

What is so Special about Media Innovations?

A Characterization of the Field

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Abstract

Based on existing research in media economics, media management, as well as media history, this paper analyzes the characteristics of media innovations. These media-specific attributes help distinguish media innovation from other types of innovation and justify the necessity to establish a distinct field of research on media innovation. As a result, eight attributes are presented. These attributes refer to media innovations both as products and as processes. They characterize media innovations as multidimensional and risky products and highlight the importance of approaching media innovation development as interactive, long-term processes that go beyond the control of particular media organizations. In conclusion, implications with respect to studying media innovations from an interdisciplinary perspective are derived.

Relevance of studying media phenomena as innovations

Since its advent in the theoretical work of Schumpeter (1934), the study of innovation has developed into one of the core areas of research within economics (c.f. Fagerberg, Mowery, & Nelson, 2010; Shavinina, 2003). For both scholars and practitioners, innovation is seen as a core construct to face the challenges of changing social, economic as well as technological environments, and to survive in highly competitive markets (c.f. Küng, 2013, p. 9). At the same time, media

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scholars began exploring the usefulness of the innovation concept and its application for media goods (c.f. Storsul & Krumsvik, 2013). As a consequence, the management of innovation has been identified as one of the most critical areas of research in the field of media management and economics (Mierzewska & Hollifield, 2006, p. 48).

Still, the transfer of approaches from innovation theory to media as objects of research is not straightforward. Economic innovation research follows an (at least implicit) focus on technological product and process innovation: “All schools of thought in economics have always recognized the central importance of technical [product] innovations and organizational [process] innovations for competitive performance of firms” (Freeman, 1990, p. xi, also see Fagerberg, 2005, p. 7). This focus only partly encompasses innovation originated in media sectors as they are part of the cultural or creative industries that remain a largely neglected field for traditional innovation theory (c.f. Stoneman, 2010, p. 7). This might be due to the specifics of media goods in general: as media economic research highlights, media products are characterized by distinct attributes that distinguish them from other economic goods, such as media products representing both economic and cultural goods at the same time. Furthermore, they often constitute experience goods implying a characterization of media as limited marketable goods (c.f. Caves, 2000). These features restrict the direct transfer of economic theories to the field of media economics (c.f. Doyle, 2011, 2003). While considerable work has been carried out to discuss the specifics of media products in contrast to other economic goods, the characteristics of media innovations are rarely the focus of research. Still, analyzing the specifics of media innovations is crucial to develop a distinct framework to study media innovations. This article focuses on media innovations from a theoretical point of view and elaborates on the specifics of media as innovation. The overall guiding research questions for this paper are:

What characteristics can be assigned to media innovations?

How can media innovation research benefit from this distinction?

In order to answer these questions, an analysis of media innovations' attributes is developed. Based on existing research on innovation in media economics and management related studies, but also in reference to historical analyses addressing the development of media, central characteristics of media innovations are outlined that serve as a foundation to distinguish them from other (technological, economic) types of innovation. I then examine a number of implications for a conceptual framework for studying media innovations, one that acknowledges these distinctive characteristics: these implications further result in the classification of media innovations as a multidisciplinary field of research that includes economic as well as sociological approaches.

Characteristics of media innovations

The analysis of media innovations' characteristics refers to existing approaches towards studying new media phenomena as innovation (c.f. Storsul & Krumsvik, 2013). Besides approaches in media economics and media management research (Dal Zotto & Kranenburg, 2008), as well as literature on cultural and creative industries (Caves, 2000; Hartley, 2005), the analysis of media innovation attributes further refers to studies in media history (c.f. Briggs & Burke, 2002; Winston, 1998). A broad understanding of media innovation is applied to encompass the different areas of research addressing media innovations. While media management research mainly addresses media innovations as new media products, specifically new content offerings (c.f. Habann, 2008) or focus on organizational changes and innovation on the media organization's level (c.f. Baumann, 2013) – studies that approach media innovations from a media adoption and diffusion perspective mainly focus on new media technologies or services (for an overview see Dogruel, 2013). As well, approaches in media historical analyses follow a technology-oriented perspective on media innovations studying the socio-economic conditions of media technology's implementations and societal impacts (Winston, 1998).

Storsul and Krumsvik (2013, pp. 16-17) offer an appropriate classification that allows us to define the range of objects media innovations may refer to. They differentiate between (1) product, (2) process, (3) position, and (4) paradigmatic innovation. Based on this classification, four dimensions of change (*what is new*) are outlined that distinguish media innovations from existing media products or services (Bessant & Tidd, 2011, pp. 19-21). As applied to media, (1) product innovation refers to both new media technologies and services offered by media organizations (e.g., new media applications and content products); while (2) process innovation incorporates changes that refer to the level of the media organization, such as new ways of producing, packaging or distributing media products, as well as organizational changes in media firms; (3) position innovation encompasses changes in the context of products and services such as changes in brand identity, a media organization's strategic positioning on a media market, or the addressing of new target groups; and (4) paradigmatic or paradigm innovation determines changes of an organization's basic orientation or mental model such as the re-setting of a media organization's value creation and business models (e.g., provision of linear TV to VOD service). This classification helps define the scope of what is considered as media innovation in the following way: not only new media content or technology products, but also organizational changes, new services, and new mental models of media businesses and organizations are covered as media innovations. Furthermore, the term 'media innovation' is not only limited to addressing new media products, services or concepts, but also describes the whole innovation process, namely the exploration and exploitation of opportunities that result in these new or improved objects (c.f. Pavitt, 2005).

Based on existing research on these different forms of media innovations from a media economic, management and historical perspective, eight essential features for studying media innovations are outlined. Following the dual understanding of innovation as both product and process category (c.f. Fagerberg, 2005), these characteristics can be classified in (a) attributes that mainly refer to the characterization of media innovations as objects of research and (b) attributes focusing on analyzing media innovation processes.

Characteristics of media innovations as objects of research

When describing new media phenomena (e.g., new media technology, services, content, and applications) as objects of media innovation research, four characteristics can be derived.

First, studies that address media innovations as objects of research consider both new media technologies such as information and communication technology (ICT) (c.f. Latzer, 2009) as well as new media products (c.f. Habann, 2008) as innovations. In relation to the latter, new media content such as new media titles or media formats represent media innovations. With respect to this stream of research, focusing on media content related innovation, the **continuous need for newness** can be highlighted as a main characteristic of media innovations. Following Turow (1992, p. 184) “it is this need for continual innovation, then, that sets newspaper publishers – in fact, all mass media producers – apart from the producers of other goods.” This continual need for innovation results from short life cycles of most media content, because their utility declines after the first consumption (Lobigs & Siegert, 2008, p. 48). The fact that ‘newness’ with respect to media content constitutes a key element of media production challenges the adaptation of the innovation concept to these objects: “[t]he nature of innovation in creative activities is [...] blurred by the fact that any creative product that does not just replicate can be defined as an innovation” (Caves, 2000, p. 202). Following Schumpeter’s (1934) definition of innovation as new combinations of existing productive factors of knowledge, every new film title would meet the attributes of an innovation as it combines a unique configuration of production factors (e.g., actors, content, organization). As a consequence, this characterization puts approaches into question that solely focus on new media content as media innovation. Instead, a concept of media innovation needs to distinguish media innovations from routinely produced media products such as a new film, a new book or another episode of a TV show, and focus on those new products and services that include considerable changes with respect to design, functions and use modes. Innovation-relevant categories should thus not relate to the content itself (e.g., the story itself) but to relevant criteria that distinguish this new media content product from existing formats. With respect to the TV market, the introduction of new formats using new business models (e.g., quiz shows, dial-in shows), new ways of producing or delivering content (e.g., reality TV or

news magazines integrating social media and direct user-feedback) or new ways of storytelling (e.g., the German TV format “Tatort+”, connecting an episode of a TV crime thriller with a parallel online game where users could investigate a fictive crime). Hence in order to study new content products as media innovations, it is important to clarify with regard to what specific aspects differentiate them from existing formats and products.

Second, with respect to a media management’s perspective, media innovations can be classified as **high risk products and processes**, as their development and production often require large financial investments, but bear the risk of sunk costs in the case of failure (c.f. Lobigs & Siegert, 2008; Reca, 2006). This implies two aspects: first, the media industry is often pictured as less innovative because of the high risk of sunk cost in case of a failure of a media innovation (Dal Zotto & Kranenburg, 2008b, p. xvii). The classification of media as so-called star products (Rosen, 1981) reinforces this description, as it states that only a few media products comprise a great amount of revenue. Besides books or music titles, the film industry is especially characterized by the dominance of these star products. Only a limited number of film titles yield high box offices revenues (c.f. Hennig-Thurau, Houston, & Walsh, 2006). Lowering the risk of these financial investments leads to a high significance of imitations and cross-media strategies, such as the use of presold property in media contents (c.f. Joeckel & Doebler, 2006; Musburger & Kindem, 2009). As such, movie producers often rely on media content that was already successful in the book market (e.g., the Harry Potter Series) or even video game titles (e.g., Tomb Raider) and vice versa. Secondly, related aspects of innovation processes underline the classification of media innovations as risky as well. The acceptance of media innovations mostly relies on social appropriation processes and user-sided development of use contexts (see also characteristic No. 6). This limits the organizational predictability of media innovation’s success and challenges the management of the innovation process. From an organizational perspective, managing media innovations thus requires flexible organizational approaches (e.g., unconventional work structures) to face high degrees of uncertainty and risk (Reca, 2006, pp. 195-196).

Third, media innovations, just as media in general, predominantly constitute multidimensional objects that cannot be limited to either new technical or content-related elements (c.f. McQuail, 2010, pp. 59-61). Media innovations are thus characterized by a close **interaction between intangible (creative) and “humdrum inputs”** namely **technological or organizational aspects** of innovation (Caves, 2000, p. 4; Handke 2008). Schweizer (2003) for example demonstrates in her analysis of the publishing sector that the introduction of E-books mixes intangible (stylistic) and technological innovation. Likewise, innovations in journalism such as new forms of digital content delivery serve as examples for the interaction of different dimensions of media as they comprise changes in underlying technologies such as new forms of content distribution (e.g., apps, micro blogging, new technological devices), new forms of organizing

the production and delivery of journalistic products (e.g., newsrooms), and new forms of presenting journalistic content as well as new forms of revenue models (e.g., content syndication, personalized advertising, crowd funding). This leads to a limited applicability of innovation concepts from the creative industry literature, which mainly bases the innovation concept on intangible, creative aspects (c.f. Jaaniste, 2009; Stoneman, 2010). Following Stoneman (2010), it is the rate of new releases of books, films, and video game titles that indicates the innovativeness of different media sectors. Still, as noted in reference to the first attribute, the number of new media titles represents the continuous need for newness in media industries and is as such not sufficient for deriving a definition of media innovation. Instead, a concise concept of media innovation has to take into account the different dimensions that together comprise media innovations (e.g., technological, organizational, institutional aspects of media), as well as focus on their interdependency (Küng, 2013, p. 9).

In close connection to distinguishing different types of media innovations, a fourth attribute relates to media innovations as objects of research. While innovation research in economics usually follows a clear-cut differentiation between product innovation (e.g., new products or services that are introduced in relevant markets) and process innovation (e.g., new technological or organizational methods that are implemented in the organizational production or distribution process) (c.f. Edquist, 2001, p. 7; Fagerberg, 2005, p. 7), this distinction is of limited usefulness for a classification of media innovations. Especially new media technologies such as smartphones, tablet PCs or Internet-related applications such as micro-blogging services or search engines that can both be implemented in media product innovations that are introduced and adopted by media users, as well as process innovations in media organizations. With respect to news organizations, these new technologies and applications represent process innovations as they are implemented in journalistic practices. The use of the iPad, social media or micro-blogging services as new distribution channels for journalistic content (c.f. Armstrong & Gao, 2008; Deuze, 2004) demonstrate this aspect. Also, search engines as well as user-generated content represent new tools for investigations among professional journalists (c.f. Machill, Beiler, & Zenker, 2008).

Furthermore, the case of music streaming illustrates this aspect (Figure 2). While streaming platforms constitute a product innovation from a media consumer's perspective allowing for new modes of music consumption – for example combining music consumption and social networking – they also represent process innovations from the music industry's perspective offering new transmission channels and business models. This twofold character implies that in many cases an **overlap of media innovations as both product as well as process innovations** occurs.

Figure 1: Media innovation characteristics

	Media innovations as objects of research		Media innovations as processes
1	Continuous need for newness	5	Interconnection of the innovation and diffusion/ appropriation phase
2	Media innovations as high-risk products and processes Close interaction between intangible (creative) and technological/ organizational aspects	6	Media innovation processes require a long period of time
3	Close interaction between intangible (creative) and technological/ organizational aspects	7	Close interactions between media innovations and established media
4	Overlap of media innovations as both product as well as process innovations	8	Media innovations contribute to economic and social change processes, and meet the attributes of both economic as well as social innovations

b) Characteristics of media innovations as processes

Whereas the prior attributes apply to the characterization of media innovations as objects of research, four additional characteristics (No. 5-8) can be highlighted that refer to studying media innovations as processes of change and transformation (for a summary see Figure 1).

The fifth attribute of media innovation refers to the differentiation of phases within the innovation process. Within innovation research, the innovation process is mainly characterized by distinguishing different phases (c.f. Marinova & Phillimore, 2003), while the innovation itself represents the outcome of a “process of turning opportunity into new ideas and of putting these into widely used practice” (Tidd et al., 2005, p. 66). With respect to Schumpeter (1934), the innovation process in its simplest form can be segmented into a development phase (invention), a production phase in which a new idea is further developed into a marketable good (innovation), and the spread of the new products or services (diffusion) (Korres, Lionaki, & Polichronopoulos, 2003, p. 301). Further developments in research yielded two oppositional models of innovation development stating that either science and technology or market needs (technology-push vs. demand-pull-approach) were accurate models of describing innovation processes (c.f. Scherer, 1982). Still, these models were also criticized because of their linearity and newer models of innovation highlight that

innovation does not follow a strict linear order but includes feedback and recursive moments (c.f. Marinova & Phillimore, 2003; cf. Nyre, this issue). Especially media innovation processes differ from this sequential illustration as they are often characterized by an **interconnection of the innovation and diffusion/ appropriation phase**.

From a theoretical point of view, Kline and Rosenberg's chain-linked model of innovation captures the development of innovation as a non-linear, interactive process. Based on examples of historical innovation, they demonstrate that "most important innovations go through rather drastic changes over their lifetimes – changes that may, and often do, totally transform their economic significance. The subsequent improvements in an invention after its first introduction may be vastly more important, economically, than the initial availability of the invention in its original form" (Kline & Rosenberg, 1986, p. 283). As a result, their chain-linked model of innovation illustrates innovation as an interactive process, including feedback loops between different stages of innovation development to capture the dynamic character of innovation and the spread of relevant knowledge across its development. From an organization's perspective, innovation processes as such represent an enduring problem-solving activity (ibid, p. 302).

Examples of previous media innovations, such as the *Sony Walkman* which was previously designed for shared listening of music (du Gay, Hall, & Janes, 1997), SMS or *Twitter*, which was initially used as an accompanying tool for organizational communication or during conferences (c.f. MacArthur, n.d.), support the assumption that media innovations only rarely enter the market as "finalized" goods. Rather, they pass through a process of negotiation on their (physical) form, communicative functions, possible use-contexts and interpretations that lead to blurring lines between their design and diffusion phase. The media innovation process is thus not limited to media professionals, but further points to the importance of user-producer interactions and the integration of user feedbacks in innovation processes (Franke & Schreier, 2002; Habann, 2008, p. 70). This is of particular importance for media innovations, as user-sided appropriation and redesign processes can lead to radical shifts in a product's design, positioning or use-patterns as the previous examples illustrate.

This importance of user negotiation for media innovations' design functions as well as use-contexts leads to the sixth attribute of media innovations, which is derived from media history. Historical examples of media development such as the printing press, but also the telephone or the radio, demonstrate that the emergence of their final design (in a technical sense, but also with respect to the establishment of use-contexts, routines, norms) requires a **long period of time** (c.f. Briggs & Burke 2002; Winston 1998). For instance, examples illustrate that between the first invention of a media innovation and its application as mass medium, a time lag may occur that can range between decades (e.g., the use of the telephone as a private communication tool, the emergence of the press) and several years (e.g., Internet platforms). More specifically, media innovations exceed the boundaries of traditional product life cycles. Product life cycles in

marketing literature mainly define a four-stage model of a product's life ranging across its birth, growth, maturity and decline (c.f. Vashisht, 2005, pp. 189-129). Models of media evolution demonstrate that media innovations go through rather complex phases of development (c.f. Stöber, 2004) and point to the importance of extending the life cycle model by adding a fifth stage (adaptation) due to processes of adaptation to changing environments (Lehmann-Wilzig & Cohen-Avigdor, 2004). While this seems to be obvious for the historical innovations mentioned, recent media innovations can also be characterized as time-consuming processes. The establishment of related user routines as well as (social) norms in how to integrate these media in specific communication contexts require a long time period. The appropriation of mobile phones (c.f. Katz, 2006; Wirth, 2008) but also the use of social media may serve as examples for these continuing processes. For instance, we need to keep in mind that even *Facebook* was launched as early as 2004, took several years to achieve worldwide success, and is still in constant change for developing a sustainable business model. The same is true for *Twitter*, launched in 2006.

Seventh, media innovation processes are often shaped by **close interactions between established media**. Historical studies of media as well as research on new media illustrate that media innovations refer to existing media both in their origination as well as their diffusion and consequences. Analyses of the development of earlier media technologies such as the telephone, but also radio or cinema, make clear that at the beginning new media imitated extant formats as well as ways of use of existing media (e.g., early uses of the telephone as a mass medium; see Coe 1995, p. 36, 185). Relatedly, literature on new media demonstrates that media innovations often emerge from convergence processes integrating existing communication tools (Adoni & Nossek, 2001; see also the remediation concept by Bolter & Grusin, 2000). In reference to new business models, Küng (2013) points out that the combination of existing elements represents a more frequent strategy of media organizations than pure innovation. Besides these interdependent processes within the developmental phase, media innovations interact with existing media with respect to their diffusion and impact. Entering into a market, media innovations are confronted with an existing variety of media as existing media struggle to survive against the new rivalry. This may evoke adjustments of their functions, business models, designs or use modes. Processes such as the restructuring of business models in the music industry, including the emergence of so-called 360° deals, thanks to changes in music consumption and delivery (c.f. Marshall, 2013), as well as the integration of social media elements in traditional mass media (e.g., social/ interactive TV) demonstrate these mutual effects. Lehman-Wilzig and Cohen-Avigdor's (2004, p. 708) model of media evolution highlights that "today's dynamic media world requires an intermedia approach as new media influence – and evolve into – older media." Thus, media innovation research has to apply a holistic perspective when studying media innovations and has to take into account their consequences with respect to changes in the existing media landscape. Recently, this includes the

study of intermedia effects between online and print journalism, as well as organizational and product related innovations such as new forms of news production, presentation and distribution (c.f. Ahlers, 2006; Chyi & Lasorsa, 2002; de Wall, Schönbach, & Lauf, 2005).

The eighth attribute of media innovation refers to the innovation process's final stages, namely, of diffusion and consequences. Here, economic innovation studies focus primarily on media innovations' economic impacts and analyze their successful exploitation (Cumming, 1998, p. 22). Still, as media industries are not only economic but also political and cultural industries (Napoli, 2009), the outcome of media innovations is not limited to economic but also social implications (c.f. Vadrot, 2011). Based on the classification of media as economic and cultural goods with multiple socio-cultural impacts (Reca, 2006, pp. 184-186), **media innovations contribute to economic and social change processes** and thus meet the characteristics of both economic as well as social innovations. Following Mumford (2002, p. 253), social innovations cover "the generation and implementation of new ideas about how people should organize interpersonal activities, or social interactions, to meet one or more common goals." In short, social innovations are new ideas that enhance society's capacity to act (Mulgan, 2012, p. 35). Besides their economic value, media innovations mainly impact a society's, an organization's, as well as an individual's communication capacities.

Given this dual character of media innovations as both economic and social innovations, different patterns of innovation development occur. While for innovation in general, the definition of business models is closely connected with the development of a products' or services' design and functions, media innovations often do not follow this clear-cut orientation towards economic exploitation. With respect to the development of different types of social media, it can be demonstrated that in the beginning the development was focused on exploring the new media's functions, design and use-contexts while economic utilization evolved with a time-lag – as indicated in the above mentioned examples of *Facebook* and *Twitter*. The micro-blogging platform *Twitter*, for instance, demonstrates that while in the beginning the development was focused on expanding the platform's functions and use-contexts, the development of a proper business model including the integration of advertising formats was established only afterwards. This example shows that for media innovations both economic and social development patterns can occur. From a research perspective this stresses the need for approaching media innovations as both economic as well as social innovations (c.f. Storsul & Krumsvik, 2013).

Discussion and implications

This analysis of the characteristics of media innovations demonstrates that media innovations differ with respect to product- and process-related attributes from innovations that are generally the focus of economic innovation theory. Referring

to the first research question, it can be noted that the importance of user-sided appropriation processes, the combination of different innovation dimensions (e.g., organizational, technological or design related aspects), as well as media innovations' interaction with existing media products and media institutions, thus distinguishes media innovations from other types of innovation. This supports the importance of establishing a distinct field of media innovation research, and challenges the transfer of existing frameworks from innovation theory. Consequently, researching media innovations requires an integrative framework combining theoretical and empirical approaches from economic and social innovation theory as well as media specific frameworks.

In order to determine how media innovation research can benefit from distinguishing media innovations from other types of innovation (RQ 2), four implications are outlined with respect to the above derived characteristics that contribute to the development of a theoretical and empirical framework for media innovation research.

(1) Existing approaches in media innovation management often refer to literature on creative/ cultural industries when adapting concepts on how to approach media innovations (c.f. Handke, 2008). Still, as the soft innovation concept by Stoneman (2010) indicates, this stream of research primarily focuses on the intangible or creative parts of innovations. Soft innovation is "innovation in goods and services that primarily impacts upon aesthetic or intellectual appeal rather than functional performance" (Stoneman, 2010, p. 22). Hence, he considers new books, film or video game titles as innovation (ibid, p. 110). Applying concepts primarily from a creative industry's perspective would narrow the study of media innovations down to new content products. This, however, is in contrast to the various media innovations that media economics and management scholars consider in their studies. Also, this concept neglects the fact that media innovations oftentimes constitute interactions of tangible and intangible parts, and excludes media innovations that appeal to changes in their functional performance rather than to their new content such as new Internet-based communication applications (e.g., the case of music streaming platforms). As I have argued, however, media innovation research has to consider the different dimensions media innovations refer to, such as new technological, organizational, content-related aspects of media.

This notion of different dimensions of media innovations also relates to the four types of innovations (4 P's) discussed in the introductory section. Taken together, media innovations can be distinguished by (a) the underlying dimension of change (technological, content/design-oriented, functional organizational) and (b) the object in which this area of change is implemented (e.g., product, process, position and paradigm innovation). Taken together, a matrix can be derived in order to systematize media innovations (Figure 2).

Figure 2: Matrix of dimensions of change and types of media innovation

dimension of change	product	process	position	paradigmatic
technological				(I) music
organizational				(II) music
design				
functional	(III) music			

The example of music streaming illustrates how a combination of the categories works out. First, (I+II) the music industry's shift from selling distinct products (e.g., CDs) to streaming services can be classified as paradigmatic innovation from the perspective of the media industry or a media organization (Storsul & Krumsvik, 2013). The underlying changes involve both technological (I) as well as organizational (II) changes, as music streaming requires new technological infrastructure and design, as well as new business models. Second, (III) music streaming also constitutes a new media product innovation from a consumers' perspective, bringing in new ways of consuming, discovering and sharing music (e.g., social music; Boutet, Kloudas, & Kermarrec, 2013).

(2) Given that media innovations meet the criteria of both social as well as economic innovations requires further consideration of theoretical approaches from sociology such as the social innovation frameworks (c.f. Marten & Keul, 2005; Mulgan, 2012), techno-sociological approaches (c.f. Lievrouw, 2002; Sylvie & Schmitz Weiss, 2012), as well as historical approaches (i.e., besides (mainstream) innovation theory) for analyzing media innovations. While approaches from social innovation theory allow for considering media innovations' interaction with social (e.g., social, political) changes as well as their societal implications, techno-sociological approaches serve as a possible framework for capturing the user-sided social appropriation and interpretation processes that accompany the development of media innovations. With respect towards studying media innovation processes, interactive rather than linear models were considered as proper conceptual frameworks. Interactive process models such as the chain-linked model on innovation by Kline and Rosenberg (1986) as well as techno-sociological frameworks (Lievrouw, 2002; Williams & Edge, 1996) are particularly suitable for this endeavor as they consider feedback

processes between the different phases (design, production, diffusion, impact) of media innovation development.

(3) The importance of users taking part in the innovation process leads to another framework within innovation research that may offer a seminal perspective for the analysis of media innovation processes. Given that the development of media innovations often goes beyond (large) media organization's borders as additional professional as well as individual actors shape its development, the open innovation concept (c.f. Chesborough, 2003; Hippel, 2005) may serve as an eligible framework for helping to capture these interactions. In contrast to "manufacturer centered models" (Hippel, 2005, p. 13) the open-innovation concept argues for a radical opening of innovation processes, one that places "external ideas and external paths to market on the same level of importance as that reserved for internal ideas and paths to market during the Closed Innovation era" (Chesborough, 2003, p.43). For media innovations based on digitization and the Internet, the open innovation concept gained considerable importance (Tuomi, 2002; West & Gallagher, 2006). Digital media innovations such as *Twitter* can be mentioned as an example for open innovation processes, as its initial development was largely due to external developers using the platform's open source software. In addition to these examples of open innovation processes, initial studies support the importance of a consistent user involvement as a promising opportunity for successful innovation processes in the media industry (c.f. Habann 2008; Picot & Doeblin, 2009).

(4) A final implication refers to the intermedia effects of media innovations. Research on new media development (c.f. Lehman-Wilzig & Cohen-Avigdor, 2004) already emphasized that the study of the development as well as its implications should not be exclusively focused on the innovation itself but also consider its relationship with existing media. Integration and convergence processes (c.f. Dwyer, 2010; Jenkins, 2006) and, to a lower extent substitution (Lin, 2004) offer possible frameworks for capturing these processes. These concepts allow for studying both technological interdependences, but also take into account economic aspects (e.g., business models, media products) as well as social aspects (e.g., change in functions of media, use patterns) (c.f. Lawson-Borders, 2006).

Conclusion

The aim of this paper was to demonstrate in what ways media innovations differ from innovations that are typically the focus of (economic) innovation theory (RQ1), and to illustrate how far media innovation research can benefit from this distinction (RQ2). The analysis of media innovation's characteristics resulted in eight attributes that characterize them as distinct types of innovation with respect to it as an object of research as well as to its development process. Media innovations' interactions with existing media (e.g., convergence/intermedia

processes), the importance of user involvement and their classification as both product and process innovation, and social as well as economic innovation, are outlined as distinct attributes of media innovations. Hence, media innovation research can benefit from considering different innovation types as objects of media innovations, and from addressing media innovation processes from an interdisciplinary perspective that combines both economic and sociological approaches. Furthermore, media innovation research needs to broaden its focus from examining single innovations towards analyzing media innovations' interplay with existing media, both in their development as well as their diffusion and consequences. Acknowledging these media innovation related characteristics thus enables media innovation research to more accurately and more fruitfully analyze the fundamental changes the media landscape faces.

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