

## KAPITTEL 1

# Business Model Transformation of Legacy Newspapers in The Age of The Digital Attention Economy

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**Abstract:** This chapter explores ways in which legacy newspapers may transform their business and operational models to ensure profitability and protect journalistic ideals. This transformation is explored through the lens of Norwegian media company Amedia, an early innovator. Our analysis sheds light on the ways in which the industry has come to understand the digital attention economy as defined through key innovations initiated by Google and Facebook. At Amedia, these innovations paved the way for a major corporate turnaround in which data harvesting and AI play major roles. The turnaround is still ongoing after seven years, but preliminary conclusions can be drawn. Within an ecological view of organizational adaption, this chapter proposes six theses about design requirements and transformation for legacy newspapers and concludes with four key findings: a) survivability will be difficult without the implementation of a new AI-operational model and business model built on software, b) a space is emerging that supports profitable quality journalism with strong commitments to veracity and fairness, c) most outlets still need advertising revenue to achieve profitability, and d) roles and skill-sets of top managers and journalists are undergoing major changes.

**Keywords:** digitalization, the attention economy, AI, journalism, newspaper business models

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# Introduction

## Topic and research question

Since the start of the millennium, newspapers have been exposed to new competitive pressures shaped by the evolving digital attention economy, resulting in losses of readership, subscriptions, and advertising revenue. In spite of numerous smaller innovations, the downward spiral continued until 2013–2015, when management across the industry started to develop a better understanding of this new environment and began to develop viable strategies for moving forward in this new more competitive environment.

Amedia, Norway's largest publisher of local newspapers, offers a window into the development of one of these strategies. Along with a considerable number of newspaper publishers, they now find themselves in what we believe are the early days of a more fundamental cross-industry shift towards organizations built on AI and software, as opposed to being built predominantly on humans (Iansiti & Lakhani, 2019; McAfee & Brynjolfsson, 2017). This shift defines the broader managerial and leadership challenges Amedia has faced over the last seven years, and it is likely to keep defining them while new aspects of the strategy are implemented and optimized. Amedia therefore provides a productive case for exploring the ways in which business models for legacy newspapers may successfully be adapted to a media ecology defined by the digital attention economy.

In this chapter, we draw on the Amedia case in order to explore more specifically how legacy newspapers may digitally transform their business and operational models in ways that can retain profitability and protect journalistic ideals.<sup>1</sup> We also go beyond the Amedia case to stipulate key aspects of what appears to be an emergent business model for newspapers internationally (Piechota & Brock, 2019; Villi & Picard 2018),

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<sup>1</sup> By journalistic ideals we refer to the principles developed by journalists and publishers over years and articulated in various codes of ethics. Examples can be found in the "Code of Ethics of the Norwegian Press" and in "The Society of Professional Journalists' Code of Ethics." The latter can be condensed in the following four principles: Seek truth and report it. Minimize harm. Serve the public. Be accountable and transparent.

we will propose six theses about challenges related to business model design and transformation, and finally, we will probe how the leadership of Amedia has responded to these issues in an in-depth case study analysis.

## Background and industrial context

Until about 2013, newspapers typically adapted to the rapidly changing digital media ecology with a strategy of piecemeal innovation by trial and error. Due to continuous publishing in compressed news cycles cycles, this strategy may be well-fitted to news media. Over time, significant strategic changes may be achieved even if each step is modest (Barland, 2012; Storsul & Krumsvik, 2013). However, after more than a decade of the new millennium had passed, alternating between digital experiments, small-step changes and recurrent rounds of downsizing, the situation still looked dire.

The newspaper industry had not grasped the disruptive potential of the new AI- and software-driven businesses of the digital attention economy represented by Google, somewhat later also by Facebook, and in 2011–12, Netflix (Fogg, 2003; Wu, 2016; Zuboff, 2019). The core elements of this new business model, invented by Google between 2001–2003, grew Google's profitability about 3500% over three years (Zuboff, 2019, p. 74–80). Constitutive of the model was the merger of behavioral psychology, AI, and machine learning technology embedded in software algorithms based on a disguised and manipulative two-way communication with end-users. This enabled a quantum leap in capabilities of predicting and modifying behavior, making their products vastly superior within advertising, marketing, and sales. The key logic of their business model, which can be considered constitutive of the digital attention economy, was neither understood nor successfully dealt with by significant media outlets until about ten years after its inception. Confronted with these strategic disruptions from the digital attention economy, the responses from the management of most legacy newspapers were tactical, which spared them the pain of challenging the fundamental tenets of how they conceptualized their businesses (Brunsson, 1985; Christensen,

McDonald, Altman & Palmer, 2018; Christensen, Raynor & McDonald, 2015).

In 2014, a strategy document leaked from The New York Times captured the situation for the newspaper industry well. It revealed an organization in deep crisis and disarray, struggling to understand and adapt to the competitive pressures of the digital attention economy. In spite of numerous initiatives, experiments, and smaller innovations, their leadership lacked a clear diagnosis. Key business parameters were in rapid decline (Benton, 2014; New York Times, 2014, 2017).

Amedia shares important commonalities with The New York Times. By the end of 2015, Amedia had terminated its viral site Buzzit. Even if the site was among the most shared on social media in Norway, earnings proved dismal.<sup>2</sup> The viral approach failed internationally. The approach achieved at best modest success in outlets like BuzzFeed and Huffington Post. It fell quite short of delivering the profitability of news businesses that fully exploited the potentials of the digital attention economy (Wu, 2016). Realizing the inadequacy of click-bait, a conclusion that Google had come to ten years earlier, can be seen as a starting point for a revision of Amedia's digital strategy. This realization led to a fundamental transformation of leadership and journalistic approach along with the development of an AI-operational model based on key elements of approaches championed by Google and Facebook.

## The structure of the argument

The chapter proceeds by outlining the research strategy and case study approach on which it is based. Thereafter, we account for the theoretical framework of the study, from which we derive four theses about viable business models for legacy news, and two theses related to the digital transformation of legacy news. We then probe how Amedia navigates these challenges, as well as the ways in which the case fits our theoretical framework, focusing especially on:

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<sup>2</sup> There was still optimism in 2013–14: “We believe we can do it. The possibilities of the Internet have no limits, says the editor of Nordlys, Anders Opdahl.” <https://www.amedia.no/arkiv/buzzit/>

- Business model, operational model and profitability
- Retaining journalistic ideals, management of brand identity and trust
- Leadership, culture, and transformation

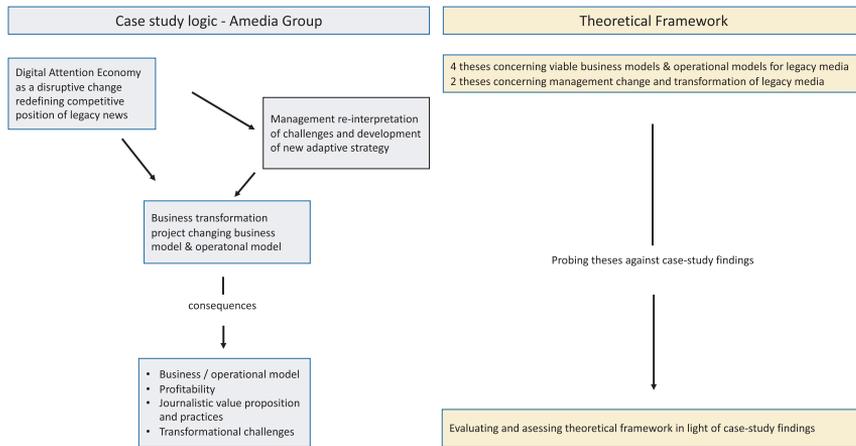
Finally, by probing the theoretical framework against the Amedia case, we explore steps towards analytical generalization (Yin, 2017), which we summarize together with suggestions for further research in the conclusion.

## Research Strategy and Case Study Approach

Our research strategy follows the logic of a theoretically informed case study (Yin, 2017). We based the case study on interviews with key individuals within Amedia, internal and public documents, as well as access behind the paywall to the digital editions of all the 80 newspapers of the Amedia Group.<sup>3</sup> Our team interviewed senior editorial and business managers of the Schibsted Group, and we gathered material from primary and secondary sources from a variety of other news organizations. The theoretical framework we draw on is interdisciplinary. It combines several subfields within management sciences like business model analysis, economics, organizational theory and leadership, and recent theorizing related to digital business models and organizations built on software and AI. Figure 1 depicts the research strategy and how it relates to the theoretical framework.

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<sup>3</sup> The data includes interviews (of approximately two hours each) with the VP for Digital Business Development (PN), Chief Journalistic Product Officer (JØL), Chief AI and Machine Learning Officer (HS), Chief Editor of a successful outlet (GJ) and Director of Advertising (CT). We had follow-up interviews by phone (15–45 minutes) and extensive email correspondence with the interviewees. As part of a parallel case study in the Schibsted Media Group, we conducted two interviews with two top managers in the Schibsted Media Group (of approximately two hours each). Additionally, we had several conversations, written exchanges, and discussions with the former Group Head of the Schibsted local newspapers division (SR) (approximately 10 hours). We had access to relevant internal and external presentations and used a wide array of public sources like newspaper articles and annual reports.



**Figure 1** Research strategy and approach to research questions

## Theoretical Framework

### Key features of the digital attention economy relevant to news media

*The digital attention economy and legacy newspapers:* A basic premise of our analysis of the digital attention economy in this section is an ecological view on organizational adaptation, where individual organizations are subject to selection pressures to which they must respond adequately in order to survive. This points to design requirements that need to be recognized and acted upon by management for an organization to remain in business (Baum & Rao, 2004; Groth, 1999; Lewin, Weigelt & Emery, 2004).

*The generic logic of digital products and services:* There are significant differences between products and services which at their core consist of information and therefore are almost fully susceptible to digitization (e.g. news, films, music), as opposed to those that, due to their very nature, cannot escape the limitations of the physical world (e.g. cars, accommodation, wine). Although paper editions still deliver significant revenue for some newspapers, it is uncontroversial to assume that, possibly with niche exceptions, paper will eventually disappear from the news business. Thus, our focus is first and foremost on news as a fully digitized product, with digitized

distribution and end-user consumption. Such products are equipped with five notable qualities that decisively impact viable business models:

- *Zero marginal cost*—Once a newspaper is digitized, making a second copy and distributing it globally is essentially free.
- *Perfect quality of copies*—Once a digital original is created, further copies are, in principle, as good as the original.
- *Instant global availability*—When the digital copy is available on a device attached to the Internet, distribution in unlimited numbers to anywhere in the world is possible within a fraction of a second.
- *Traceability*—Through IoT technology, the consumption of a digitized service (i.e. music, video, newspaper articles), is traceable to an individual through a wide set of proxies like the device ID, the subscription service the user may be logged onto, software trackers installed on the user’s device, GPS trackers etc. Because users tend to be “always on,” service providers may track and record usage in real time. When the user consumes the product, the supplier “consumes” the user by harvesting their attention and an array of associated behavioral and contextual data.<sup>4</sup>
- *Scalability of volume and scope*—Due to zero marginal cost, digital products have close to unlimited volume scalability. By implementing AI, organizations scale better in scope, and handle complexity at a lower cost. AI agents that communicate with each other exchange information and negotiate decisions may replace human agents. Such AI factories featuring tightly woven AI agents collect and process virtually unlimited quantities of data, enable increased speed and quality of decisions, and reduce transaction cost. Bottlenecks, rooted in the poor scalability of human cognitive skills, disappear because the marginal cost of serving an additional user by digital AI agents is negligible (Iansiti & Lakhani, 2019).<sup>5</sup>

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4 A photograph submitted by a user, for example, involves both a behavioral act and contextual metadata about time and place, as well as information that can be processed by AI to identify buildings, streets, individuals etc.

5 Brynjolfsson (Brynjolfsson, Mitchell & Rock, 2018) estimate that half of current work activities performed by humans are replaceable by AI: “the impact will reach across virtually all occupations transforming every job regardless of income level and specialization.”

These five qualities are highly relevant for the scaling of digital journalism. However, whereas music and film may be considered to result from one-off production efforts with an economic lifetime of years, the news has a primary lifetime of hours or, at best, weeks. Thus, even if journalism scales better by means of AI tools, and some categories of journalism can be partly or fully automatized, there are limits to its scalability. The non-standardized character and short economic lifespan of thoroughly researched news provides restrictions. Still, AI capabilities may support fairly complex journalistic work and transform journalism into an AI-enabled enterprise. Advertising—the main source of income for legacy newspapers beyond journalism—scales better. A digitized newspaper may build a profitable advertising business by offering access to its own “walled garden” featuring unique data from its users. In order to achieve this, three conditions must be fulfilled. First, the brand of the journalistic operation needs to be sufficiently strong. Second, data volumes need to be sufficient to support AI and machine learning. Third, the demographic composition of the readership must be sufficiently attractive for advertisers.

## Key features of the digital attention economy and consequences for news media

The five qualities of the digital economy described above have enabled a new breed of platform businesses to emerge, operating according to an economic logic termed the “Attention Economy” (Bueno, 2017; Fogg, 2003; Goldhaber, 1997; McNamee, 2019; Simon, 1971; Zuboff, 2019).

A key characteristic of the digital economy writ large, is an abundance of information, and a subsequent information overload. As Herbert A. Simon, succinctly put it: “the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention” (Simon, 1971, p. 40). The abundance of information also comes with a flood of deceptions, which makes the vetting of its reliability crucial. Journalism, from initially being a scarcity-of-information

game, is transformed in the wake of these developments into a scarcity-of-attention-and-truth game.

The key value driver for Facebook, Google, Twitter and others like them is their ability to predict and stimulate behavior. These capabilities are based on an array of manipulative techniques informed by the behavioral sciences, merged with software development skills and AI, inspired by B. J. Fogg's conception of "persuasive technology." The basic idea is that computers, by utilizing insights from behavioral sciences and rhetoric, may act like human proxies to predict and influence behavior in scalable ways that human-to-human interaction never can (Fogg, 2003, p. 1–21).

For newspapers, the digital attention economy raises multiple challenges. We highlight four. First, a shared digital battleground, where businesses are fiercely competing 24/7/365 for the finite resource of attention, replaces a pre-digital world where cumbersome distribution of paper editions made competition both in journalism and advertising less fierce, even close to absent in areas where a single newspaper could exploit a privileged position.<sup>6</sup> Second, in the competition for attention, platforms like those of Google, Facebook, and Twitter have the advantage of being less constrained by demands regarding content veracity, allowing them to apply a wider set of tools. As revelations of internal discussions inside Facebook leadership indicate, platforms with only marginal curatorial responsibilities may actually benefit commercially by allowing an abundance of conspiracy theories, fake news, and conflict-driven conversations to circulate (Horwitz & Seetharaman, 2020; Vosoughi, Roy & Aral, 2018).<sup>7</sup> Third, because ambitious news production is only moderately scalable, news media suffer a competitive disadvantage because the platforms rely on content models scaling significantly better. The platforms

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6 This was pointed out by (SR), and also by Warren Buffett (Buffett, 1997, p. 61), "When Charlie and I were young, the newspaper business was as easy a way to make huge returns as existed in America. And one not-too-bright publisher once said 'I owe my fortune to two great American institutions: monopoly and nepotism.' No paper in a one-paper city, however bad the product or however inept the management, could avoid gushing profits."

7 Horowitz and Seetharama, WSJ (2020): "Our algorithms exploit the human brain's attraction to divisiveness, and if left unchecked, Facebook will feed users with more and more divisive content in an effort to gain user attention and increase time on the platform."

rely both on indefinitely scalable free content production shared by users, and the circulation of free or discounted content from news media and other types of content like film, music, and literature.<sup>8</sup> Fourth, the prevalence of finite organizational capacities to collect, process, and convert the growing abundance of information into journalistic products within short news cycles, in compliance with high epistemological standards of veracity, is an uphill fight against cognitive overload for newspapers (Cyert & March, 1992; Forrester, 1989; Kahneman, 2012, March & Simon, 1993; Silverman, 2019).

These challenges force management in the newspaper industry to rethink their business and operational models. They make replacing human-driven operational models with scalable AI-driven models appealing as long as it does not compromise product quality.

## Business models available to news media in the Digital Attention Economy

Businesses rely on models that constitute the rationale of how an organization defines, creates, delivers, and captures value (Osterwalder & Pigneur, 2010).<sup>9</sup> Iansiti and Lakhani break the concept down into two parts. They define *business model* narrowly as “the way the firm promises to create and capture value” (a conception which is interchangeable with Osterwalder’s *value proposition*), and add to this, *operating model*, which they define as the way the firm delivers value to its customers (Iansiti & Lakhani, 2019, p. 26–27).

Platforms constitute networked ecologies expanding across industries, as opposed to “pipe models” and “vertical hierarchies,” which tend to keep industries largely insulated from each other (Choudary, 2015; Iansiti & Lakhani, 2019; Williamson & Winter, 1993). The *platform model* of the digital attention economy, as exemplified by Google and Facebook,

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8 The Facebook Journalism Project aims to improve news quality and facilitate a fairer share of revenue with news media. See interview with Facebook executive Jesper Doub, former editor of *Spiegel Online*. <https://journalisten.no/facebook-jesper-doub-sosiale-medier/amerikansk-avis-facebook-er-villig-til-a-betale-for-nyheter/372580>

9 Pettersen and Krumsvik (2019), illustrate a productive analysis of news media based on the Osterwalder framework.

qualifies as a “cross industry” – a disruptive innovation that fundamentally reshapes competitive parameters in several industries, including that of newspapers (Christensen et al., 2015, 2018). We propose to distinguish between two subsets of the model, with different value propositions and revenue models.

1) *The Google-Facebook-Fogg model*: Google and Facebook are multisided platforms, with different value propositions for each user group (Choudary, 2015). The platforms tend to describe their value propositions for free end-use in highly positive terms. Facebook, for example, claims to be “connecting and maintaining relationships” and even “saving democracy” (Zuckerberg, 2020). Commercially they use behavioral technologies to usurp the behavioral surplus of user engagement for the purpose of manufacturing products aimed at prediction and modification of behavior to be sold to third parties (Fogg, 2003; McNamee, 2019; Ray, 2011; Zuboff, 2019).

These platforms are important distribution channels for news, but are not in themselves journalistic enterprises. As we have noted, their utility function makes them largely agnostic, even nihilistic, in relation to the veracity of content. Facebook management recently discussed modifying algorithms in order to improve the veracity and quality of the content circulating on their platform, but decided against it due to worries related to reduced engagement and falling revenue (Horowitz & Seetharama, 2020). Obviously, this is problematic for news outlets committed to veracity.

2) *The Netflix-Fogg model* was launched as a strategic bet by Netflix in 2011–12. The main idea, in the words of Netflix, was to “put the viewer in control of the experience.”<sup>10</sup> Netflix rediscovered a lost trove of human capacity for long-term focused attention. Media analytic Grant McCracken commented: “TV viewers are no longer zoning out as a way to forget about their day, they are tuning in ...” (D’Souza, 2020). Binge-watching, keeping viewers locked-in, often consuming a whole series

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<sup>10</sup> Since 2011–12, this has been a general philosophy, succinctly illustrated by the interactive film *Bandersnatch* (Rubin 2020).

of 13 episodes over a weekend, stood the attention tool-box on its head. Attention capture was achieved by content meant to keep people focused over longer time spans, rather than the distractive behavioral stimulus-response framework utilized by Google-Facebook-Fogg. Netflix innovated by applying the toolbox of the digital attention economy for content improvement, by minutely analyzing viewing patterns and building personalized profiles by means of AI and machine learning. The key objectives of data harvesting were to optimize recommendations based on personalized profiles and to improve Netflix's understanding of preferences as guidelines for investing in new content (Wu, 2016).<sup>11</sup> The revenue model was entirely subscription based. Advertising was banned.

The two subsets of the digital attention economy model imbue opposed incentives related to content and revenue. News media now increasingly make a choice between the two models, or combine them. Whereas the underlying logic of the Google-Facebook-Fogg model fosters epistemological agnosticism, nihilism, or pure instrumentalism, the Netflix-Fogg model may also effectively support ambitious journalistic ideals.

## Four theses on viable business models for legacy news

Based on the logic of the digital attention economy as laid out, we propose four theses about viable business models for news media. They aim to highlight strategic options and design choices that managers in these outlets must deal with.

1. *Commitment to veracity may become a more potent value proposition for newspapers.* Abundance of information and disinformation create demand for guardians of veracity and actionable knowledge, making such capacities a powerful value proposition, especially for business news. News media with strong ideological commitments and partisan epistemological approaches may

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<sup>11</sup> With a budget of 15 billion USD, Netflix is the biggest creator of quality content in the film industry.

attract large numbers of customers who feel comfortable within echo chambers. However, such a strategy is likely to hamper trust beyond the dedicated members of the in-group. When partisan epistemology leads to socially constructed realities in conflict with objective realities existing outside those constructions, the results might even be deadly (Bursztyn, Rao, Roth & Yanagizawa-Drott, 2020). The New York Times and Der Spiegel, who have built their brands on a commitment to objectivity and balanced reporting, recently experienced internal uproars by journalists revolting against objectivity as previously operationalized in the press. They raised the demand that “moral clarity” become part of the journalistic value proposition.<sup>12</sup> However, there are limits in the marketplace to strategies that come across as partisan, which is why such actions threaten to undermine the credibility of these outlets (Bursztyn et al., 2020).

2. *Deploying aspects of the Netflix-Fogg model increases the chances of surviving in the marketplace.* The Netflix-Fogg model may create productive interaction between journalists and users, increase relevance and perceived quality, and foster a willingness to pay for news media. The model creates learning opportunities for journalists by allowing them to better understand what is deemed relevant by their readers, as well as how to tell stories that engage them. By enabling two-way communication facilitated through AI software, the model helps journalists become more in tune with their readers and incentivizes them to avoid a paternalistic and moralizing approach. This may mitigate the increased business risk implied by the fact that legacy newspapers largely have lost control of the public sphere, which suggests that arrogance might be punished by the readers in ways not conceivable in the pre-digital age.

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<sup>12</sup> Philipp Oehmke (2020) argues in Der Spiegel for partisan journalism and moral clarity, whereas Florian Gathman (2020) in a rejoinder defends “neutrality,” “fairness” and “facts.” There is a similar debate within New York Times (Edelmann, 2020; Sullivan, 2020; Welch, 2020). As part of this debate, The New York Times has been heavily criticized for their *1619 Project* by several renowned historians in the field (Stephens, 2020).

3. *Pressure to overcome scaling challenges for journalism will increase.* The moderate scaling potential of news narrows paths to profitability. Making money on journalism alone requires substantial market segments with an above-average income and sufficient cultural capital to enjoy reading. A niche like business news may be the most profitable, given the high value of veracity and actionable knowledge to readers. Thus, ambitious legacy newspapers have become a niche product. Even The New York Times, with seven million subscribers (November 2020), is dwarfed by single YouTube stars with 100 million followers. The enduring profitability challenges are likely to inspire intensified efforts to improve the scalability of journalism.
4. *A revised hybrid model which combines subscriptions with advertising may provide the most promising path toward long-term profitability.* Der Spiegel, The Washington Post and others offer higher priced subscriptions with no or limited advertising, guaranteeing that behavioral data is harvested only to improve the product (Netflix-Fogg model). Lower priced versions are offered to customers accepting the surveillance of the attention economy (Google-Facebook-Fogg model). Due to brand risk, such hybrid models must be approached carefully in terms of what kind of advertising and re-use of behavioral data they allow for. There is a business rationale for hybrid models, as the combination of a trusted brand, sufficient scale, and attractive demographics has a high advertising value (Cho, Huh & Faber, 2014; Prendergast, Paliwal & Mazodier, 2016).<sup>13</sup> The same considerations come to play when newspapers pursue a strategy of cross-selling other products and services weakly related to their brand as journalistic entities.

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<sup>13</sup> From a business strategy point of view, recent mass withdrawals of big companies' advertising spending on Facebook, due to Facebook's unwillingness to take down offensive and false material, highlight this issue.

## Strategic management and business transformation in the news industry

The ways in which market forces challenge journalism are staples of media and journalism studies. Research on the topic suggests that in spite of their noted idealism, media organizations tend to follow the same logic as other commercial enterprises (Albarran, Mierzejewska & Jung, 2018; Kvalheim & Barland, 2019; Picard, 2006; McManus, 1994, 2009). Thus, like in other industries, disruptive transformations in the media industry require management to offer a strategic sense of direction (Where are we going?) and skills in change management (How do we get there?).

Still, media management struggle with unique challenges because the news media is a key component of the architecture of liberal democracies, and frequently enjoy special legal protections and regulations. The media's unique societal role is reflected in leadership structures often embodying tensions between commercial interests and journalistic ideals. In a Norwegian context, this tension has been explored within the framework of Giddens' theory of structuration (Eide, 2000; Giddens, 1984; Roppen & Allern, 2010; Bjerke, Fonn & Mathisen, 2019). Eide identifies the editor-in-chief as having a vital influence on how journalistic ideals and market forces are reconciled, and what strategies should be adopted. Barland explores how this tension operates when adapting to a digital context (Barland, 2012).

We highlight two challenges confronting legacy newspapers seeking to fully adapt to the digital ecology. Firstly, journalism embodies a strong culture, ingrained in each media outlet, and solidified through the wider institutional structures in which the media industry is embedded. From a change perspective, strong professional cultures favor reproduction more than change. Secondly, newspapers embody an innovation culture focused on experiments and step-by-step changes, suited for organizations in stable and gradually evolving environments (Brunsson, 1985; Christensen et al., 2018; Thompson, 2003). Such a culture is maladapted to an environment undergoing disruptive change. We derive from these challenges a fifth and a sixth thesis:

5. *In adopting the “Netflix-Fogg” toolbox, management will have to challenge established journalistic norms, ideologies, and practices. A revision towards a humbler data-driven approach is a cultural transformation not likely to be achieved without resistance.*
6. *When a disruptive innovation is required, newspapers’ traditional small-step innovation culture may hamper adaptation. However, once a new AI-operational model is in place, this culture may be an asset accelerating change.*<sup>14</sup>

## The Amedia Case

### The Amedia Group

Amedia, Norway’s second largest media group, has 79 local newspapers and the national online newspaper Nettavisen. Their daily readership is 1.96 million (www.amedia.no). Since 2016, they are owned by the independent foundation, Amediastiftelsen.

The value proposition comprises both journalism and advertising. Amedia aim to be:

- the main communicator of local news
- an arena for public debate
- present and close to people’s everyday lives in local communities
- be the main marketplace for buying, selling and marketing in their area.

Amedia is committed to journalistic and editorial ideals anchored since 1953 in the “Rights and duties of the editor.”<sup>15</sup> They include defending freedom of expression, freedom of the press, and democracy, as well as the individual editors’ freedom and integrity.

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<sup>14</sup> Prevalent agile methods of continuous improvement in software-driven enterprises have similarities with the innovation culture of news media (Sommer, 2019).

<sup>15</sup> See the document “Rights and Duties of the Editor” for details.

## The innovation context of digital journalism in Amedia

Norwegian newspapers have innovated since 1995 to adapt to digital challenges. We suggest a compressed storyline in phases, each with a specific management focus, putting the case study into context.<sup>16</sup>

The first phase commencing in 1995 was defined by the beginnings of news being published online. The second phase, initiated by the terrorist actions 09.11.2001, introduced in-depth reporting in real-time, which later became the normal practice. The third phase, initiated in 2003–2004, focused on interactivity and user involvement. The fourth phase, from 2010, is characterized by moving images and online newspapers including web TV (Barland, 2012, p. 135–142). The fifth is defined by users moving from PCs to mobile devices, strengthening opportunities for individualized content since they are “private” gadgets (Eide et al., 2012). This intensified competition from the platforms as they were positioned to undertake an exponentially intensified 24/7/365 data harvesting. The sixth phase starts in 2011 when the first newspapers began to publish behind paywalls for subscribers in Norway (Barland, 2015; Sjøvaag, 2016). The seventh phase is the nurturing of digital traffic and clickbait journalism aiming to protect advertising revenues. Norwegian media innovated on this trend, including Amedia’s online service Buzzit. In the eighth phase, data harvesting dominates, contributing to redefining journalistic practices and advertising, focusing on all users becoming paying digital subscribers (Svendsen, Gulla & Frøland, 2019).

Our study belongs to phase eight, which is ongoing. Despite innovation in earlier phases, we see phase eight as a major disruptive innovation compensating for deficiencies not solved by previous innovations.

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<sup>16</sup> See Barland J., Bakke N. A & Fetveit A. (forthcoming in 2021) for a more extensive discussion and reinterpretation of the innovation history of legacy news 2000–2020.

## Key Findings

### 1. *Business and operational model transformation and profitability*

The first radical measure of Amedia's transition involved implementing a version of the Netflix-Fogg operational model for journalism outlined in Theses 1–2. A key context was management acknowledging that the Buzzit initiative was failing. The objective was to protect advertising revenues, but according to (PN), the project proved “not profitable, and fostered a journalism detrimental to the journalistic and editorial ideals of Amedia.” This prompted management to opt for a strategy in which subscriptions would become the main source of revenue. This required developing journalism that was deeply appreciated by the readers, and made the shift to the Netflix-Fogg model reasonable. Without this choice, “Amedia would be out of business today” (PN). The first version of this new strategy was launched in 2014. In 2015, following 13 years of decline, Amedia once again experienced growth in subscriptions.

Amedia got key early decisions right for building a state-of-the-art AI and machine learning operation:

- The subscriber's mobile phone number was selected as the primary key in their data model, around which personalized profiles could be built (The AiD project).<sup>17</sup>
- A paywall laid the foundation for the growth of digital subscriptions, enabling exclusive harvesting of behavioral data on its own platform outside the reach of competitors. “We had to move data away from Facebook, protecting it within our own walled garden through the AiD project” (PN).
- Amedia improved models for prediction and behavioral modification by enriching their databases with information from several public sources like Statistics Norway and the national vehicle register: “We have about 120 demographic variables that we can connect to individuals – represented as pseudonyms” (PN).

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<sup>17</sup> In Norway, subscribers' mobile numbers and addresses enable individual identification with an accuracy of 99.9%.

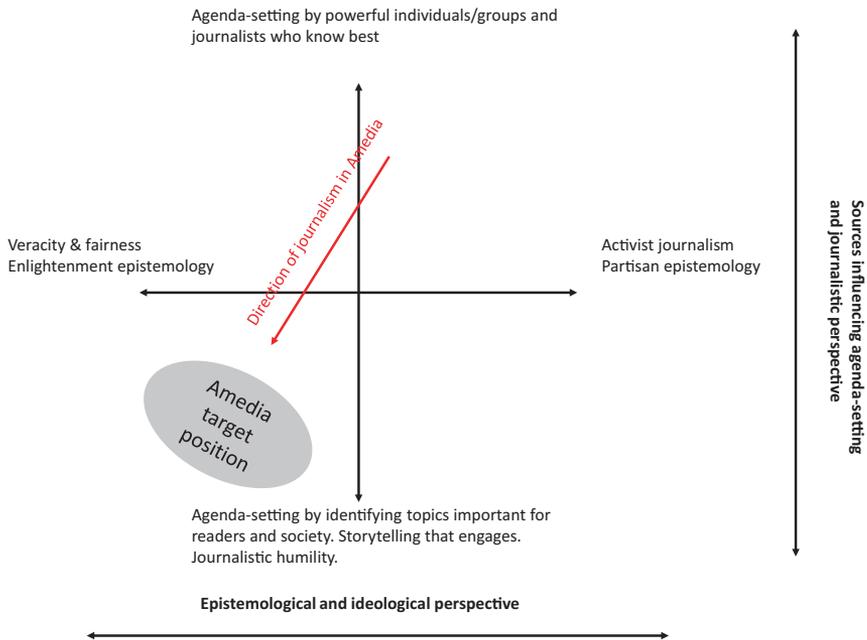
As (HS), Chief AI & Machine Learning Officer, describes the harvesting operation: “We collect data from all legal sources, but the largest quantities and most important is behavioral data, which we collect when readers move around on our platform. Imagine an Excel sheet with 2000 columns and rows, that is about the amount of data we harvest per second. This data is linked to anonymized individuals, enabling personalization without knowing who they are.”

Amedia use incentives as recommended by Fogg (2003) to get more people to login and to stay logged in and remain active, thereby enabling harvesting of more behavioral data. By combining data into higher order behavioral models, for instance, behavioral data and background variables like gender, age, and geography, Amedia is able to predict and modify behavior more efficiently. “We consistently go for harvesting data that improves predictive power” (PN). Clickbait data has low value because it does little to improve predictive power: “Our KPIs do not recognize traffic with a duration less than 10 seconds per article; if this happens frequently, it is an indication of journalistic failure” (HS).<sup>18</sup>

Amedia, as stated in the interviews, characterizes its journalistic strategy as data-informed and based on fairness and veracity. The interviewees draw a clear demarcation line against journalism involved in political activism. Presented with Swedish Aftonbladet, which acquired a vessel to save refugees during the 2015 crisis, they point out that this approach would be detrimental to building trust in journalism and the Amedia brand. The journalistic strategy as described in Figure 2 fits well with the journalistic ideals of foundation that owns Amedia and with Thesis 1.

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18 KPI = Key Performance Indicator, a concept closely related with the Balanced Scorecard, which is an attempt to define a collection of metrics relevant for continuous improvement of organizational performance (Kaplan & Norton, 1996).



**Figure 2** Journalistic strategy of Amedia - simplified

Later in their transition process, Amedia enhanced their advertising business by means of the tool box of the digital attention economy, enabling a hybrid model as outlined in Thesis 4. Since 2013, revenue changed from a ratio in favor of advertising to subscriptions of 61%–39%, to 43%–57% in favor of subscriptions in 2019. Nevertheless, giving up on advertising is hardly a viable option. Based on 2019 figures, we estimate that Amedia would suffer a yearly net cash-flow loss of 600–800 million Norwegian kroner if advertising disappears.<sup>19</sup>

Automation is key to the advertising operation. For smaller advertising contracts, Amedia is not competitive with Google or Facebook, who offer user-friendly interfaces for self-service. Even for larger contracts, Amedia’s operation with about 300 salespeople, seems rather labor-intensive. Beyond this, Amedia aspires to refine the predictive power of its advertisement by capitalizing on the data, systems, and skills gained

<sup>19</sup> We did not get product segment results from Amedia, so we made rough estimates based on information on cost-drivers and reasonable assumptions concerning distribution of overhead cost (Cooper & Kaplan, 1993).

from data-informed journalism. Presentations that Amedia have been making to advertisers seek to prove high conversion rates, and argue that for selected demographics and product categories, Amedia delivers better results than Facebook, Google and others (Amedia, 2020). Their competitive power is enabled by the operation inside the walled garden of AiD, which harvests behavioral data about large swaths of the Norwegian population unavailable to competitors.

Adding to the precision-targeting, Amedia's Director of Advertising (CT) emphasizes the safe context for advertisements provided by a strong brand based in trustworthy journalism. Amedia's sales pitch to advertisers points out that Amedia enjoys 20 times higher trust than Facebook. In compliance with Amedia's own as well as independent academic research, the pitch adds that highly trusted co-senders positively influence the credibility and effectiveness of advertisements (Cho, Huh & Faber, 2014; Prendergast et al., 2016). Given the importance of trust to growth in subscriptions and for defence of their advertisement revenue, Amedia is careful not to act in ways that could undermine such trust. Thus, the Amedia management has decided not to pursue certain new business opportunities opened up by their AI operation because it could inflict reputational damages, even when it would be legal within the GDPR law: "We could sell prediction models to credit card companies, we know who will default the next few months. It would be easy money, but we don't do it. Our livelihood depends on trust. If trust declines, we undermine journalism, our mission" (HS).

Consistent with Thesis 4, Amedia optimizes their competitive power in the advertising market through combining predictive power delivered by unique data sets and algorithms with a strong brand. However, most of the advertising revenue still comes from paper. A major challenge ahead is to transfer revenue to the digital edition while the paper edition is phased out.

### *Scaling*

Generally, AI and machine learning scale cognitive capacities of the journalistic operation to new levels across the 80 newspapers. Volume is key for AI and machine learning to work. PN notes that "We need 50,000

examples, maybe 100,000, to train an AI algorithm.” To scale across more outlets, Amedia has partnered with Aller Media, that now also uses AiD and acquire services from Amedia’s AI and machine learning operation.

To further scale, software-based agents (robots) are used for editing front pages. Robots can also produce rudimentary journalism, like presentations of real estate for sale, and they can collect and edit data about the real estate market, weather forecasts, reports from sports events etc. Both HS & PN emphasize that applying smart technologies that reduce the work load for journalists is a key strategy. As of 2020, some steps have been taken, but “robots are getting better and better” (PN), so those efforts are “likely to increase in the coming years” (HS). We see this as a big step toward building a more comprehensive AI-operational model where software agents increase their decision-making duties.

### *Subscriptions, revenues, profitability*

Since 2015, key parameters of the subscription business have developed in the right direction. Advertising revenue contracted until 2017, after which it turned toward modest growth.

**Table 1** Revenue 2013-19, million NOK

	Revenue subscriptions		Revenue advertising		Total revenue*
	NOK	%	NOK	%	NOK
2019	1679	57	1267	43	2946
2018	1547	55	1261	45	2808
2017	1490	55	1198	45	2688
2016	1394	51	1367	49	2761
2015	1367	42	1835	58	3202
2014	1446	42	2025	58	3571
2013	1458	39	2263	61	3821

\*Total revenue only includes subscription and advertising. Other revenue not included. Amedia yearly reports 2013-2019.

Between 2017–2019 EBITDA increased from 476 to 520 million. If advertising was left out, Amedia would have a yearly negative EBITDA in the range 100–400 million NOK during those three years. By the end of 2019, 71% of the subscribers are digital, but 29% still had a paper-only

subscription. The transformation to a fully digital operation is far from completed.

## 2. *Journalistic ideals, brand, and trust*

By applying the Netflix-Fogg model, Amedia management set in motion a process of continuous improvement of the journalistic product. “It is true that Amedia in 2013–14 started to apply key elements of the Google/Facebook toolbox, but with the fundamental difference that we did not let advertising guide data collection and algorithms. From the outset, we optimized towards the quality and relevance of our content production” (HS). The continuous learning enabled by this model produces changes in the journalistic practices, like the following:

- The balance between topics has undergone major changes to better reflect reader preferences. For instance, readers proved to be less interested in sport and culture and significantly more interested in local business news than editors had assumed.
- Real-time data on reader engagement offers journalists continuous feedback on their articles, enabling optimization on the fly. Most articles are published in two versions for A and B testing, enabling aspects like the headline, the led paragraph, photos, or the journalistic angle, to be optimized during the day (JØL, HS).
- Algorithms improve constantly. They predict churn of individual customers sufficiently in advance to implement measures to avoid it, and, with a certainty of 90%, they can predict whether an article will elicit three more new subscriptions. They can predict the number of likely readers and accumulated reading minutes for an article (HS, PN).
- Engaged readers are likely to keep subscribing. PN explains: “We have 20–30 variables, similar to the Financial Times’ approach: RFV (Recency = last read, Frequency = frequency of visits, Volume = how many articles/reading time). Time consumed is very important. We measure how many seconds you have been active on our pages, on every item, open content, and behind subscription walls. We feed all into machine-learning algorithms trained on our AiD-base, and

predict behavior in terms of churn of subscriptions and the likelihood of signing up new subscribers.”

The departments of journalistic product development and ID data are working together. They continuously improve on journalistic strategies and AI operations to the benefit of journalists’ ability to write stories that generate engagement and thereby more subscriptions. By optimizing relevance to key constituents of the readership, engagement can be nurtured across demographics.

KPIs are a key management tool. A thoughtful process is required to define and guide their use. “There are a lot of things we can do, but decide not to take advantage of. We could have made, but chosen not to do, a system providing the journalist with red, yellow, green lights, where the article is not allowed to be published before the system predicts x number of readers or x number of new subscriptions.” (PN)

The data-informed approach has inspired a more diverse selection of sources and themes. Previously, much content was prioritized through leverage exercised by powerful individuals, companies, political parties, organizations, and interest groups. Under the data-informed regime, their influence is weakened. Actionable knowledge with high relevance to readers’ lives – stories that offer insights of value – become more important. Apparently, for Amedia, the AI-driven operation provides excellent supports for fair and fact-driven journalism. The local context also puts a premium on veracity, since inaccuracies and biases are easily revealed and may hurt brand reputation.<sup>20</sup>

Amedia’s transition appears beneficial to the fulfillment of its stated journalistic ideals, and improves profitability which in itself have a secondary positive effect on journalism. PN notes: “In 2012–2015, we were in an existential fight to survive, and probably lost the journalistic and publisher ideals of serving democracy out of sight ... in 2019, the big difference is that increased profitability makes it easier to align with our ideals.”<sup>21</sup>

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20 Our assessment is based on our informants and a cursory look at some of the outlets through access to all of the Amedia publications.

21 We are not able to substantiate PN’s assessment. It has not been part of this study to make an analysis of content development in Amedia during 2015–2020.

### *3. Leadership, culture, and transformation*

The Amedia case is a story of a comprehensive, management-driven process of change, which, over the course of several years, has elevated journalism to become the most significant source of revenue. Given 80 newspapers, with different cultures and readerships, it is no surprise that there are differences between front-runners of change and laggards. The AI operation creates new opportunities, but if the technologies and the KPIs are not utilized by editors able to bring about a cultural shift through which journalists come to embrace the new journalistic tool box, only modest improvements can be expected.

By employing the right editor, not changing anything else, there are examples of newspapers nearly doubling subscriptions and decisively improving profitability within a year. “The one variable that overshadows all others is the editor. When the editor makes the right decisions, raises the right discussions, leads the editorial morning summit well, follows up the individual journalists, we always see rapid improvements” (PN). The cultural transformation is further accelerated by a strategy of recruiting a more diverse pool of journalists, better reflecting readers in terms of age, gender, and biography (GJ, JØL). Data-informed journalism as practiced by Amedia requires more humility, less moralizing, less activism, less arrogance. This attitude also implies a willingness to apply new sources of information for agenda-setting and ensuring relevance becomes vital. Journalism has become more complex, requiring intensified teamwork across departments, involving new skillsets and knowledge bases and increases in the significance of both human2AI and AI2AI interaction.

Given competent leadership, most journalists have embraced the changes. Our informants describe a process where 13 years of decline – of being aboard a sinking ship – is replaced by the gratitude of being on a winning team. PN elaborates: “We made dashboards for every journalist, enabling them to follow their own articles in terms of number of readers and duration of reading. The journalists become aware of their own performance. When their article generated 20 new subscriptions yesterday, they see that ‘I am making a difference.’ In a crisis, this means a lot. Hey, we have started to grow subscriptions again.” Culturally, the continuous improvement processes of the Netflix-Fogg model have been fairly easy

to integrate, as long as journalists accept prioritizations to be based more on what the data tells, rather than on the mere gut feeling of editors or on ideological bias. Agile methods of software development and journalistic product development are merging successfully within the new model.

The focus on journalism as the main value proposition and source of revenue has changed the roles and skillsets of leadership within the industry. When advertising was the main source of revenue, decisions were biased towards optimizing the newspaper as an efficient vehicle for advertising. When journalism becomes the dominant value driver, decisions about digital user interfaces, placement of ads etc., become subjugated to the journalistic objective of keeping readers engaged and satisfied. Piechota and Brock (2019) indicate that this is a general trend in the industry, labeling it the “audience first” approach. As journalism becomes the key part of the commercial value proposition, the future profile for top managers in news media evolves into a more integrated role combining the previously separated CEO and editor roles (Barland, 2019).

## Conclusions

The research question raised at the beginning of this chapter enquired into the ways in which legacy newspapers might digitally transform their business models and operational models while retaining profitability and protecting journalistic ideals. To answer this, we developed six theses related to the required changes in business models, operational models, and the challenges of the transformation itself. As this chapter has demonstrated, this is a complex, long-term endeavor, impacting the entire organization. Nevertheless, we think the Amedia case largely gives support to the six thesis, which generated four findings of particular importance.

First, we believe the implementation of an AI operational model – building a new business increasingly on software instead of humans – is economically and journalistically beneficial and increases the chances of legacy media to survive in the marketplace. As AI and machine learning require scale, risk is increased for smaller outlets.

Second, within this new AI-driven framework, different journalistic value propositions may be profitable. We believe that veracity-oriented

strategies focusing on actionable knowledge for readers have more consistently positive prospects in a market abundant with information and disinformation than partisan outlets. Amedia and some leading legacy newspapers marching in the general direction that Amedia has chosen indicate substantial alignment between commercial forces and ambitious journalistic ideals and value propositions.

Third, for most outlets, it is difficult to see viable alternatives ensuring high profitability besides the combination of subscription and advertising revenue that Amedia is pursuing.<sup>22</sup> In the Norwegian context, there is a business case for Amedia to consolidate their data operation with the Schibsted Group, to build a more robust strategic alternative to take on Google and Facebook in the advertising market. This was hinted at by some informants, with the caveat that cultural differences and competing ambitions would make a consolidation difficult.

Fourth, key aspects of leadership are in transition. The emergence of subscriptions as the main source of revenue makes an integrated CEO/Chief Editor role the most likely model looking ahead. Furthermore, to achieve commercial success, it becomes a more acute management responsibility to protect trust, build the brand, and reduce the “hypocrisy” of combining quality journalism with advertising. This bodes well for ambitious journalistic ideals, as advertising concerns become less influential within news organizations. The implementation of an AI-operational model is transforming organizational structures and processes, as well as journalism itself. As an increasing share of communication and decisions are made between humans and AI agents and through pure AI2AI processes, a new type of digitized, software-based news organization is emerging. This trend is not likely to cease since organizations built on AI scale better in virtually all dimensions (Iansiti & Lakhani, 2019). Looking ahead, news media organizations that do not effectively utilize intelligent AI agents are likely to struggle both to deliver editorial quality and retain profits. Thus, the future core skills of news organizations

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22 Compensating loss of advertising revenue by cross-selling of products- and services with a weak relation to journalism has so far produced moderate success in the industry. The distribution power of legacy media is limited compared with other digital channels, and the need for protecting the journalistic brand makes expansive efforts in this direction risky.

are likely to combine tech-savvy and journalistic competency in new and innovative ways.

An important topic not key to the scope of this chapter is the direction of influence in the mutual AI-mediated relationship between journalism and readership. That is, to what extent may a more humble and data-informed journalism become a capitulation to an unenlightened readership? There is room for different responses and outcomes related to this question, as reader preferences are not given but also influenced and shaped journalistic strategies. However, it seems clear that commercially successful journalistic responses must be much more attentive to reader preferences than most legacy media organizations have been in the pre-digital world, when they controlled the public sphere and often thrived commercially under semi-monopoly conditions. *Aftenposten* seeks to balance this through an editorial strategy where about 50% of the recommendations to individual readers are based on previous reading patterns, whereas 50% are based on an editorial view of what informed readers should be exposed to (Hansen, 2020).

From what we can observe, the changes the news industry currently is undergoing share commonalities with previous “industrial revolutions,” like the spread of mass production in the early 20<sup>th</sup> century as embodied in Taylor’s “Principles of Scientific Management” (Taylor, 1911), and the similar spread of the Toyota Production System (TPS) and Just-in-Time (JIT) principles in the 1980s and 1990s. As in previous shifts, news organizations that ignore or maladapt to the current disruption may struggle to survive (Womack, Jones & Roos, 2007).

The big platforms are likely to remain deeply entangled with news media. Newspapers with significant revenues dependent on Facebook and Google are exposed to considerable risk. Minor changes in platform policy and algorithms may have detrimental effects on their revenues. Amedia is aware of the dangers: “Facebook cannot be wished away – it is about optimization, utilizing advantages and protecting against down-sides” (PN). Further, Facebook plays a key role in the Amedia ecology for recruiting new subscribers: “Measured against total traffic, Facebook is very important in routing of external traffic into our walled garden.” (PN) (cf. Myllylahti, 2020). When platforms go in new directions, this

may affect the strategic options available to the news industry (van Djick, Poell & de Waal, 2018). Looking ahead, we believe a wider ecological perspective vindicates more research.

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