

Mediatisation, Digitisation and Datafication: The Role of the Social in Contemporary Data Capitalism

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ABSTRACT: This article discusses the relations between mediatisation and datafication, and how the process of datafication has integrated several diverse value forms in complex interrelations. The first section outlines the rise of datafication in the wake of the technological development of digitisation in combination with new business models of the media and communications industries, leading to a tighter integration between these and other sectors of society. The second accounts for how this development paves way for certain specific value forms that result from this integrative process, and how the interrelation between value forms introduces a shift in the valuation processes of late modern data capitalism, where the social takes a prominent position. The final section discusses the relationship between datafication and mediatisation. The argument is that although datafication introduces a new phase in the mediatisation process, the former also extends beyond the latter.

KEYWORDS: data; mediatisation; datafication; data capitalism; value.

INTRODUCTION

A gradually intensified discussion about datafication occurred during the past decade (Mayer-Schönberger & Cukier, 2013; van Dijck, 2014). Strangely, this conversation seldom relates datafication to the somewhat longer discussion about mediatisation, with a few exceptions (e.g., Hepp, 2020). The process of datafication has significantly altered the conditions for contemporary cultural and media production and reconfigured the basic dynamics of value generation (Bolin, 2022). Media users and consumers are being drawn into production processes to an unprecedented extent, both contributing to the amassment of data from all kinds of movement in digital space. This process paves the way for a datafied

society centred on the digital tracking of social action in online environments (Schäfer & van Es, 2017). This macro process can be seen in a longer historical perspective of mediatisation, where the process of digitisation has qualitatively paved the way for datafication. The aim of this article is to discuss this development in more detail, as to how the process of datafication has not only integrated several diverse value forms in complex interrelations, but also relates to the process of mediatisation.

This article initially outlines the historic move where datafication emerged in the wake of the technological development of digitisation in combination with new business models of the media and communications industries, leading to a tighter integration between these and other sectors of society. The article then discusses how this development paves the way for certain specific value forms that result from this integrative process, and how the interrelation between value forms introduces a shift in the valuation processes of late modern data capitalism. In the final section, a discussion of the relation between datafication and mediatisation precedes a summary of the argument with some concluding remarks about the implications of this shift for mediatisation theory.

NEW PHASES OF MEDIATISATION: FROM DIGITISATION TO DATAFICATION

There is the argument that datafication is a process that partly occurs within the more general process of, as well as creating a deepened form of, mediatisation (Hepp, 2020). Datafication and mediatisation are processes in which change, or transformation is the central feature. Thus, mediatisation implies that something is affected by the media, has become more media reliant, or changed from one state of being into a new form of existence. But what do we mean by change? Change can occur across social or cultural levels – from general societal to institutional and individual. There are numerous explanations for why change occurs. One of the basic criticisms towards mediatisation theory holds that change is seldom empirically established but presupposed (Deacon & Stanyer, 2014). There is some truth to this criticism, but there are ways to study long-term change empirically (e.g., Bolin, 2016; Bengtsson et al., 2021). Furthermore, in the context of modernisation theory, Berman (1982/1986) argues that change *should* be presupposed, since change is the foundational feature of modernity as an epoch. If change is the natural condition of modernity, the question is not whether it occurs, but what type is it. It is then more a question of the quality of change. This also begs the question of the temporal duration and speed of change, that is, the historical perspective adopted.

Elsewhere, Bolin distinguishes between three perspectives on mediatisation: the institutional, the technological and the sociocultural, which Bolin (2014)

encompasses in the term “media as world perspective”. Each of these build on varying perceptions of the kinds of media that are involved in the process, the degrees of causality the researcher places in the media (and in other societal institutions), and—crucial in this context—the type of historical perspective they have. The institutional and technological perspectives on mediatization focus on traditional mass media, and each of their historical perspectives reaches back to the mid-20th century (Hjarvard, 2013: 6). Still, many representatives of the more holistic socio-culturalist perspective argue that media and communication technologies have always been part of human social and cultural formations and cannot be separated from them in any meaningful way. They are part of the world, in which we live as humans (hence the phrase ‘media-as-world’), and their development is intertwined with those of society and culture.

Both Hepp (2020) and Jansson (2018) argue for dividing the field of mediatization research into two types of approach: the institutionalist and the social-constructivist. While Hepp (2020) and Jansson (2018) each acknowledge the existence of a third approach, the technological—that Lundby (2014) calls “material”—, they argue that this perspective is not “alive” among mediatization researchers. This is unfortunate because there are dimensions of technology that are well worth preserving. Jansson also finds the arguments by Lundby (2014) and Bolin (2014) about this third approach are incompatible, since the former refers to the medium theory by McLuhan (1964) and the latter leans on Baudrillard (1971). But a careful reading of Bolin (2014: 179f), clearly reveals that Baudrillard builds his idea on mediatization (*l’information médiatisée*) partly on McLuhan. Both McLuhan (1964) and Baudrillard (1971) point to the medium-specific affordances of media technologies, and in Baudrillard’s case, to the unique semiotic limitations of the technologies. These limitations are crucial to understand how media contents and texts are moulded by technology, and can perhaps explain the significant neglect and stark absence of textual approaches in mediatization research—, which could be remedied by incorporating influences from scholars such as Baudrillard.

Seen from a historical perspective, the institutional and technological approaches clearly tend to emphasise the organised mass media of the 20th century (especially its latter half). By contrast, the socio-culturalist perspective reaches further back to the dawn of civilisation and argues that technologies of communication have always already been an integrated part of human activity and actually have been the basis for the formation of culture and society altogether; “The media is culture’s specific technology” (Hannerz, 1990: 6, author’s translation), while Dewey (1916: 5) argues along the same lines that “society exists *in* communication”.

The types of media that have been central in society have varied over time, which have in turn marked societies and cultures throughout history. The tools of communication have developed from the pictorial such as cave or rock paintings,

to a chirographic culture based on handwriting, then print culture, electronic media culture, and so on. Eventually digital media appear, and gradually older media have become digitised and paved way for contemporary society. Over the last three decades, digital media has become the dominant form in which media operate. Digitisation refers to a technological process—to transform analogue things into a digital format. Traditional music media, for example, such as the gramophone, the LP record, the cassette tape have become digital, and music has instead been embedded on CDs and MP3 players and ultimately has been distributed via streaming services. This process occurred in distinguishable steps between digital production, distribution and consumption. Contemporary streaming services enable audiences to listen to older music, such as that recorded by The Beatles in the 1960s. This music was originally produced, distributed and consumed in the analogue format. Over time, this music became digitised to be distributed on CDs and consumed on CD-players. Today, most music is also produced digitally, and all steps in the production-consumption circuit are digital. The same processes can be found in other media, such as journalism (see Nyre, 2008 for an account of these changes in production, distribution, and consumption).

Digitisation as a technological process introduces changes in media industries (and in other industrial sectors of society). Larger amounts of information can suddenly be processed, which restructures modern industrial societies and bring them into the information age (Castells, 1996). Digitisation, or perhaps more accurately the digital distribution forms that came with the internet, also made some of the analogue business models obsolete. One of the first sectors to become affected by this was the music industry. Since digital music lent itself to be compressed into small data files and possible to distribute online via sharing networks, it became ever harder for copyright holders to protect their commodities from being disseminated without their consent. The music industry thus restructured its business models from earning money on sold records, to earning their revenues in other ways (see, e.g., Burkart & McCourt, 2006; Wikström, 2009). The introduction of free newspapers such as *Metro* affected journalism roughly at the same time as filesharing of music became widespread and meant that fewer people were prepared to pay for news content. However, it took this sector a longer time to develop digitally based business models.

A business model is based on the “design of transaction content, structure, and governance so as to create value through the exploitation of business opportunities” (Amit & Zott, 2001: 494). New business models in the age of datafication have largely been based on a traditional advertising model from the analogue era, which eventually became more detailed, with more precise targeting of niche audiences, and were constructed from the data of regional residency, age, and consumer profiles. The break between analogue and digital advertising models

is not as abrupt as one might think. Already in the late 1990s, Sweden's commercial television industry refined its business models in order to optimise the number of viewers they could reach during the restricted advertising time national regulations allowed them at the time (Bolin, 2002). The principles for this optimisation then extended into the early digital markets. However, towards the end of the first decade of the new millennium a qualitative change occurred to the business models of the communications and media industries. New technologies for extracting data from users in real time began to be used to produce more sophisticated consumer and audience profiling (Bolin, 2011). This was the first stage towards a more systematic change in the business models and the rise of profiling services. Ensuing stages led to the datafication of all types of social action, where social agency and social connections became mapped and packaged into a commodity that could circulate, for example, in the advertising market.

Mayer-Schönberger & Cukier (2013) coined the term datafication to define the process which turns human activity into extractable value. This process can be considered to be a specific form of mediatisation, that has digitisation as a prerequisite, but that combines the technological affordances of online media and the interconnection between databases with radically new business models that build on predictive analytics. Through the interconnection between databases, consumer profiling became more detailed, and targeting was perceived of as more effective, which triggered advertisers to pay large sums for getting access to precise and well-defined "digital consumers". Predictive analytics was combined with, among other data, recommender systems that could connect content with consumers in ways that not only had not been previously possible but also refined the distribution models for the content-producing media industries (Burke et al., 2011).

That all kinds of predictive analytics used for commercial, political, health or welfare service reasons are using the same technologies to manage their businesses results in a "digital tracking and profiling landscape" (Christl, 2017: 13), which is at the heart of the multi-sided markets of datafied society (Evans & Schmalensee, 2016). However, the datafied society extends beyond its integral multi-sided markets because also non-market agents are connected through the digital tracking and profiling landscape. In this landscape, large platform companies, advertisers, telecommunications providers, publishers, and other media companies are interconnected with financial services, retail and consumer goods, but also with welfare systems and governmental management.

The keys to this development are digitisation, and the condition where all kinds of media distribution and consumption now occur in online spaces. This development also made the telecommunications industries much more important than they were in the analogue era. Since all distribution and kinds of transactions in these markets happen online, those who control the connections

between the agents involved, i.e., those who have access to the IP-numbers of the computers involved, can also make profits from their gatekeeping positions. Communication service providers such as Telia, AT&T, Comcast and China Mobile are thus central to the multi-sided markets and are indeed a necessary integral component. In the analogue world, the traditional mass or niche media content producers had very little to do with the telecommunications industries, but with the new digital distribution systems, this changes (Bolin, 2011: 56ff). Most of these market actors are attracting little interest from media and communication research on digital media, which concentrate their analyses on the major platform companies such as Amazon, Google, Meta, Tencent, Baidu or ByteDance, or companies such as Apple and Microsoft. Compared to traditional giants in the content-producing media industries these companies might seem to be vast, but from a political economy perspective, the telecommunications companies have much more economic power (Winseck, 2017).

In summary, the integration of previously distantly related sectors of markets and societal spheres produced an increased market complexity, and although most sectors in the digital tracking and profiling landscape are profit-driven, welfare systems and government agencies are not. However, since non-market-oriented activities are based on the same profiling and tracking principles, they too become affected by market dynamics. The motivation for their activities and their data management stem from diverse interests, some of which are commercial, focussing on economic value and profit, while others have other value forms at their core. In the next section the complex relations between these value forms will be discussed in more detail.

NEW FORMS OF VALUE RELATIONS

The tracking and profiling machinery is arguably at the heart of contemporary data capitalism, i.e., “a system in which the commoditization of our data enables a redistribution of power in the information age (...) weighted toward the actors who have access and the capability to make sense of data” West (2019: 23). This system brings most societal domains together in a complex web of relations. Many of the sectors involved are commercially driven and thus have economic value at their core. But there are also non-profit motivated domains involved, such as NGOs and public administration. These are not driven by profit motives but are formed around other core values and operate within distinct *value domains*, i.e., spheres of action formed around a specific value and producing its own value regime. Before I describe these, a few words on what value in this context means.

Dewey (1939) contends that value can be both a noun and a verb, i.e., both a thing and an activity. We assign value to objects and practices around us and

thus engage in valuation. The result of this valuation is value as a thing—the sedimented form that is the endpoint of our valuation practice (Sayer, 2011: 25). Value is a matter of concern, produced socially through the process of valuation in which we ascribe degrees of importance to objects and practices. Following Bourdieu (1993), there is the argument that value is produced in social fields, on the basis that all agents agree on the field’s core value. Although Bourdieuan “fields” resemble social “domains”, the latter concept is preferable, since Bourdieu burdens the term field with an emphasis on struggle and competition. While the concept of domain is more useful, it should be acknowledged that the basic negotiating principles of evaluation and value generation might be the same between the two terms.

As Bolin (2022) argues, data capitalism is formed on at least four value domains. One formed around economic value which has a dominant position and is inscribed in the business models of organised market agents, and three other domains: a technological, an epistemological and a social. As Manuel Castells (1996) points out, technological invention and development has always had a central position in the various forms of capitalism as they have appeared historically, from merchant capitalism or mercantilism to industrial and informational capitalism, to contemporary data capitalism. While the steam engine and the combustion engine were central in industrial capitalism, electronic media and the early computers were central to informational capitalism. In data capitalism, the key features are the networked database and real-time algorithmic processing power that make it technologically possible to extract the data commodity. Technology, however, also has its own dynamic, centred on values such as functionality and efficiency. If, for example, media technologies are thought of as “extensions” of human capabilities, as McLuhan (1964) theorizes, these extensions are not always utilised for profit purposes. Even when they can be, the pertinent technologies can have other functionalities. It is not uncommon that an invented technology takes on economic functions after a while, even though it was not initially invented for profit purposes.

As Heidegger (1954/1977) points out, technology is intimately connected to epistemology and knowledge. It is a form of revealing, argues Heidegger, a strive for unconcealment, and ultimately the arrival of truth, which arguably is a form of critique in the Kantian sense. Other authors have also discussed this relationship between technology and knowledge, such as Braman (2012), who finds her point of departure for a discussion of technology and epistemology in John Locke’s (1690/1924) discussions on facticity.

For Locke, facts appear when a *perceptual entity* has an *experience* of the material or social environment, symbolically *expresses* what has been learned about the environment, and those referential expressions become the subject

of *discussions* through which agreement is reached on what will collectively be accepted as the truth. (Braman 2012: 133).

Locke contends facts are produced in much the same way as values are described to be produced above—through intersubjective agreement based on observation and social negotiation. Facts are also the basis for scientific positivism, which in turn lies behind traditional audience measurements, and is thus a prerequisite for the market for audiences in commercial media business models. The basis for these models is that the media corporations produce trustworthy statistics about their audiences or media users, which are then packaged into an audience commodity (Mosco & Kaye, 2000). Advertising agencies, for example, presuppose that audience statistics are correct and equal to social reality. Any suspicion that audience figures are exaggerated, or distrust in the polling companies' methods for capturing the audience, ensures that the agencies will not be willing to pay for the commodity.

In this manner, the domains of epistemology or knowledge production relate to those of technology and economy and their principles for value generation. These relations do not arrive with digitisation, but existed in the analogue era, although the technologies and business models have changed in accordance with the enriched affordances of new digital media. The aspect that differentiates the analogue and the digital eras, and is the main feature in data capitalism, is the role that *the social* takes. This is because data, which is the main asset in data capitalism, needs social activity in digital space to come into existence. Hence engagement in social space by all consumers and media users is encouraged according to the principle that more engagement produces more data, which can extend the possibilities for data extraction.

So, rather than being “the new oil”—a resource produced without human action (but that needs human action to be excavated and refined)—data is a continuously reproductive resource underpinning data capitalism. In contrast to previous finite resources at the heart of capitalism—land, oil, etc.—data is limitless. While there is social activity in digital space, and whenever social life is captured by sensors, these activities can be transformed into data. The digitisation process has today attained that peak degree of development that the new business models based on predictive analytics and real-time processing can reach. Simultaneously the same business models offer social subjects either something in return for access to their data, or by making it socially very costly to stay outside of the data-generating system. The refinement of Artificial Intelligence (AI) and human-machine communication create new possibilities for data extraction, as machine-generated communication will be processable—so long as a human social agent is an element of the loop.

Social activity as the raw material on which data is generated and packaged into a data commodity is thus the central mechanism in the datafication process. This is also why it is important to not lose sight of audiences and media users when theorising mediatisation and datafication. However, Livingstone (2019) remarks that the social is strangely absent from mediatisation and datafication research. Placing mediatisation and datafication research in a longer historical oscillation between “active” and “passive” audiences, Livingstone (2019) concludes that with datafication, structure is again taking precedence over agency, and hence media users are delegated to a background position. In summary, datafication research should benefit from re-engaging with the social. The next and final section will discuss the datafication process in relation to the wider process of mediatisation.

DATAFICATION AND DEEP MEDIATISATION

Mediatisation theory presupposes that “the media” are becoming increasingly important in culture and society—irrespective of which approach to mediatisation is at hand. Similarly, datafication indicates an increased importance of data for culture and society. Now, thoughts about the distinction between the three perspectives on mediatisation (accounted for above)—the institutional, the technological and the social-constructivist—can refresh the core features of each one. These are the ways, in which each approach defines the media, the role of causality, and the type of historical perspective adopted. So, what are the outcomes if the same analytical model for the phenomenon of datafication is adopted, starting with the question: What is meant by “data”? Furthermore: How does datafication relate to mediatisation theory?

Etymologically, the word data has its origins in the plural form of the Latin word *datum* (“that is given” – from the verb *dare*, “to give”). However, the concept of data has a polysemic quality of being both a “count noun” referring to “an item of information”, and a “mass noun”, referring to “related items of (chiefly numerical) information considered collectively, typically obtained by scientific work and used for reference, analysis, or calculation” [and in relation to computing], “quantities, characters, or symbols on which operations are performed by a computer, considered collectively” [or, more generally, simply referred to as] “information in digital form” (Oxford English Dictionary, 2023). As a count noun, data does not have to be either digital, or even numerical. A piece of information can be any description of a thing, a situation, a fact, a condition, etc. So, rather than the count noun, it is the mass noun that is referred to in datafication theory, the assemblage of digits that can be computed and related to other data in order to produce the digital commodity.

In terms of the relationship between datafication and mediatisation, Couldry and Hepp (2017) describes the latter process in terms of four “waves”, starting with mechanisation, followed by electrification, digitalisation and lastly datafication. Couldry and Hepp (2017) argue the 2010s is experiencing the start of the fourth wave. The aspect that distinguishes each wave is a “fundamental qualitative change in media environments” of a “sufficiently decisive” kind, underlying which are “fundamental technological changes” (Couldry & Hepp, 2017: 39). However, and as argued above, technological change is but one feature of datafication, and needs to be related to organisational change in order to better explain both the changes at hand, and the reasons they appear when they do. We thus must relate the inventions in technology to organisational shifts in capitalism, with a specific focus on the business models at its core.

Couldry and Hepp (2017) discuss mechanisation, electrification, digitalisation and datafication as waves of mediatisation. But these processes are also general technological ones that extend beyond the media if we think of them in terms of communication technologies. Mechanisation produced the assembly production lines and electrification made cities bright at night, but neither of these technological processes have much to do with communication. This makes it problematic to see datafication as a straight-forward successor to the mediatisation process. Indeed Hepp (2020) recently suggests calling this “deep mediatisation” in order to solve this problem. This concept makes more sense as a specific phase of mediatisation, as it refers to a qualitative shift within modernisation, in the same way as a concept of late modernity is an epochal shift within modernity, rather than a successor to it. Deep mediatisation thus indicates a heightened form of mediatisation, which introduces a more penetrating phase. As explained above, this phase has social agency as a central component, as this is what produces the data at the heart of the datafication process.

CONCLUSION

This article accounts for the historic move where datafication emerged in the wake of both the technological development of digitisation and the new business models of the media and communications industries, which led to tighter integration between these and other sectors of society. This article discusses how this development has paved way for a complex relation between value forms, that together make up the unique combination underlying data capitalism. The article argues that the social takes a decisive role in the process of datafication and that changes in institutional relations are not the sole concern. Another matter is the transformation of society as a whole because of large institutional actors combined with the social activities of everyday media users and citizens. Lastly,

the article points out how to understand the relation between the wider process of mediatisation and the related process of datafication and argues it might be better to talk about datafication as a process that only partly overlaps with mediatisation. Furthermore, discussions could better refer to deep or intensified mediatisation as a radical new phase in the broader process. A phase in which the social takes a much more central position, and where more empirical work from the perspective of media users is needed.

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