

Chapter 16

Cross-innovation, Is It a Thing?

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Abstract

This chapter concludes the book on cross-innovation between audiovisual media industries and three other sectors – education, health care and tourism. It emphasises, first, the importance of platformisation as a socio-economic and technological process in framing all cross-innovation processes. It highlights how the rather full platformisation of tourism has negatively affected the interest of the tourism industry small and medium-sized enterprises to cooperate with local media and gaming industries in search of new solutions. Relatedly it proposes a generic conflict between platformisation of specific fields and the health of thematic local cross-innovation systems involving media and creative sectors. It then discusses that the inherent fragmentation of the health and education sectors has not allowed their international platformisation, but constitutes challenges to innovators interested in international scalability. It also discusses the reasons why two publicly coordinated cross-innovation processes – one involving the use of virtual reality in health care and another using augmented reality – have given different results – one a relative success and the other not as of yet. At the end of the chapter final definitions of cross-innovation are offered and the operationalisation of the term and the associated conceptual approach are assessed.

Keywords: Cross-innovation; platformisation; mediatisation; media innovation; platforms; innovation systems



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Platformisation

This book is about cross-innovation. It is here to propose the term and a new conceptual approach that combines in specific ways, on the one hand, evolutionary economics and innovation systems theory and, on the other, various approaches in media studies and cultural theory – cultural semiotics, cultural science, mediatisation theory, media industries studies, media convergence and transmedia studies, etc. We expected to cover and investigate multi-linear dialogic processes between industries, various forms of co-innovation and convergence. And so we did. The empirical chapters in this volume give evidence of many such examples. Yet, what also emerged during our study is that what we should really talk about is platformisation.

Platformisation is a process that pervades all walks of our digital social lives as well as economy – nearly all sectors, industries and markets (van Dijck, Poell, & de Waal, 2018). Platformisation is effectively a form of mediatisation (Hepp, 2013; Hjarvard, 2013; Lundby, 2009) or a cultural form of mediation of everything (Silverstone, 1999) – a new phase of digitisation that interrelates different sectors and industries. But as this book demonstrated, it interrelates and affects different sectors in diverse, often complex and open-ended ways. The four sectors we discussed in this book were audiovisual (AV) media, education, health care and tourism. We were interested in how, in the convergence era, the first of these works and converges with others.

In Chapter 3, therefore, we first asked about the starting points for the media industries when embarking on such cross-innovation processes. It needs to be highlighted that almost all of our case countries or regions in this book are small or very small countries or are located in them – the Nordic and Baltic countries around the Baltic Sea. Our review of the latest developments, market data and statistics on the AV media industries in these countries indicated, however, that one of the major contemporary challenges for them is platformisation, especially the global dominance of search, advertising and social networking platforms such as Google/Alphabet and Facebook. What is at play with these platforms are their globally relevant network externalities; they draw further popularity the more popular and widely used they are (Evens & Donders, 2018; Ibrus & Rohn, 2016). They have global scale and reach and, based on this, they also monopolise access to Internet users. As they do that they also control data about those users, keeping media industries, especially those in smaller countries, at bay.

As was discussed in Chapter 1, knowledge of audiences, a keen interest to stay in contact with them, is the one ‘media logic’ generally brought to all co-innovation processes. Yet, in the era of global platforms, the media are often denied this. Furthermore, as was demonstrated in Chapter 3, not only are they losing contact with audiences, but relatedly also much of advertising income is leaving to those large platforms. Despite the fact that, owing to policy support, domestic media in the Nordic countries is strong, still, their positions are weakening owing to the new competition with global platform giants. The same is true in even smaller and poorer countries – the Baltic states. However, our closer look at one of the countries – Estonia – suggested an emergent trend. This

is media firms entering into new kinds of cooperation relationships – for instance cooperating with the education sector and publishing digital learning materials; also organising conferences and cultural events, working with partners from multiple sectors to develop new forms of native advertising, etc. While the latter, native advertising, may be a controversial issue from the perspective of classical journalism ethics, from another perspective this and the related activities could also be understood as forms of cross-innovation, new kinds of locally relevant cooperation relationships aimed at opening up new kinds of revenue streams, uncorrupted and unreachable by global platformisation. These new forms are based on local/national ‘social network markets’ (Potts, Cunningham, Hartley, & Ormerod, 2008) and their inherent interactive learning (Lundvall, 1992) capabilities. That is, developing and building on new kinds of cross-innovation systems could be the strategy against global platformisation that media and gaming industries in small countries could pursue. This is, in effect, the potential that this book set out to explore.

When investigating their cooperation with our chosen other three sectors, we learned, however, that platformisation is a reality/potential/threat that is shaping these cooperation areas, too. It could be argued that platformisation is a new ‘rule’ in terms of Dopfer and Potts (2008) that often drives such cooperation. If we use Schulz’s (2004) sub-forms of mediatisation, then platformisation is, in effect, *accommodation* – something that the other sectors largely just have to accommodate, somehow. Of this, the best example in the preceding chapters was our study of how AV media and tourism are co-innovating. We learned that the global platforms such as Airbnb, Booking.com and TripAdvisor have broadly taken over the coordination of tourism services markets. As these markets are literally about entering the unknown world for consumers, the role of these platforms is to facilitate trust where the value is uncertain. They do that by connecting the market participants, matching offers and demand and establishing their inherent reputation systems. Their affordances come across as unpretentious and they offer a range of free tools for both providers and consumers of services. Being global platforms and operating in markets that are by definition international, their network externalities are too strong and their tools too convenient to be ignored by tourism industries that especially in small countries consist mostly of resource-strapped small and medium-sized enterprises (SMEs). In this position they, however, dominate connection-making as a service, control access to customers for tourism industries and master the data about all market dynamics.

Yet, what they also seem to have done is to undermine tourism-innovation locally. Our study demonstrated that the tourism sectors in Hamburg and Riga are notably less innovation oriented and less interested in cooperation with AV industries than the education and health care sectors that, among other things, are also less platformised than tourism. Admittedly, there are also other factors at play that affect tourism’s relative adversity to (cross-)innovation – it is a less socially sensitive topic and is relatedly also more weakly institutionalised; the sector has also been enjoying growth everywhere and is generally quite content. Nevertheless, our suggestion here is that tourism platformisation is problematic

not only owing to its relative social costs to cities as tourism destinations, as highlighted by van Dijck et al. (2018), but also for its undermining of the functioning of local-cross-innovation systems. This risk was originally described by Lundvall (2010) – multinational companies do not tend to participate in the coordination of national innovation systems, even if they have branches in these countries. Our study evidenced that platformisation seems to have a similar effect – they may not only contribute to innovation system coordination, but also undermine motivations for innovation and for ‘interactive learning’ across sectoral boundaries therein. As a result, the mediatisation of tourism is driven by global platforms and the role of local AV industries is broadly just to provide content for these platforms or innovate on top of those – as in the case of micro-bloggers, YouTubers or Instagrammers working on incremental textual innovations within the bounds of the affordances of the specific platforms. All this was evidenced, for instance, by the fact that the start-up scene in Riga stopped to work on tourism applications a few years ago and that the local policy makers are mainly working now with ‘social media influencers’ to promote their city on social media and travel platforms.

While tourism is fully platformised (in the ‘retention’ phase in the term of Dopfer and Potts, 2008), we learned that health care is not. Yet, this was a challenge for start-ups innovating in this area. While we learned in Chapter 13 that in Aarhus the local policy makers had coordinated the emergence of a new cluster of companies working on virtual reality (VR) solutions for health care, they saw their further growth as limited owing to the fragmentation in health information systems – every hospital and region has its own systems. The other country case study in this chapter was Estonia and, in this case, we learned that while there is no similar local cross-innovation system emerging, the national well-functioning and standardised health information system lacks over-the-top (OTT) consumer-oriented and value-adding systems that would, for instance, gamify the rehabilitation processes. We suggested in Chapter 11 that the Danish system is, in effect, ripe for being overtaken by international platforms owing to its fragmentation and that the Estonian standardised system risks the same owing to its lack of cross-innovation.

Studying cross-innovation between AV media and education we learned, first, that its fragmentation is similar to health care – different schools, municipalities (usually responsible for schools) and countries have different systems, standards and expectations. And, relatedly, this also presents challenges for potential innovators, especially in Europe’s north – when domestic markets are too small and exporting and up-scaling opportunities are limited. Nevertheless, as we reported when studying our two case countries – Sweden and Finland – there has been a new ‘boundary-subsector’ emerging for a while – the EdTech sector. It operates at the boundaries between the (mostly public) education sector and the (mostly private) information and communication technology (ICT) and AV media sectors.

In EdTech as an inherently diverse cross-innovation system, multitudes of very different kinds of solutions have been developed, tested and left behind over the years. There was, for instance, the ‘app fest’, as one of our interviewees put it. Yet, as was reported in the Swedish case, the ‘interactive learning’ over

the years had its effect and more recently a more comprehensive and transmedial approach has started to emerge with public authorities becoming more experienced and knowledgeable commissioners of digital learning content. We related this in Chapter 11 to Perez's (2003) 'deployment phase' of innovations – where society starts realising the related risks and governments take charge, develop policies, build institutions and provide services that can render new ways of living more sustainably and inclusively. As an example of this and of a different kind of platformisation, we brought the example of Estonia and its government provided/financed platforms for hosting content related to national school curricula – *e-koolikott* and *opiq*. Of these, especially the first constitutes a government-facilitated 'social network market' that connects students, teachers and providers of educational content that also enables further development of content, remixes and modifications, that is, accumulation and evolution of content innovations via forms of interactive learning. Effectively, what we have in this case is a platform designed to provide public value locally. This value materialises in different ways, but one of these is coordination of a national education-related cross-innovation system involving the expertise of AV media professionals.

Nevertheless, even in the case of Estonian platforms, the question of international scalability remains – it would still be difficult for local educational content and service developers to expand and export their solutions internationally. Yet, this is what innovators in small countries effectively need, as was evidenced when studying both the education as well as the health care sectors. The related realisation that emerges when critical studies of platformisation are coupled with studies of innovation systems is that one cannot easily have both – or have the cake and eat it. Standardisation (even if unrealistic) of school curricula and educational ICT systems could potentially bring about exporting opportunities, but this newly international market is more likely to get platformised by a few global giants that have been itching to enter the educational markets properly for a long time. Alternatively, the aim of providing innovative culturally and socially relevant educational content could be achieved by coordinating the emergence of a thematic cross-innovation system. Yet, the resulting solutions are not expected to be easily exportable. This dilemma and its underlying conflict could be understood as characteristic of cross-innovation systems involving media and culture – while technological solutions prevail via standardisation, culture becomes meaningful via distinctions and (local) contexts to these distinctions. International exporting of mediatised services needs to address complex barriers and lacunae (Rohn, 2010).

Emergence of New Rules

Our study was not about platformisation only, however. Many of the phenomena we studied were emergent rules without wider adoption and, therefore, not platformised, yet. The most salient of these cases were the uses of VR in health care and augmented reality (AR) in tourism.

These cases were both similar and different. They were both driven by the public sector, but with different success rates. The ‘VR health’ cluster emerged in Aarhus (see Chapter 9) out of effective coordination work by the city’s cultural policy makers, especially those responsible for the AV industries. This coordination mainly involved facilitating interactive learning and raising mutual awareness in a variety of ways. In the terms of [Dopfer and Potts \(2008\)](#), the new rule in this context was VR technology, but it was received by local innovators as a raw resource, a technology to be used to build new technologies and services. Typical for the early phase innovations, there was a diverse cluster of inventions the companies worked on, often very different and addressing alternative stages in health care value chains or operations – preventive care, treating phobias, rehabilitation, medical education, insurance, etc. Yet, they were all connected by VR as a specific technology, by using AV storytelling skills and by having relevance for health care. The cluster was diverse, but there was also learning taking place between the new enterprises and, as a whole, it started gradually to work auto-communicatively. That is, it was discursively establishing itself as a distinctive and bounded domain at the borderlines of existing industries, mainly health, ICT and AV. As expected, the cluster consisted mostly of new start-up companies who could also readily associate themselves with the new domain; older AV companies operating in other sections of AV services markets did not get involved. Their future was uncertain owing to the fragmentation of the health sector ICT systems (see the discussion above), but they were optimistic and were forming as a cluster/sub-sector.

The second case – use of AR in tourism – was also driven by the public sector. They did this mostly by commissioning prototypes of AR tours or exhibitions at heritage sites or museums. That is, they were mostly commissioned not by the local tourism boards, but by agencies responsible for cultural heritage. While tourists as a target group are usually part of the calculation in such investments, the cultural policy rationales emphasising public education tend to drive the agenda. It is doubtful if improvement of tourism experiences alone could be used to justify such public investments. That is, tourism is generally less of a public concern; it is relatedly less institutionalised and therefore also a disorganised partner in dialogic cross-innovation endeavours. Compared to this, health care is heavily institutionalised, it is a significant public concern and a cost item and it therefore receives a lot of attention and research funding for how to improve the quality and how to reduce these costs. In this context, cross-innovation attempts can also receive public funding and attention.

Further, as tourism is also enjoying relative growth globally and, owing to its general platformisation (see discussions above) and the limited capacities of its SMEs, to start to innovate by its own means, tourism came across as unmotivated for cross-innovation. In this context also AR, despite its promise, was seen by tourism as an unproven technological platform and was often associated by interviewees with many previous early-stage technologies that first attracted investments, but eventually were not adopted by wider populations. Therefore, while this cross-innovation area exists, and there are dialogues and some experimenting, it is not driven by commercial service markets. Instead, it is currently

the sphere of curiosities – experimentation driven by the public sector, especially by the agencies governing cultural and creative industries. The lack of interest on behalf of the tourism industries could be related to the relationship between mainstream videogaming industries and education. The videogaming industries, too, are enjoying growth of their own and dealing with the public sector appeared to them as too much of a hassle. Yet, as some demand was also there, a separate dialogic sub-sector emerged – the one of EdTech. This example suggests that, with the maturing of AR technologies and further coordination by the public sector, this cross-innovation area could reach the wider adoption phase, in the terms of [Dopfer and Potts \(2008\)](#). Alternatively, as the technology matures, this domain could be platformised by online giants or tourism platforms, leaving the local AV industries only the function to fill the platforms with standardised content. This, however, would again mean less diversity in local cross-innovation systems linking tourism, AV and heritage industries. As this in turn could result in less of cultural diversity in specific countries, the rationale to coordinate locally relevant cross-innovation systems could become a cultural policy objective.

Definitions

This book focused on meso-level analysis. That is, we analysed how industries of different sectors either co-innovated and converged or not. The cross-innovation cases we looked at were generally in the early origination phase, except tourism platformisation, which may already, by definition, be in the retention phase. For this reason, the empirical chapters in this volume did not much discuss the adoption of the discussed innovations by users/audiences. Nevertheless, when we asked our interviewees about their relationships with their users, most of them were quick to highlight their rather intimate work with users, even in the earliest phase of development. On the one hand, this indicates how user experience design has become one of the ‘rules’ (in terms of [Dopfer and Potts, 2008](#)) affecting all innovations aimed at end-user markets. On the other hand, this suggests that contemporary cross-innovation processes are pre-conditioned to engage with immediate social network markets – users in both (or more) sectors needing or benefitting from the innovative solution, as, for instance, with testing VR preventive care solutions with athletes, developing gamified digital textbooks with teachers or testing AR applications for representing lost cities with local tourism professionals. It became apparent from the interviews that cross-innovation involves professional insecurities and a strategy to overcome this is to include ‘translators’ – professionals with expertise from the other sector. As such, the particular start-up companies were typically inherently dialogical themselves, involving daily inter-disciplinary dialogues, but were as such also more agile, more responsive to different signals from their environment (relating to [Küng’s](#) approach to ‘interpretative strategies’ – [Küng, 2017](#)).

It is, however, now time to ask, is cross-innovation a thing, is it operational as a concept and an analytical instrument? We believe that the empirical and analytical work in this volume evidences that it is. We showed how cross-

innovation processes are conditioned by a complex set of social trends; our empirical work especially highlighting the importance of individualisation as conditioning demand for increasingly personalised and entertaining services in education, health care or tourism. In all our case studies, we also demonstrated the true involvement of AV media professionals in working with other sectors. More often than not, they were, however, involved in start-up companies working in different cross-innovation areas. More established AV sector companies rarely got involved directly. Yet, the start-up companies, especially in the case of EdTech, often facilitated new kinds of value networks where, for instance, established game design companies contributed to multi-party projects.

It needs to be highlighted, however, that for the 'other' sectors distinguishing clearly between AV media/online service design/technology was often irrelevant. This could be related, first, to high mediatisation of online services and digital technology domains, but also to the fact that start-ups working, let's say, on early iterations of a medical education VR application have not had an opportunity, yet, to work with established AV media professionals. Nonetheless, involving experienced script writers, animators or game designers in developing transmedial educational 'worlds' has become a necessity – as in the case of Rovio's Angry Birds Playground concept. We believe that our initial aim to focus on the role of AV media industries in these new constellations has provided new information on the evolution and increasing fluidity of professional identities – perhaps also a product of cross-innovation processes.

Regarding the conceptual work this book does, we believe it contributes especially in combining and interlinking several of the currently dynamically evolving bodies of scholarship. While the broader innovation systems theory provides us with useful tools to understand the emergence of innovations in the economy and the importance of, for instance, interactive learning (Lundvall, 1992) therein, it is not well equipped to understand the role of culture and media in these broader processes. The works of Potts, Hartley, Cunningham and others (Cunningham, 2014; Hartley & Potts, 2014; Potts, 2011; Potts et al., 2008) within the 'cultural science' domain have combined innovation systems thinking with cultural theory, but what they have not systematically addressed is the dialogic practices across sectoral boundaries and the emergence of new structures at these boundaries. Based on an extensive empirical project, we have demonstrated the practical nature of such processes. More specifically, we showed how complex cultural dynamics and broader mediatisation processes shape contemporary innovation processes in different service sectors such that they cannot be ignored anymore by the broader innovation systems studies. That is, we combined innovation systems studies with the dynamically evolving mediatisation studies, critical platformisation studies and transmedia/cross-media/media convergence studies in order to fully understand these processes.

By doing this, we demonstrated that contemporary cross-innovation processes are not only about clusters of start-ups, professionals or early adopters/audiences carrying out multi-linear dialogic processes across sectoral boundaries and therein self-organising; very often, these processes are isomorphic – happening on different scales. That is, these are often also pursued by various international and global platforms, both everywhere as well as at different localities. Cross-innovation, therefore,

is paradoxically, at the same time, both a global and a local process. If the mediation of a service sector means that it needs to accommodate the coordinating role of a global platform, it is expected that locally this particular cross-innovation system is then framed by that platform, reducing its inherent freedoms, dynamics and diversity. Yet, inherent diversity is the most important prerequisite for innovation systems – as diversity produces diversity. Reduction of diversity within systems could therefore be understood as a risk. This is a risk that should be realised by the coordinators of national or regional cross-innovation systems. This book gave a few examples of how such systems could be coordinated successfully.

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