

**EMERGENCE OF CROSS-INNOVATION
SYSTEMS**

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EMERGENCE OF CROSS-INNOVATION SYSTEMS: AUDIOVISUAL INDUSTRIES CO-INNOVATING WITH EDUCATION, HEALTH CARE AND TOURISM

EDITED BY

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SECTION I
INTRODUCTIONS

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Chapter 1

The Study, Its Design and Its Social Pre-conditions

Indrek Ibrus

Abstract

This chapter presents the many premises of this book. It first discusses the book's central questions and lays out the design of the large multi-national and multi-method study, carried out across Northern Europe. It also places the book at the interdisciplinary space between contemporary innovation economics and cultural and social theory. It then discusses the complex set of social processes that have conditioned the phenomena that the book studies – how and why are the contemporary audiovisual media industries co-innovating and converging with other sectors including education, tourism and health care? Within this framework, it discusses the effects of the broader individualisation and mediatisation processes, of media convergence, of the emergence of cross-media or transmedia strategies, of the evolution of the service and experience economies and of the emergence of creative industries policy frameworks.

Keywords: Cross-innovation; mediatisation; media convergence; cross-media; audiovisual media industries; creative industries

Nicholas Negroponte (1995): 'Early in the next millennium your right and left cuff links or earrings may communicate with each other by low orbiting satellites and have more computer power than your present PC'.

Roger Silverstone (1999): 'What will they say to each other, my cuff links?'



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Indeed, what are the cuff links saying, now that the new millennium is well underway? Our newest technologies, even if they are not exactly what was imagined a quarter of a century ago, are very capable, of course. So, what are Siri, Alexa and others saying? It matters, since it is about communication and meanings, in the end. That is, it should be about what are we – everybody – doing with the new media technologies as they reach us? But it is also about what are all the others, those who have made the gadgets, those who have delivered them, those who may still own them and those who continue interacting with them – fetching data and injecting new algorithms, guidelines and questions – how do they all shape these gadgets, and via this, our communication, media usage and cultural practices? This book is about such questions. It is about dialogues between all those that shape, and what, then, are the cuff links, activity trackers, mobile phones, augmented reality glasses or any other new medium or communication device used for? Are they made to collect and interpret data on our health and wellbeing? Are they used to show and teach us new knowledge? Are they made to guide us through new surroundings, explain spaces to us and provide us with new experiences?

Under what circumstances would the distinct industries, say, tourism and media, decide to cooperate to provide us with these experiences and such uses of new technologies? What would make them co-innovate and what would hold them back? And how would the new medium then work – what will gadgets say and what will they show? These, again, are the questions that this book, broadly, asks. Yet, perhaps unusually, it does this, relying mostly on various forms of innovation theory and studies, especially those within the evolutionary and institutional economics that have addressed the nature of ‘innovation systems’. It is because we want to understand these systems as they produce novelties in our lives. Relatedly, this book continues the work of those colleagues who have integrated economic innovation studies with cultural and social theory – especially Jason Potts (2011), John Hartley (Hartley & Potts, 2014), Stuart Cunningham (2014) and several others.

Yet, it needs to be emphasised, the protagonists – the case studies of this book – are the audiovisual (AV) media industries. We see that it is the AV media and their related industries that, paradoxically, are becoming both more dominant in contemporary culture and, as well as dissolving in it, they are both converging and diverging into an immensely heterogeneous pool of forms, practices and institutions. AV is increasingly used for learning, for personal communication and for modelling all relations. It is, in effect, the screenic, visual and AV forms of media that could be seen to mediatise the everyday textures of our lives (Silverstone, 1999). In this book, we are, therefore, interested in the specific ensembles where AV industries start co-innovating with three other sectors – health care, education and tourism – using available new technologies and other resources.

For this purpose, we have carried out an extensive empirical study consisting of 144 interviews and encompassing seven countries in Northern Europe – Denmark, Sweden, Finland, Estonia, Latvia, Lithuania and (Northern) Germany. All these countries are part of the Baltic Sea Region within the European Union

(EU) and our study was part of the Cross Motion research and development project,¹ part-funded from the EU Interreg programme. Regarding each cross-innovation area, we carried out two alternative sub-studies – a meso-level study and a micro-level study. The meso-level studies focused on comparative views on how the two industries were cooperating, co-innovating and converging in two select different countries: AV + education in Sweden and Finland (Chapter 5); AV + health care in Estonia and Denmark (Chapter 9) and AV + tourism in Latvia and Germany/Hamburg (Chapter 13). We interviewed a wide range of experts representing stakeholders in all our chosen four sectors – entrepreneurs, professionals, managers and policy makers.

The micro-level studies focused on the endeavours of specific start-up companies in different Northern European countries that were innovating at the same cross-sections between industries. As Cross Motion also financed the production of innovative prototypes by start-ups from around the Baltic Sea, we chose to observe more closely the struggles of a small subset of those start-ups. That is, we carried out longer-term observations on two start-ups in Estonia and Lithuania and their struggles to innovate in the education sector using augmented reality and virtual reality solutions (see Chapter 7); we also studied a start-up in Germany and another in Finland who innovated using AV solutions in the health care sector (Chapter 10); lastly, we observed the actions of small companies in Germany and Sweden that were innovating at the cross-sections between AV media and tourism (Chapter 14).

The multi-method studies of selected cross-innovation areas are divided into three larger sections in the book that all include introductions to the prevalent forms of cooperation and co-innovation between AV media and the other three sectors (Chapters 4, 8 and 12) and conclusions on the main findings in each section (Chapters 7, 11 and 15).

The subsequent pages present our conceptual assumptions before we embarked on our study. We discuss the broad social forces that could be understood to have conditioned these industries to cooperate and innovate together. In Chapter 2, we discuss the central concepts – *innovation systems* and *cross-innovation* among others – that we see as establishing the grounding for the intellectual work in this book.

Media Convergence

The idea of media convergence is more than 30 years old. Predicted by Ithiel de Sola Pool in 1983, the ‘convergence of modes’ as he put it, has been blurring the lines between different media since. The digitisation of all media as well as communications channels and protocols has allowed new combinations of formerly distinct media. Different combinations of television and point-to-point telephony have provided us, for instance, with Skype’s video-calls and VOD-platforms

¹See further: <http://www.crossmotion.org/>

such as YouTube. Combinations of all possible personal communications modes and recording devices (and more) have brought us contemporary mobile phones. Combinations of documentary film and tabloid press have enabled new multi-modal forms of digital journalism such as Vice.com.

It needs to be recognised, however, that convergence is a concept with many implications. The term has been used generally as a flexible rhetorical device denoting the complexities of the modern media evolution (Fagerjord & Storsul, 2007). What this suggests is that convergence processes have been multidirectional and co-evolutionary. It has been a point of discussion whether the convergence of digital networks has been facilitating the convergence of forms of content, of industries, markets and policy frameworks, or if any of the latter has motivated the others. We posit that these have all been mutually conditioning. That is, they are co-evolutionary. Technical convergence of networks motivate visions of greater market scale, motivating in return investments in further network integration as well as in new cross-network or cross-media services. These developments may call for new domain-crossing regulations, but when these are enforced they facilitate again further convergence in networks, services, markets, etc.

The multi-directionality of media convergence refers to the paradox that much of convergence may in fact result in divergence (Jenkins, 2001) or emergence of new forms of media (Ibrus, 2016). This is because the new combinations may have entirely new properties and use values. Users may find the specific combinations more meaningful and relevant in their everyday lives. Also, the enterprises that produce these specific combinatory media are motivated to provide unique value to their customers and capitalise on at least temporary monopolies that this uniqueness enables for them.

This suggests that, effectively, media convergence refers to the emergence of new combinations of media that may, if adopted and diffused, eventually diverge, that is, emancipate, develop their own codified distinctions, markets, institutions, norms of transactions, professional identities, etc. As an example, we could think here of the rapid contemporary emergence of virtual reality (VR) as a combination of forms of videogaming, 3D modelling, film, social media, etc. This emergence has been facilitated by the rapid development of its own institutions, content and service markets, educational platforms, etc. It can be argued that the VR domain has started to operate 'auto-communicatively' (Ibrus, 2015; Ojamaa & Torop, 2015) re-affirming its existence with an assortment of self-codifying practices and self-addressed communications.

What this suggests is that the process of media evolution is constituted by constant dis- and re-assembling of media into new formations and sub-systems. The re-assembling is based on wider societal needs as well as on dialogic practices and knowledge exchanges between different media sub-systems or other knowledge domains. The further divergence and diffusion of new media formations is based on the success of their self-codification and institutionalisation.

Media convergence can also be multi-layered. While all new media are combinations (or remediations in terms of Bolter and Grusin (1999)) of earlier media, then these new formations may be connected and integrated either more

or less strongly. Digitisation has enabled the rapid dispersion of media content across different channels and platforms. Content, its fragments or elements, can be moved from one media to another, creating meaningful connections between them, forcing cooperation and coordination upon them. The economies of scope logic have motivated media enterprises to develop various cross- or transmedia strategies that constitute another layer of media convergence. It is a 'higher' layer as it has the potential to integrate other singular, already convergent forms of media. The cross- and transmedia strategies were first recognised in academic literature in the 1990s and early 2000s (Jenkins, 2006; Kinder, 1991) and studies of these processes have formed a distinct academic domain of its own (Freeman & Proctor, 2018; Freeman & Rampazzo Gambarato, 2019).

When cross-media strategies are conceptualised as another 'layer' of convergence processes, we need to note that these layers may overlap with the ownership structures of media industries – consolidation of media enterprises and horizontal concentration of media markets has been a trend also associated with the digitisation and convergence processes. Yet, cross-media strategies may also function as market (or innovation system) coordination mechanisms, facilitating transactions and cooperation between different kinds of enterprises (of different media and of different sizes) and the related development and growth in some of these sub-domains. As evidenced by Bennett, Strange, Kerr, and Medrado (2012), the cooperation of the UK's public service broadcasters (BBC and Channel 4) with what were initially small independent digital content companies in the UK facilitated the development and growth of the latter. Working with large national broadcasters on their cross-media strategies and online output gave them the skills and experience to achieve international visibility and develop, eventually, new international strategies and presence. That kind of coordination and co-innovation processes; 'interactive learning' (Lundvall, 2010) of each other's knowledge domains and practices, can facilitate the emergence of new (convergent) industry formations.

The empirical and conceptual work on cross-media strategies form a basis for the work on cross-innovation in this book. Not only have several of our authors worked in this area before (Ibrus & Ojamaa, 2014; Ibrus & Scolari, 2012; Nani & Pruulmann-Vengerfeldt, 2017), but the cross-media strategies could be understood as the Phase 1 of the processes and phenomena investigated in this book. This book looks at the contemporary co-innovation and systemic convergence processes between AV media and other sectors – education, health care and tourism. We argue that while the media industry has always cooperated with these sectors in various ways, their systemic convergence is new and at its contemporary scale, further promise is unprecedented. As such the convergence processes between different media constitute useful examples and provide potential insights on the further dynamics when the media industry starts to converge with other industries.

This is especially the case as in much of the media convergence processes the second or third party has anyway been a sector other than media – the information and communication technology sector (ICT), including telecommunications. The studies into how, for instance, formerly only desktop-optimised world

wide web converged with mobile telecommunications industries to produce cross-platform web and also cross-platform or mobile-only content industries (Ibrus, 2013a, 2013b) have provided insights into the specifics of cross-industry co-innovation and convergence dynamics.

In the early 2000s, the telecommunications industries aimed to standardise and design the mobile web so that it would become a new networked content domain parallel to the world wide web (Ibrus, 2013a, 2013b). That scenario would have meant the evolution of two parallel hypertextually organised, but device-specific content and service domains: one limited to desktop devices and the other for mobile devices. Yet, as the engineering communities developed a dialogue across the industry boundaries, and new ways were developed to enable mobile devices to access web content, a very small number of mobile operators saw an opportunity for a unique selling proposition. They chose to offer access to the ‘real web’. In parallel, the methods to adapt content for different access devices (what we now know as the ‘responsive web’) were also developed by a grassroots content developer community against the will of the major handset and software vendors, who preferred at the time not to openly reveal their handset characteristics and trusted their browsers to do the adaptation work. Content and service providers wanted to stay in control of the designs of their services on all devices. The eventual solution that resulted from the many power struggles between the converging industries was the technically converged cross-platform web while content and service developers became able to distinguish their output for different kinds of access devices enabling divergence in content forms. What this case study suggests is that convergence starts often from dialogues and knowledge exchange across existing industry boundaries, especially between relatively powerless grassroots communities. But the eventual direction of further convergence depends on the power of the converging sub-systems to retain their operational models, on how can these be matched, or on the perceived benefits of convergence for all the parties (for instance, market expansion).

Mediatisation

What the case study above also indicated is that when media and other sectors converge, the new combinatory formation needs to also accommodate ‘media logics’ (Altheide & Snow, 1979) of various kinds. Online content and service providers wanted to fully control how content is targeted to, and adapted for, different devices and user groups. It was important as direct contact with their audiences was central to their operational model. While technical convergence generally presumes universal standardisation to achieve maximum compatibility, media industries look to address the differences in cultural and social contexts where content is received and used. Meaningful life assumes meaningful distinctions and this understanding is among other things what media industries tend to bring to all cross-innovation and inter-industry convergence processes. We, therefore, suggest that the broad social process, recently labelled as