production of commercials and other marketing videos have been of the main line of cooperation between tourism and AV companies for decades, but now the new tools are tried out. Both in Riga and Hamburg the local tourism offices have commisioned 360* videos for city and region's promotion. Also bigger local hotels have some promotional material in this format available. Also some tourism brochures or fliers have AR functionalities. The VR solutions have been used to a smaller extent – an example from tourism trade fairs. Also different social media channels are used for promotion, including blogs and vlogs.

The previous sections described mainly the cooperation how the tourism sector can benefit from the AV sector. But the opposite direction is also recognised – the tourism sector can provide services that help to boost AV sector. For instance, in Hamburg an initiative by Hamburg Film Commission together with the hotels sought to develop the concept of film friendly hotels. These specific hotels learned film crew special needs and can now offer the suitable accommodation services. This way the tourism sector attracts film or TV productions to Hamburg as a good place for shooting. The shooting location promotion is also active in Riga (and in wider Latvia), but it is not acknowledged yet as a special form of tourism needing special services. There are some examples in world e.g. Jamaica where the film crews are considered as a special type of business tourism[8]. In Europe business tourism is mainly developed through conference locations, although the numbers of professionals traveling for audiovisual content production may equal the numbers of conference tourism. Film location promotion is more often seen as in the service of the development of the local AV sector, not so much as a development of a tourism sector, yet.

When analysing the cooperation forms described by the respondents one more type of innovation can be recognized in the tourism sector – **organisational innovation**. Different cooperation in product development usually lead to interactive learning from each other's practices (Christensen, Lundvall, 2004). This has happened in our case regions too, e.g. Riga

[8] Emil Martens (2018) The Audiovisual Industries as National Development Policy: Experiences from Jamaica. Conference paper at ICCPR, Tallinn, 2018.

Tourism Promotion Agency created a new post – a marketing person who deals with the bloggers, vloggers and other social media influencers. Museums in Hamburg have changed their communication strategy with audiences due to online collections and -exhibitions. Museums in Riga have changed their working methods because of cooperation with the AV sector – e.g. they have instituted a new form of brainstorming meetings as the normal museum working method – the format they adapted from their cooperation partner, an audiovisual content production company. In case of "Cinevilla" a production company in turn had to learn how to deal with the tourists/visitors and make some organisational changes in their operational and business models. So the cooperation with the other sector has opened new ways of doing things and enabled companies/organisations to innovate also their organisational structures and operations and not only their products and services.

In short, the large share of cross-innovations has spread in the area of tourism marketing. Many tourism businesses and organizations have also embraced social media related tasks as part of the day-to-day work of the organization. New products that combine audio-visual tools and methods were noticed more in the tourism attractions development than in core tourism sub-fields as tour operators and hotels. The micro level study also indicated that no distinct epistemic community has yet emerged at the intersection of audiovisual industries and the tourism sector, although there is a manifest interest in private-public collaboration the field.

Policy support and recommendations

In the following section the main challenges for public sector policymakers as they regulate, support and shape the innovation and cooperation processes between different sectors, are discussed. The study has arisen several questions for policy makers.

Why to support?

One of the challenges that policy makers in these two regions might have is question: why should they intervene to the cooperation between the sectors concerned. The rationality of public intervention should be considered then private organizations are unable or unwilling (because of high risks or the inability to benefit from the innovation) to achieve the policy objectives (Evaluation..., 2009). In both regions the tourism sector is growing and also creative industries including audio-visual media are in an upward trend. So the growth objective gives no reason to intervene. Still, the creative industries policy includes the objectives of raising the cooperation with other sectors to foster the impact of creativity in national innovation systems.

How to support?

The interviewed in both regions saw the importance of public sector in fostering co-innovation. Also micro level study revealed important commonality that both projects originated from the public sector itself, and Simon and Ustwo were commissioned to develop and implement them. This, along with other observations at Cross Motion events and discussions with colleagues, has led us to conclude that innovation in the tourism sector is more often driven by public organizations such as municipalities and tourism boards, not from startups and other private audiovisual companies.

At the same time, it was clear that public organizations themselves often lack a concrete vision for their projects, relying on their contractors to flesh it out, and that there was often no coherent long-term innovation plan due to the opportunistic nature of funding and a shortage of consistent institutional support. Both Simon and Andrea also mentioned that it was more difficult to communicate with their public-sector clients than, in their experience, with the private sector, which is driven by revenue and thus more efficient.

The public sector could facilitate different matchmaking events, hackatons, meet-ups etc between different sectors, because the public sector organisation is neutral and therefore trusted by different stakeholders. The challenge for the policy makers to finance different incubators and matchmaking formats lies in the measurement. It is hard to measure the effect and results of these formats to the regions' economy. And therefore they have less strong arguments in budget negotiations.

Who to support?

Another challenge concerns educations and skills development. On the one hand the social media tools has been embraced by the tourism sector, still the related skills of the majority of the people in the sector are insufficient. The tourism schools are only starting the courses. The larger problem is availability of the university stuff with new audio-visual media competences. As the technologies are developing in high speed, the latest competences are very often in the private firms. The new formats of cooperation between companies and educational institutions in teaching are not spreading as quickly as demand for them. Also the system of updating the skills of the professionals working in the audio-visual sector is largely missing as stated by representative of Riseba University in Riga.

Regulations update?

Solving of data availability and data protection related obstacles for cross-innovations described earlier can become a real challenge for policy makers. On the one hand, there is a need to find the solution for collecting the data, forming the databases and securing them. On the other hand, there are several white holes in defining the ownership of intellectual property e.g. in user-generated content and how it can be used.

Coordination problem?

Last, but not least the coordination of this cross-innovation development between the two sectors concerned is a challenge. The coordination puzzle where the development policies of tourism and the audiovisual media sector are under different policy streams. Even more, it shows that in addition to cross-sectoral development, the development of the tourism sector as a whole has been subdivided into two different ministries. Tourism sector is divided under two policy development areas. The part of the tourism sector – mainly acting as private businesses (mainly tourist service providers like travel agencies, hotels, tour operators etc) – belongs to the ministry of economic areas coordination, another part – mainly public subsidy cultural organisations (museums, historical sites, national parks, concert halls etc) – are handled by cultural policy. Also audio-visual media industry is a bit divided between two policy streams as the business development side should belong to the economic policy area.

The general tourism policy is the task of ministry of economy or economic department of the City (then looking at municipality level), but they do not intervene to the development in museums and heritage sites. So the large share of tourism attractions are not developed under tourism policy coordination. Also the coordination of cooperation between museums and audio-visual sector belongs to the creative industry policy tasks, which is the line of the culture policy. Therefore, the close convergence of these two areas is more likely to be considered as a collaboration between internal sub-sectors of the creative industries than cross-innovation with the tourism sector. These two policy streams use quite different measures to foster the development. The public policy intervention is much deeper in cultural policy side (subsidies to overcome the market failure in film production, museum operations etc) than in economic policy side.

If the culture policy measures manage to innovate the museums and heritage sites etc, does it automatically raise the innovativeness of the tourism sector? It only raises the quality of cultural objects and related services, but not the quality of the tourism sector as a whole. For innovating the tourism sector the two parts of it (service side and attraction side) should develop parallel and the coordination mix with strong central players is relevant.

References

1. Atkinson, R. and Flint, J. (2004) Snowball sampling. In: Lewis-Beck, M.S., Bryman, A. and Liao, T.F. (eds.) *The Encyclopaedia of Social Science Research Methods.* SageChaminade, C.; Lundvall, BA; Haneef, S. (2018) Advanced introduction to national innovation systems**.** Cheltenham: Edward Elgar.

2. Christensen, J.L., Lundvall, B-A. (2004) Volume 8 - Product Inovation, Interactive Learning and Economic Performance. In Book Series: *Research on Technological Innovation, Management and Policy.* Eds.: Burgelman, R.A. and Chesbrough, H. Emerald

3. Finnish Ministry of Employment and the Economy. (2009). Evaluation of the Finnish National Innovation System. Policy Report,

4. Hsieh, H-F, Shannon, S.E. (2005) Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, vol. 15, 9: pp. 1277-1288. , First Published Nov 1, 2005.

5. Ibrus, I. (2016). The replacement of media policies with (media) entrepreneurship policies: A view from Europe's periphery. *International Journal of Digital Television,* Volume 6, Number 3, 1 September 2015, pp. 311-318(8)

6. Laherand, M-L. (2008) Kvalitatiivne uurimisviis. Tallinn

7. OECD. "Innovative clusters: Drivers of national innovation systems," OECD Proceedings, Paris:OECD, 7-10, 2001.

8. P. Maskell, A. Malmberg, "Localised learning and industrial competitiveness," *Cambridge Journal of Economics*, vol.23, pp.167-185, 1999.

9. Polanyi, M. (1958) Personal knowledge: Towards a Post-Critical Philosophy, Routledge and Kegan Paul, London.
10. Potts, J. D., Cunningham, S. D., Hartley, J. & Ormerod, P. (2008) Social network markets: a new definition of the creative industries. *Journal of Cultural Economics*, 32(3), pp. 166-185.

11. Raven, R., Verbong, G. (2007) Multi-regime interactions in the Dutch energy sector: the case of combined heat and power technologies in the Netherlands 1970–2000. Technology Analysis & Strategic Management. Routledge.