Examining innovation as process

Wagemans, Andrea; Witschge, Tamara

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Examining innovation as process: Action research in journalism studies

Andrea Wagemans
University of Groningen, the Netherlands

Tamara Witschge
University of Groningen, the Netherlands

Abstract

In this article, we discuss how 'action research' as an experiential research approach allows us to address challenges encountered in researching a converged and digital media landscape. We draw on our experiences as researchers, co-developers and marketeers in the European Union-funded Innovation Action project 'INnovative Journalism: Enhanced Creativity Tools' (INJECT) aimed at developing a technological tool for journalism. In this media innovation process, as in other media practices, longstanding delineations no longer hold, due to converging professional disciplines and blurring roles of users and producers. First, we discuss four features of innovation in the current 'digital' media landscape that come with specific methodological requirements: (a) the iterative nature of innovation; (b) converged practices, professions and roles; (c) the dispersed geographic nature of media production and innovation processes and (d) the impact of human and non-human actors. We suggest action research as a possible answer to these requirements of the digital media landscape. Drawing on our experiences in the INJECT project, we illustrate how adopting an action research approach provides insight into the non-linear, iterative and converged character of innovation processes by highlighting: (a) how innovation happens at various moments, in various places and by various people; (b) how perceptions and enactments of professions change over time and (c) how roles are (re)combined and expanded in such a way that clear delineation is not easy. Ultimately, we argue that *experiencing* convergence through action research enables us to do justice to the complexity of the current media landscape.

Keywords

Action research, convergence, cross-disciplinary collaboration, digital tools, experiential knowledge, innovation, journalism, methodological approaches, practice-based research

Corresponding author:
Tamara Witschge, Research Centre for Media and Journalism Studies, University of Groningen, P.O. Box 716, Groningen 9700AS, the Netherlands.
Email: t.a.c.witschge@rug.nl

Introduction

In this article, we propose the methodological approach of 'action research' as an answer to challenges encountered in media research in a digital era. We focus on the field of journalism, where, as in other domains, longstanding delineations no longer hold, whether due to converging professional disciplines, blurring roles of users and producers or hybrid genres. We aim to contribute to developing the methodological awareness needed to respond to the complexity of the digital era. To do justice to the complex, hybrid and multifaceted nature of actors, technologies, processes and products in the field, we propose action research as a specific experiential, practice-based approach that allows us to research these phenomena as they are ongoing (see also: Witschge and Harbers, 2018).

Convergence, hybridity, even the term 'digital' can be seen as shorthand to address shifts in the media landscape (Witschge et al., 2018). These terms foreground technological changes, but have come to denote a wider range of economic, cultural and social changes. Although the terms allow us to counter reductionism and technological determinism, they do not provide us insight into the actual phenomena researched. Indeed, we could argue that though they have served the field well, the observation that technologies, genres and professions are converging, hybrid and digital should be the starting point of our research, not the result. Here, we ask not *whether*, but rather *how* the convergence and hybridity of technologies, genres and professions is experienced. Considering the complex nature of the field, where long held distinctions, vocabulary and typologies cannot be applied unproblematically. When the subject of study is rapidly changing, what are adequate tools for theorizing and researching?

In this article, we explore how action research helps us move beyond the mere observation that the current media landscape is complex and dynamic towards understanding what that observation means in practice. We address this question by focusing on a specific project aimed at innovation in journalism through technology development. We first discuss the challenges media scholars face in researching the current developments in media technologies and genres, focusing on the challenges of capturing non-linear processes, researching cross-disciplinary collaboration when boundaries between disciplines fade, locating practices that are increasingly dispersed across multiple places and theorizing the role of material actors beyond technology. We then propose 'action research' as a specific experiential (Witschge et al., 2018) and practice-based approach (Witschge and Harbers, 2018) that allows us to research these phenomena as they are ongoing. We argue that it allows us to address the need for a research strategy that is 'at least as complex, flexible, and multifaceted as the phenomena being studied' (Tracy, 2010: 841). We highlight specific features that make action research a participatory, responsive methodology that enables 'holistic inquiry dealing with highly dynamic and complex research settings' (Grubenmann, 2016: 171).

In the article, we draw on experiences from the European Union (EU)-Innovation Action INJECT[1] (http://injectproject.eu/) that aimed to develop a creativity support tool for journalists. We discuss how participating in this design research project as researchers, co-developers and marketeers of the tool allowed us to research the development and adoption of a digital tool for journalism as a non-linear process. Participating in this project enabled us to experience convergence first-hand, to follow the process of innovation when and where it was ongoing and address the material context beyond technology. More specifically, we show how the adopted action research approach provided us with bottom-up, complex and dynamic insights into the converging processes, practices, places and people constituting the collaborations in this multi-disciplinary and international journalism innovation project.

Capturing convergence in media innovation processes

Rather than focusing on specific measurable outputs or products of innovation and media making practices, we adopt a process-oriented perspective that suggests that we need to research these phenomena as they are ongoing. In particular, when wanting to understand how innovation transpires, and how technological tools are developed and adopted (and the success of the implementation), we need to consider methodological approaches that help us capture a field in flux, and that allow us insight into the *process*, not merely into the *input* and/or the *output* of such processes.

Even such distinctions between input and output can be seen to be false, as iterative processes and involvement of early adopters in the actual development process suggest 'input' and 'output' are not easily distinguished from each other. Indeed, such convergence in innovation and media-making practices makes it particularly relevant to employ an experiential, practice-based methodology to study the current media landscape. Here, we discuss four features of innovation in the current 'digital' media landscape that come with specific methodological requirements: (a) the iterative nature of innovation, (b) converging practices, professions and roles, (c) the dispersed geographic nature of media production and innovation processes and (d) the impact of human and non-human actors.

Innovation as iterative process

As Pink (2017: 6) indicates, the 'term innovation has multiple meanings and uses, and some scholars have sought to appropriate it to go beyond growth-based models towards suggesting that innovation can be seen as ongoing and embedded in everyday practice'. Here, we adopt such an understanding of innovation, seeking innovation through the 'actual performance' (Ingold, 2013: 301) of it. We focus on the *process* of innovation, rather than the outcome, and view innovation mainly as 'the process of developing and implementing new ideas into use' (Hoholm and Araujo, 2011: 934). Such a shift of focus asks for a shift 'from the concept of knowledge to that of knowing' and 'offers ways to consider the processual and emergent nature of how we encounter and learn about the world, incrementally as we move through it' (Pink quoted in Oliver, 2017: 127).

The iterative nature of innovation processes in the current media landscape makes it difficult to study these phenomena in a linear fashion. There is a mismatch between our knowledge of innovation processes as open and interactive and the methods used to study them (Sørensen et al., 2010). As Hoholm and Araujo (2011: 933) argue, there is a need to 'improve our understanding of the mechanisms and dynamics of how innovations emerge and unfold in practice'. The main question to address then, is how to do justice to the iterative nature of the process of innovation.

Converging practices, professions and roles

The difficulty in delineating between different phases in processes of innovation is increased by the participatory nature of technology development and project-based working where team members perform varying roles. In such participatory processes, users can become developers and the different team members often perform tasks outside of their primary expertise (Grabher, 2002). Such processes have been captured by terms as 'democratising innovation' (Björgvinsson et al., 2010), 'co-creation,' 'living labs' and 'user-centred design'. The inclusion of various actors in

technology development asks that innovation is researched as a process of complex social inter-actions (Sørensen et al., 2010).

Indeed, with the convergence of digital technologies, media forms and actors, boundaries between professions, practices and roles are becoming less clearly delineated (Compton and Benedetti, 2010). This means we need to reconsider the ways in which expertise, discipline and formal roles are perceived in innovative processes. Rather than assume them as given, we need to examine how they are enacted and gain shape in the actual practices. To capture the complex nature of innovation processes, we need to gain insight into how actors define, negotiate and resist digital media tools as these processes are happening. As such, we need our research methodologies to be sensitive to the complexity and performative nature of professions, in which professionals fulfil multiple roles at the same time.

Dispersed geographic nature of media production and innovation

Digital technologies have fundamentally impacted the sites of media production (Reese, 2016). With the emergence of citizen participation in media production, outsourcing of media work, mobile journalism, international projects and multidisciplinary collaborations, where, when and by whom media are produced have shifted. Metaphors like that of the 'ecosystem' (Anderson, 2016) help us conceptualize this dispersed landscape of media production and diffusion, which takes place 'across multiple sites, different platforms and can be contributed to by journalists based in different locations in the world and on the move' (Cottle, 2007: 8–9).

As media production work gets dispersed, so do media innovation processes. Technology development in the media field happens within media companies, universities and start-up incu-bators and accelerators – that are often part of larger innovation networks or geographic clusters – and at events (e.g. Hackathons). In journalism studies, we can observe a renewed interest in ethnographic approaches to address the complexities of observing practices in 'multimodal, interactive' work environments (Robinson and Metzler, 2016: 448). Such approaches are aimed at allowing us to map a field in flux and locate practices that are taking place in different settings, both formal and informal places. In journalism as in the media field more broadly, we need to address the difficulties of identifying these sites (Witschge and Harbers, 2018) and getting access to internal virtual spaces (Robinson and Metzler, 2016), as well as informal workspaces whether they are the home, cafes or shared workspaces. Quite simply put, we need to find ways to ask, for each new media production or technological development process that we research, which places matter in this process (De Maeyer, 2016).

Capturing materiality beyond technology

Although 'terms such as "materiality," "sociomateriality" and "sociotechnical systems" are slowly replacing the simple concern with technology' (De Maeyer, 2016: 460), Witschge and Harbers (2018: 105) observe a narrow focus in journalism studies: Much attention is either given to journalists as makers or technology as structure, which in turn may result in respectively human-centrism or technocentrism, which have both been strongly present in journalism studies (see De Maeyer, 2016; Siegelbaum and Thomas, 2016). This can perhaps be argued for media studies on the whole. Westlund and Lewis (2014: 12), for example, observe 'a relatively narrow approach when defining and studying those agents involved in shaping media innovations'.

A 'material sensibility' in research 'provides a way of escaping the twin pitfalls of excessive technological and social determinism' (De Maeyer, 2016: 461). De Maeyer (2016) outlines how such a 'material sensibility' – where there is ample attention to the material context that media practitioners work in – will allow us a more holistic understanding of the phenomena researched. She also outlines the difficult questions surrounding agency of non-human actors and discusses the lack of methodological guidelines. In innovation processes, it is key to pay ample attention to the technological and other material aspects of the context that the different actors involved work in, be they 'designers', 'marketeers' or 'users'. Even we as researchers need to consider how our material context may impact our relation to the process we are researching. In practice theory, here adopted, material arrangements – the 'setups of material objects' (Schatzki, 2005: 472) – are not viewed in isolation but rather as integrally connected to the practice. Materiality, we argue, cannot be researched separately, but needs to be considered as constitutive element and integral part of practice (see also Witschge and Harbers, 2018).

Although some research approaches have proposed to tackle these separate challenges, we need more holistic approaches that include all of these aspects and are flexible enough to include any new ones we might discover along the way. In Witschge et al. (2018) we invite journalism scholars to adopt practice-based, experiential approaches in their research as a way to be open to the messiness, dynamism and complexity of phenomena in Journalism Studies. In line with this, we can see a surge in popularity of ethnographic methods (Robinson and Metzler, 2016), as they allow us to address changes in the media landscape. Here, we argue that action research could be considered one such approach, allowing us to gain an experiential perspective.

Action research as possible answer

Given the iterative and converged nature of the current digital media landscape, to understand innovation processes, we need a methodological approach that allows us to capture the complexity of such processes. To gain thorough insight into these processes, we need insight into the process as it is ongoing, particularly to also be able to capture 'the intentions, strategies and compromises that are made' (Hoholm and Araujo, 2011: 934). Furthermore, given the dispersed nature of the processes at hand, participating in the process, experiencing the phenomena we research is key: rather than assuming there is a fixed place that we can research, we need to attempt to move with the actual objects and subjects of study as much as we can. Last, we need to find ways to do justice to the role of material actors without solely focusing on technology, using methods that direct our attention beyond the role of human actors (De Maeyer, 2016: 465). Here we focus on action research as one approach that allows to address these requirements.

Action research (also referred to as 'intervention', 'practice-based', 'embedded', 'enactment' or 'auto-ethnographic' research) is a research strategy rather than a specific method (Denscombe, 2010: 126). Although action research has its roots in education research and social work (Adelman, 1993), it is practiced by researchers from many different disciplines (Brydon-Miller et al., 2003) and can include both qualitative and quantitative elements (Bradbury-Huang, 2010). As Hult and Lennung (1980: 245) write, 'action research, therefore, is not distinguished by choice of method, but rather by the way these methods are employed'. Here, we consider action research as a methodological approach rather than aim to describe an archetypical action research project.

Although many different applications of research can be found under the banner of action research (Hinchey, 2008: 5), what can be identified as the common denominator is that it refers to a collection of research methodologies that pursue action and research at the same time. Bradbury-Huang (2010: 98), drawing from the 'Manifesto on Transformation of Knowledge Creation', suggests that action research is perhaps best defined in terms of its core features: actionability, participation and partnership, reflexivity and significance.

In employing action research, researchers look for insights and understanding of phenomena in real-life settings (Styhre and Sundgren, 2005: 58) through a bottom-up approach. It shares characteristics with 'neighbouring' approaches like participant observation, phenomenology, design research, participatory research and community-based research. What these approaches share is that 'a deliberate attempt is made not to divorce phenomena from the environment which give them meaning' (Hult and Lennung, 1980: 245). For our purposes, of providing methodological insights on how we could approach researching converged processes of innovation, we highlight how action research is iterative, bottom-up and participatory and allows to do justice to the (material) context.

First, action research is an *iterative* research strategy. Although we can identify different stages of research, key to the approach is the emergent inquiry process. It can be adapted in real time while the process being researched is ongoing, doing justice to the context in which it is taking place: The 'action researcher performs [the evaluation and implementation of learnings] *within* the system' (Hult and Lennung, 1980: 244). This responds to Robinson and Metzler's (2016: 448) advice to researchers to 'adopt an "ethnographic sensibility" that blurs lines between study sites and analytic work and helps a researcher be flexible in a highly unstable study environment' and consequently to 'achieve a deeper understanding of these shifting dynamics'.

Second, action research proposes a practice-based inquiry by including 'practitioners as partners in the work of knowledge creation' (Bradbury-Huang, 2010: 95). Such *bottom-up* approach allows the action researcher to draw in the knowledge of those involved in media innovation processes. As Ingold (2018: 11) proposes, we 'study *with* people, rather than making studies *of* them'. Because of the involvement of different stakeholders, action research data are characterized by a variety of perspectives (Grubenmann, 2016: 170), which can support the development of new vocabularies, conceptualizations and interpretation frameworks.

Third, action research provides a *participatory* research approach. Indeed, researching dynamic and non-linear phenomena such as the development and adoption of digital tools as is the focus here, demands a different kind of knowledge, based on experiences and learning through reflection. Rapoport (1970: 499) describes action research as 'a type of applied social research differing from other varieties in the immediacy of the researcher's involvement in the action process'. Researchers are included 'as an active participant rather than a passive observer' (Järvinen, 2007: 37). By *experiencing* converged practices, professions and roles in addition to observing them and asking about them in interviews, we gain experiential knowledge about complex phenomena, adding a first-person embodied perspective.

Last, acting and analysing from within the material context allow action researchers to discover the impact of both human and non-human actors. It facilitates capturing the material context in real-life situations, mapping out elements involved as researchers run into them – developing a 'material sensibility' (De Maeyer, 2016). Through researching in context, action research allows us to consider 'action as something that a variety of beings can perform' (Cooren quoted in De Maeyer, 2016: 468). As De Maeyer (2016: 464) points out, a challenge in doing justice to the material context is 'making things speak'. Action research, we suggest, provides a way to address this challenge.

Crucially, action research acknowledges that how 'we understand the world [is] through our interactions with it' (Lakoff and Johnson, 1980: 194). Here, we describe how interacting with our field of study through an action research approach allows us to *experience* and not just analyse or describe convergence, doing justice also to those experiences that 'do not readily or easily fit into rational theories and binary distinctions' (Witschge et al., 2018: 6). Drawing on our experiences as researchers, co-developers and marketeers in the Horizon 2020 funded INJECT project, we illustrate how adopting an action research approach provides insight into the ways in which the convergence of professions, places and roles is experienced.

Examining media innovation through action research

The EU-Innovation Action INJECT is a design research project aimed at developing a creativity support tool for journalists (http://injectproject.eu/). The consortium of researchers, developers, entrepreneurs, journalists and other media professionals set out to create and implement a tool 'for journalists, with journalists', which aligns with action researchers' concern of developing solutions *for* and *with* people (Järvinen, 2007: 39). Early on, we identified our involvement in this innovation project as a fruitful and unique opportunity to research the development and adoption processes of technological tools in journalism from within, as they were ongoing, through action research.

Although perhaps formally the project was more focused on the design of the innovation tool, our roles qualify as action researchers, combining as we did 'action' and 'research', featuring the above-mentioned key elements of actionability, participation and partnership, reflexivity and significance. We were involved in the project as researchers, co-developers and marketeers of the tool. Whereas Andrea participated in the project as marketeer and co-developer as part of her position for the World Association of Newspapers and News Publishers (WAN-IFRA), for the University of Groningen she mainly was involved in conducting academic research on the project. Tamara's role, although thinking along with the designers to help further develop about what would work for journalists, was mostly as academic partner. The central question of our academically driven research (which was not the same as that guiding the design of the innovation tool) was *how are practices, professions and roles perceived and enacted in a multidisciplinary project aimed at innovating journalism?*

The EU-Innovation Action lasted for 18 months (January 2017 to June 2018) and was planned in three general phases of six months: (i) development of the tool, (ii) implementation of the tool within the INJECT consortium and (iii) exploitation of the tool outside of the consortium.[2] In practice, the process was more complex and non-linear, with the phases happening simultaneously and reiterating throughout the entire 18 months, and continuing even in the months after the project was formally closed.

The INJECT consortium was both multidisciplinary and international and brought together 14 partners from six European countries. The partners included information sciences and journalism departments from five universities (based in the United Kingdom, Norway, the Netherlands, France and Greece), three local Norwegian newspapers, two freelance networks based in the Netherlands, a global press association (with headquarters in France and Germany), a training platform for journalists in Germany, a technology start-up in the United Kingdom and a creative agency in Norway.

The INJECT creative search algorithms initially developed as a research prototype were adapted to the professional practice of journalism. The developers from the United Kingdom and Greece visited journalists in Germany, Norway and the Netherlands to learn about their work

practices and integrate these insights into the tool prototype. Journalists inside and outside of the consortium, journalism students and other consortium partners were asked to test the prototype, report bugs, evaluate the usefulness of the results and propose new features. Feedback elicited throughout the process informed further development of the tool by the developers. Journalists from the three local newspapers in Norway started using a beta version of the INJECT tool in their work in the summer of 2017. Researchers on the project monitored and evaluated the adoption process and interviewed users to discover problems, requirements and constraints in the adoption of the INJECT tool. These also emerged from more informal interactions like email exchanges and conversations at events and interactions like demonstrations of the tool via Skype generated feedback and insights about use of the INJECT tool. Finally, technology entrepreneurs (also referred to as 'commercial partners' within the project) were brought in to develop business models and marketing strategies for the tool.

Six physical meetings took place over 18 months in Hamburg, London, Amsterdam, London, Paris and Bergen, respectively. During these meetings, versions of the tool were demonstrated, feedback asked and suggestions made; hypotheses about adoption of the tool were formulated, tested, evaluated and reiterated; research designs were shared and opened up for discussion and feedback and business strategies were reviewed and adapted. In the periods between the physical meetings, 2–3 months on average, meetings were organized with subgroups in the consortium and online. Partners also sometimes met each other at events, either in connection to the INJECT project or in some other context. Based on these interactions, the tool, research design and marketing strategies went through many iterations, taking into account commercial interests, availability of resources like time and funding, organizational hierarchies, geographical context and language.

With both academic research and design purposes, interviews were conducted by different partners with different interviewees, addressing specific themes, at different stages in the project. The authors of this article conducted a total of six formal interviews with: a researcher from the University of Bergen, three journalists at the Norwegian local newspapers and the CEO of the creative agency in Norway. The processes, lessons learned and reflections were documented and analysed throughout the project in reports for the European Commission, in internal papers and in email and other exchanges.

The data collection in our project also included recording the physical meetings and diary entries made by Andrea from March 2017 to February 2018, documenting and reflecting upon observations, feelings and other data regarding the physical meetings, Skype meetings, events, daily activities and reflections about the work and interactions within the consortium. Our involvement in the project gave us access to internal virtual spaces that often remain inaccessible to ethnographic researchers (Robinson and Metzler, 2016), allowing us to be part of the interactions and be present in the places where acts of innovation take place. Moreover, it gave us access to internal *physical* spaces, as our respective roles as marketeer (Andrea) and Work Package leader (Tamara) in the project in particular allowed us to be active participants.

The action research approach adopted allowed us to respond to changing settings while researching, using the research diary as a flexible way for recording unexpected data moments, like conversations, experiences and misunderstandings that informed additional questions. Our participation provided insight into manifestations of innovation that we did not expect a priori, such as the expansion of the roles taken up by different participants, and in changing perceptions of disciplinary boundaries.

Experiencing convergence

One of the main insights that we gained through being involved both as practitioners and researchers in this project is that it is extremely difficult to pinpoint when, where and by whom innovation happens. As the literature suggests, media production, including the production of innovative technologies for media producers, is increasingly characterized by 'convergence' (see, e.g. Dupagne and Garrison, 2006; Jenkins, 2006; Lewis and Usher, 2016). Making this statement seems like stating the obvious, but we lack a more nuanced understanding of the hybrid, or converged, blurred processes, products, roles and stages and spaces of production and consumption (see also: Witschge et al., 2018).

By adopting an experiential practice-based approach to researching an international and multidisciplinary innovation project aimed at creating a tool for journalism, we gained bottom-up, as well as more dynamic and complex insights into how processes, practices, places and people converge. Here, we illustrate how our participation in the process enabled specific insights into the complexities and dynamic nature of tool adoption and development in journalism, especially (a) how innovation happens at various moments, in various places and by various people; (b) how perceptions and enactments of professions change over time; and (c) how roles are (re)combined and expanded in such ways that clear delineation is not easy.

When, where and by whom does innovation happen?

First, *when* innovation takes place: As indicated, we consider innovation as a process rather than an outcome or product and as such we aimed to gain insight into 'the processual and emergent nature of how we encounter and learn about the world, incrementally as we move through it' (Pink quoted in Oliver, 2017: 127). One of our main findings is that innovation as process is not linear. There was a constant reiteration going on between the tool, user feedback and market potential. For instance, deciding on the target user for the tool and the desired features for that group went through many iterations: Tool demonstrations and feedback provided new insights into the likelihood of adoption in different countries, in different types of journalistic organizations and by different kinds of journalists. As such, features that had previously been rejected sometimes made their way back to the requirements list. Potential markets were re-evaluated in light of new information, and the roll-out strategy adapted, which in turn raised new questions about the suitability of the tool for the market chosen. Following this iterative process as it was ongoing offered us insight into the dynamic nature of technology development and the blurred lines between what is product and what is process, as outputs tended to feed back into the development process.

Second, considering innovation as an iterative process with many actors involved, we need to consider the dispersed geographical nature of the process: the question *where* innovation takes place becomes a tricky one. It happens informally in the designers' office, at the coffee machine in the EU meeting breaks and at the desk of journalists (whether in the office or at home). It happens unexpectedly at events, via Skype and in email discussions. It happens on-the-go on planes, trains and perhaps less so in automobiles, but certainly the places of innovation are not static or fixed, nor easily delineated. As participants in the INJECT project, we had access to internal virtual spaces, which can be very important (Robinson and Metzler, 2016) like emails and Skype conversations, and to many of the dispersed physical places that mattered in this particular innovation process. As such, we were able to address the complexities of locating practices that are increasingly dispersed across multiple places (De Maeyer, 2016).

Third, *by whom* is innovation pursued? This is a central question that is not easily answered. The involvement of the various participants varied over the course of the project, depending on the focus of the project at given points in time (development, implementation, evaluation, marketing, training) and on the extent that participants felt they had something to contribute. But there were also other factors at play, such as changing personal and professional situations (balancing multiple projects, taking over management of the company, changing jobs, losing business partners, new family situations) shifting participants' priorities and levels of engagement. Non-human actors played crucial roles in this. By acting and researching within the material context in which this innovation process took place, we experienced how material actors – such as the EU Horizon 2020 funding framework and grant agreement, and the organizational, technological, geographical and temporal contexts in which different participants operate – influenced participants' thoughts about and actions in the development and adoption of the tool. Experiencing the consortium itself as a highly dynamic rather than a clearly defined entity, we had gained much more insight into everyday realities of participants and developed a more complex understanding of innovation processes. With the internal diversity in disciplines, combining of roles and sharing of tasks, it is hard to separate users from designers of media innovation processes. We will discuss this more in-depth in the next section.

Dynamic perceptions and enactments of professions

An often-cited way to get to an optimal situation for innovation to transpire is cross-disciplinary collaboration: 'through unshared typifications, through uncommon attributions, through divergent or misaligned understandings that problematic situations can give way to positive reconstructions' (Stark, 2009: 192, emphasis in original). Indeed, as Alves et al. (2007) point out, cross-disciplinary collaboration has proved to be most conducive of more radical innovation. While such understanding is highly valuable, and indeed the cross-disciplinary collaboration proved to be very fruitful in the case of INJECT, such approach risks putting forward an understanding that conceives disciplines as clearly delineated and static. Our research laid bare the internal diversity of disciplines and the dynamic nature of external perceptions of professions. It showed that with convergence of professions, practices and roles, perceptions of each other's professions, practices and roles also change.

Through action research, we were able to gain insight into how these perceptions are not stable but change over time, through our interactions with others. It became clear that although participants tried to gain a handle on and 'fix' definitions of disciplines and professions, definitions were continually negotiated and perceptions and positions in the team were in flux. Illustrative of the way in which there are strong, and even normative ideas about different professions, is a discussion during one of the physical meetings in Brussels. One of the participants referred to the work of a colleague, introducing her as a '*real* journalism professor' and talked about how some had 'superb knowledge of what real, good journalism should be like'. In this discussion, Tamara was expected to give a definition of journalism, as 'this is what academics know and do:'

Tamara:	But what is *real* journalism? That's the question.
Journalist/trainer:	You as a scholar know ...
Tamara:	Yeah, no! This is exactly what I make my work about, to show the many types of journalism and actually to allow for different definitions ...

It became clear that simplified perceptions about what professions entail (in this case what scholars do and what journalism is) and how those under scrutiny resist such simplifications. The limited understandings of the other's disciplines were actually one of the main recurring bottle-necks in the project. It meant for instance that technologists were less able to cater to the needs of the target group, journalists, but also led to frustrations among participants in the collaborations. One of the recurring topics of discussion was the internal diversity of who a 'journalist' is and what he does. One of the female journalists, owner and founder of a freelance journalism initiative for starting, innovative journalists, had a difficult time to convince the team that journalism is more than the limited (and rather traditional) definition that persisted on the team: Journalists were in the main conceptualized as newspaper journalists working for big newspaper companies. This did not only add to her frustration, but it also meant that the tool was marketed in a way that confirmed a very limited conceptualization of journalism, a problem that further feeds the homogenization of the profession (Deuze and Witschge, 2018).

Particularly interesting was how people both used labels to self-identify and gain legitimacy, as well as to label others and delegitimize their particular stance on something. Speaking up, parti-cipants would start a sentence for example with 'as a journalist . . .' as a way to not only position their contribution but also gain a right to speak. In the same way, people would use the labelling as a disclaimer: when they were uncertain that they had something to offer, they would qualify their intervention, apologizing for if they were not able to speak authoritatively on the matter at hand. Alternatively, people were 'silenced' suggesting that the topic at hand was outside their domain of expertise. For example, when the lead designer asked for possible business models, he disqualified the idea of one of the scholars explaining that, 'in some ways, as academics, we have to change our mind-set a bit'.

Being part of the process, we gained insight into the emotional work involved in doing cross-disciplinary collaborations – it took quite some courage to keep speaking up against the specific simplistic understandings of the role that we were attributed by the others in the team and to gain voice in the process. We also gained insight into the discursive and strategic work of labelling and the dynamic nature of the perceptions of 'the other' in the team. For example, one of the Nor-wegian journalists made a video to show the consortium what a typical day looked like for them. Upon having viewed the short video, one of the lead designers responded:

> That was really insightful, because it was the first time that I actually saw the people we're designing for . . . oh, they get together like this. Not bats with horns and stuff. That really helped for me. That really made a difference.

In the end, as Stark and Girard (2009: 107) also found, 'things get settled' and team members 'work out ways of dividing tasks and managing the relationships across their professional bound-aries. On many issues they reach agreement'. But, as we also experienced in our project: 'these settlements were provisional, beneath which were profound disagreements and misunderstandings that would come to the fore once again in the next project' (Stark and Girard, 2009: 110). To gain insight into cross-disciplinary innovation, it is this process of settling and negotiating where insights are to be gained, more so than in the final result of it.

(Re)combining and expanding roles

Although these settlements point us mostly towards disagreements and misunderstanding *between* disciplines, there is also much internal variety *within* disciplines. As such, the renegotiation in

terms of who is responsible for what, and particularly, who has authority on what was a continuous process. The action research approach that we took on, not only allowed us to see how the division of tasks and responsibilities changed over time and how people grew into and out of specific roles, but also allowed us to experience what it meant to take on multiple roles in the project. At times we felt out of our depth, out of our comfort zone, felt misunderstood, challenged but also liberated and fulfilled as we married research tasks with tasks not obviously considered to be part of academic work. Particularly Andrea, who had a double employment, 50% for the University of Groningen as a researcher and 50% for WAN-IFRA as Project Coordinator, felt the pressure and the joy of combining tasks and responsibilities that were very diverse, demanded diverging skills and led to confusion in the team as to what her precise role was. Being responsible for the communication and dissemination of the project's results, she wrote articles, managed the website, presented and demonstrated the INJECT tool at events, contributed to developing and running a Massive Open Online Course and a workshop on creative strategies for journalists and gave a lecture to media practitioners about journalism in the age of artificial intelligence.

It is important to note that this convergence of tasks is inherently woven into the action research approach, where the researcher is immersed in the action process and part of the object of study. At the same time, experiencing and reflecting on this convergence of our own roles made us more receptive to the toll and joys of convergence that those in the project experienced. One of the participating journalists developed into a marketer and trainer; an entrepreneur was invited on the team by the lead designer assuming he was a journalist, although he has never been a content producer; one of the researchers acted mostly as a trainer and tutor at the start of the project, even though he had no experience in this; and the lead designer took on a legal advisory role towards the end, even though he had no experience or specific expertise to do so.

What was interesting here is that many of the people involved actually got on board precisely because of their interest in the combining of tasks and learning how to do new ones. To take part in a European innovation project assumes a certain level of interest beyond the direct core of your everyday work, however that is defined. Many partners initially struggled with tasks that were unfamiliar to them, even though they had mostly self-selected to be on the project. For the journalists appointed by their editors to be part of the project by testing the tool, finding the space and time to connect to the project and what was asked of them was even more challenging. They also needed some time to gain a voice in the project: How much influence did they have in the project, what was expected of them, how were they supposed to behave vis-à-vis the others in the team?

Again, as we participated in the process and had close contact with all involved, we could notice a significant change in the role of the journalists working at local news media in Norway. Their role in the project changed from 'regular' users – testing the tool and providing feedback on the prototype – to 'agents of change': early adopters in the newsroom who became ambassadors for the INJECT tool, recommending it to other journalists inside and outside their own media organization and training them along the way. As such, they came to take on a crucial role in the adoption of the tool in their news organizations. It became clear that most of the agents of change at first did not feel much agency in the use of the tool: they focused on using the tool 'properly' rather than test it freely or even have impact on its development. Over time, they gained experience, confidence and a sense of ownership. As one of the agents of change explained, when she was asked to demonstrate the tool at a pre-launch event in Norway: 'it was awesome to be asked to do that' and she started to provide on-site support for training of new users in the newsroom.

Journalists in the Netherlands and Germany also conducted interviews with and gave demonstrations to potential users to uncover additional requirements for the development of the tool and

evaluate the potential for adoption in different settings. The journalists in this way did not only become versed in their role as co-developers of the tool, but also found more agency in the research part of the project. It became clear that the practitioners on the team grew more comfortable with the academic 'rules' and developed a feeling of ownership throughout the project. As they did so, they increasingly provided feedback on the proposed research design for evaluating the effectiveness of the tool. In the process, they challenged researchers' definitions and concepts and ideas about knowledge and encouraged them to take into account everyday realities when designing their research as well as the tool. This awareness in the research process simultaneously made us more sensitive to the various ways in which different participants experienced the project and how this might influence their actions.

One of the places that showed the unease of participants clearly as well as how each new task demanded a new 'settling' of roles to get the job done (Stark and Girard, 2009), was in writing the reports for the EU. Given the very specific genre of the report, and the changing constitution of the teams authoring the report, participants negotiated their roles in this, their agency, their skills and knowledge to find a division that felt comfortable for all. For us as researchers, this was a challenge too. We had to find ways to combine the loyalty we felt as promoters of the tool with the sense of responsibility in delivering what our funder, the EU, demanded of us (with our project funding dependent on their evaluation) and with our ethical stance as academic researchers. In this balancing, the writing of EU reports became a place of negotiation – both externally with other partners and internally as we gained insight into where our boundaries in each of these ties lie along the way.

Conclusion

In this article, we propose that action research provides a specific practice-based, experiential approach that allows us to address some of the main challenges in researching media production and innovation in a digital era. We showed how examining the INJECT EU-Innovation Action through an action research approach helped us gain insights into technology development and adoption in journalism. Understanding innovation as process, rather than outcome, we were able to explicate how innovation happens in various places, at multiple moments and by variety of human and non-human actors. The digital media landscape is a complex one, where phases, roles, disciplines and even distinctions between users and developers of technologies are difficult to delineate. Such an environment asks for specific research strategies in which researchers are ideally situated at the heart of the process. This does not only provide insights not otherwise easily obtained (as asking about experiences in hindsight is necessarily limited), but also enables quick responses to changing settings.

Such an approach also allows us to address cross-disciplinary collaborations that are increasingly common in converged media practices. To acknowledge that boundaries are only meaningful in relation to another community of expertise as Akkerman and Bakker (2011) remind us, we need to focus on the interactions in which such meaning gets derived: 'I am conscious of myself and become myself only while revealing myself for another, through another, and with the help of another' (Bakhtin quoted in Akkerman and Bakker, 2011: 132). As such, and as we have found in our research, we need to not merely indicate that roles and professions are blurring in cross-disciplinary work. We need to ask: How are boundaries and how is boundary crossing experienced, lived and enacted at the every-day level? We have shown here that disciplines in themselves

are dynamic and that with each new task, roles and work division and perceptions of the other get re-negotiated and temporarily settled (see also Stark and Girard, 2009).

The participatory, experiential approach we have discussed here holds value for studying converged media practices more broadly, but we have shown its particular value for researching innovation processes. Such settings particularly require a flexible research approach that allows researchers to be present at critical moments (see also Steyaert and Landström, 2009 on enactment research), given the ad hoc and quick-moving nature of innovation processes. For our research, it meant we needed to match in our research the agile design approach that designers adopted to develop the tool and accompanying services; explore and adopt new integrations with existing Content Management Systems and work tools and deploy; test and refine the new integrated services and tools in news businesses. It meant we needed to try and follow as much as we could the information traces that led to changes in the tool which came from a variety of actors, and not only in the 'formal' or obvious ways. As the roles blurred, users took on developer and research roles, and researchers became testers and marketeers. In such environments, where roles blur, information streams and feedback loops are not self-evident or fixed and design iterations happen on an irregular basis, it is difficult to capture the important elements with a non-participatory research strategy. It is very hard, if not impossible, to define a priori what elements of the process need to be included. And even a posteriori it would be difficult to gain insight into the many changes that transpire during the process, as so many iterations, shifts and blurring of roles take place. In our research, analysing and reflecting on the process as it was ongoing allowed us to document experiences and to acknowledge and respond to the messiness, multiplicity and complexity of such processes.

Being active as researchers as well as participating as practitioners in this project, we gained a more thorough understanding of the adoption of digital tools by journalists. We not only gained insight into the diversity of values held by journalists, designers and academics about their work, and the variety of their everyday practices, but were able to experience the process of convergence ourselves. It allowed us insight into the limited vocabulary we as researchers have and to be reminded once more of the importance of bottom-up knowledge and the need to include a variety of sources of knowing. As all of the different participants crossed boundaries and combined roles, even the distinction between disciplines felt inadequate: there was no one who did not contribute to developing the tool, nor was there any one who did not help gain academic insights into the process of innovation. This partnership meant that both the tool and academic knowledge gained much more depth and complexity. This, we argue, is one of the main draws of a practice-based, experiential project, such as action research. As Johannisson indicates, 'interactive research can help make university researchers more critical and more useful' (quoted in Steyaert and Landström, 2009: 131). In a field that is characterized by complexity and messiness as the converged media landscape is, such research provides us with an approach to 'study *with* people, rather than making studies *of* them' (Ingold, 2018: 11, emphasis in original), allowing us to show the 'messiness' and do justice to the complexity.

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Notes

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2. https://cordis.europa.eu/project/rcn/206183_en.html.

References

Adelman C (1993) Kurt Lewin and the origins of action research. *Educational Action Research* 1(1): 7–24.

Akkerman SF and Bakker A (2011) Boundary crossing and boundary objects. *Review of Educational Research* 81(2): 132–169.

Alves J, Marques MJ, Saur I, et al. (2007) Creativity and innovation through multidisciplinary and multi-sectoral cooperation. *Creativity and Innovation Management* 16(1): 27–34.

Anderson CW (2016) News ecosystems. In: Witschge T, Anderson CW, Domingo D and Hermida A (eds) *The SAGE Handbook of Digital Journalism*. London: Sage, pp. 410–423.

Björgvinsson E, Ehn PD and Hillgren PA (2010) Participatory design and democratizing innovation. In: *Proceedings of the 11th Biennial Participatory Design Conference 2010*, Sydney, Australia, 29 November – 3 December 2010, pp. 41–50.

Bradbury-Huang H (2010) What is good action research? Why the resurgent interest? *Action Research* 8(1): 93–109.

Brydon-Miller M, Greenwood D and Maguire P (2003) Why action research? *Action Research* 1(1): 9–28.

Compton JR and Benedetti P (2010) Labour, new media and the institutional restructuring of journalism. *Journalism Studies* 11(4): 487–499.

Cottle S (2007) Ethnography and news production: New(s) developments in the field. *Sociology Compass* 1(1): 1–16.

De Maeyer J (2016) Adopting a 'material sensibility' in journalism studies. In: Witschge T, Anderson CW, Domingo D and Hermida A (eds) *The SAGE Handbook of Digital Journalism*. London: Sage, pp. 460–476.

Denscombe M (2010) *The Good Research Guide: For Small-scale Social Research Projects*. Maidenhead: McGraw-Hill/Open University Press.

Deuze M and Witschge T (2018) Beyond journalism: Theorizing the transformation of journalism. *Journalism* 19(2): 165–181.

Dupagne M and Garrison B (2006) The meaning and influence of convergence: A qualitative case study of newsroom work at the Tampa News Center. *Journalism Studies* 7(2): 237–255.

Grabher G (2002) The project ecology of advertising: Tasks, talents and teams. *Regional Studies* 36(3): 245–262.

Grubenmann S (2016) Action research: Collaborative research for the improvement of digital journalism practice. *Digital Journalism* 4(1): 160–176.

Hinchey PH (2008) *Action Research Primer*. New York: Peter Lang.

Hoholm T and Araujo L (2011) Studying innovation processes in real-time: The promises and challenges of ethnography. *Industrial Marketing Management* 40(6): 933–939.

Hult M and Lennung SÅ (1980) Towards a definition of action research: a note and bibliography. *Journal of Management Studies* 17(2): 241–250.

Ingold T (2013) Making, growing, learning: Two lectures presented at UFMG, Belo Horizonte, October 2011. *Educação em Revista* 29(3): 297–323.

Ingold T (2018) *Anthropology: Why it Matters*. Cambridge: Polity Press.

Järvinen P (2007) Action research is similar to design science. *Quality & Quantity* 41(1): 37–54.

Jenkins H (2006) *Convergence Culture: Where Old and New Media Collide*. New York: NYU Press.

Lakoff G and Johnson M (1980) *Metaphors We Live By*. Chicago: University of Chicago Press.

Lewis SC and Usher N (2016) Trading zones, boundary objects, and the pursuit of news innovation: A case study of journalists and programmers. *Convergence* 22(5): 543–560.

Oliver J (2017) Imagining technique: Reflexivity, ethnographic arts and the digital-real. In: Gómez Cruz E, Sumartojo S and Pink S (eds) *Digital Ethnography: Refiguring Techniques in Digital Visual Research*. Cham: Palgrave Macmillan, pp. 117–129.

Pink S (2017) Technologies, possibilities, emergence and an ethics of responsibility: Refiguring techniques. In: Gómez Cruz E, Sumartojo S and Pink S (eds) *Digital Ethnography: Refiguring Techniques in Digital Visual Research*. Cham: Palgrave Macmillan, pp. 1–12.

Rapoport RN (1970) Three dilemmas in action research. *Human Relations* 23(6): 499–513.

Reese SD (2016) The new geography of journalism research: Levels and spaces. *Digital Journalism* 4(7): 816–826.

Robinson S and Metzler M (2016) Ethnography of digital news production. In: Witschge T, Anderson CW, Domingo D and Hermida A (eds) *The SAGE Handbook of Digital Journalism*. London: Sage, pp. 447–459.

Schatzki TR (2005) Peripheral vision: The sites of organizations. *Organization Studies* 26(3): 465–484.

Siegelbaum S and Thomas RJ (2016) Putting the work (back) into newswork. *Journalism Practice* 10(3): 387–404.

Sørensen F, Mattsson J and Sundbo J (2010) Experimental methods in innovation research. *Research Policy* 39(3): 313–322.

Stark D (2009) *The Sense of Dissonance: Accounts of Worth in Economic Life*. Princeton: Princeton University Press.

Stark D and Girard M (2009). Creative friction in a new-media start-up. In: Stark D (ed.) *The Sense of Dissonance: Accounts of Worth in Economic Life*. Princeton: Princeton University Press, pp. 81–117.

Steyaert C and Landström H (2009) Enacting entrepreneurship research in a pioneering, provocative and participative way: On the work of Bengt Johannisson. *Small Business Economics* 36(2): 123–134.

Styhre A and Sundgren M (2005) Action research as experimentation. *Systemic Practice and Action Research* 18(1): 53–65.

Tracy SJ (2010) Qualitative quality. *Qualitative Inquiry* 16(10): 837–851.

Westlund O and Lewis SC (2014) Agents of media innovations: Actors, actants, and audiences. *The Journal of Media Innovations* 1(2): 10–35.

Witschge T and Harbers F (2018) Journalism as practice. In: Vos T (ed.) *Handbooks of Communication Science: Journalism*. Berlin: De Gruyter Mouton, pp. 101–119.

Witschge T, Anderson CW, Domingo D, et al. (2018) Dealing with the mess (we made): Unraveling hybridity, normativity, and complexity in journalism studies. *Journalism*. Epub ahead of print March 22, 2018. DOI: 10.1177/1464884918760669.

Author biographies

Andrea Wagemans (MA 2015, University of Amsterdam) is a researcher and PhD-candidate at the Centre of media and journalism studies at the University of Groningen. Since she finished her master thesis on entrepreneurial journalism, she has worked on several projects around media innovation and new journalistic initiatives. For her PhD research, she focuses on the practices, people and perceptions constituting innovation processes in journalism.

Tamara Witschge (PhD, University of Amsterdam) is professor at the Centre of media and journalism studies, University of Groningen, Faculty of Arts. Her research explores the ways in which cultural, technological, economic and social changes are reconfiguring journalism and other cultural industries, with a particular focus on innovation and creative research methods. She is co-author of Beyond Journalism (with Mark Deuze, Polity Press 2019), co-editor of the Sage Handbook of Digital Journalism (2016) and co-author of 'Changing Journalism' (2011, Routledge).