University of Antwerp

Sourcing Twitter: A multi-methodological study on the role of Twitter in economic journalism

Dissertation submitted for the degree of doctor in Social Sciences: Communication Studies at the University of Antwerp to be defended by Michiel Johnson

Faculty of Social Sciences
Department of Communication Studies
Prof. dr. Steve Paulussen
Prof. dr. Peter Van Aelst

Antwerp 2019

SOURCING TWITTER Michiel Johnson

SOURCING TWITTER

A multi-methodological study on the role of Twitter in economic journalism

Michiel Johnson

Sourcing Twitter

A multi-methodological study on the role of Twitter in economic journalism

Dissertation for the degree of Doctor in Social Sciences: Communication Studies at the University of Antwerp to be defended by **Michiel Johnson**

Supervisors:

Prof. dr. Steve Paulussen

Prof. dr. Peter Van Aelst

Antwerp 2019

Doctoral committee

Prof. dr. Karolien Poels

Prof. dr. Frederik De Grove

Doctoral jury

Prof. dr. Sanne Kruikemeier

Prof. dr. Michaël Opgenhaffen

This study was supported by the Research Foundation—Flanders (FWO) [grant number G032614N].

Cover design: Jozefien Bellengé

Contact: michiel.johnson@uantwerpen.be

Table of Contents

Acknowledgements

Een doctoraat schrijven is als een ontzettend zware wielerwedstrijd, een lange tocht met veel bochten, obstakels en hindernissen. En zoals het een echte zware wielerwedstrijd betaamt gaat het niet zozeer om winnen, maar simpelweg om de finish halen. Intussen bijna vijf jaar geleden begon ik, als kopman, aan mijn wielertocht. Het was een tocht zonder enige parcoursverkenning. Een doctoraat? Ik? Niet meteen aan gedacht maar waarom niet proberen. Karolien gaf me als promotor van mijn masterproef de tip om te solliciteren voor een openstaande vacature aan de Universiteit Antwerpen rond sociale media en journalistiek. Zij had mij succesvol begeleid in een kermiskoers en zag potentieel voor een zwaardere wedstrijd.

Eerst en vooral wil ik de wedstrijdjury bedanken want zonder jury, geen wedstrijd. Sanne en Michaël, bedankt om plaats te nemen in deze jury en mijn doctoraat met een kritische blik door te nemen. Frederik, bedankt om tijdens de commissiebijeenkomsten steeds de moeilijke vragen te stellen en me tot het uiterste te drijven. Karolien, ook jouw kritische blik en pragmatische aanpak was onmisbaar om dit doctoraat tot een goed einde te brengen.

Voor mijn avontuur van start ging werd ik uitgenodigd op gesprek bij de twee ploegleiders die me doorheen de koers zouden begeleiden, Steve en Peter. Met de gedachte dat ik, hoe het gesprek ook zou lopen, een paar uur later op scoutskamp zou zijn was ik helemaal gerustgesteld. Deze gedachtegang en de open mind waarmee ik het gesprek aanging heeft er, achteraf gezien, misschien wel voor gezorgd dat Steve en Peter in mij een geschikte kandidaat zagen. Het telefoontje dat ik werd aangenomen kreeg ik tussen twee spelletjes op kamp door. Voor de ondertekening van het contract kreeg ik na het scoutskamp nog enkele dagen rust, want zowel Steve als Peter konden goed begrijpen dat een scoutskamp toch even moet verteren. Meteen was er een goede afstemming met deze ploegleiders. Vanuit de volgwagen hebben zij ervoor gezorgd dat ik doorheen mijn tocht geloodst werd en kreeg ik commentaren en aanmoedigingen in mijn oortje tijdens de koers. Doorheen de jaren is deze band met beide promotoren enkel maar in stijgende lijn gegaan met plaats voor ontspanning maar vooral veel steun en hulp. En geloof mij, op de zware beklimmingen in deze tocht zijn die steun en hulp zeker nodig geweest! Steve, Peter, merci!

Aan de startlijn leerde ik mijn ploegmaats kennen. Om de finish te halen moet je steeds zelf blijven trappen maar elke wielerliefhebber weet dat de tocht veel vlotter gaat als dat kan in het wiel van een sterke ploeg. Ik had het geluk om deel uit te maken van twee topteams. Eerst waren er de medecoureurs van communicatiewetenschappen. Een geweldige groep collega's die altijd klaar stonden voor een babbeltje als het even tegen zat of om je te feliciteren als er iets te vieren was.

Gezellige gesprekken tijdens de middag, after-work drinks en vooral leuke feestjes, het maakte het schrijven van een doctoraat toch allemaal iets draaglijker. Ook de M²P ploeg was een echt dreamteam. Inspirerende staff meetings met kritische maar zeer nuttige commentaren, leuke etentjes en natuurlijk als kers op de taart het M²P weekend, de perfecte combinatie tussen werk en plezier. Tijdens mijn tocht heb ik ploegmaats zien vertrekken en zijn er ook veel nieuwe teamgenoten bijgekomen, maar ik zou ze allemaal ontzettend willen bedanken. Zonder jullie zou het een eenzame rit zijn geweest!

Langs het parcours van mijn koers stonden ook heel wat supporters. Niet allemaal fanatieke wielerfans, maar wel allemaal blij dat ik de finish heb gehaald. Een eerste groep supporters kan vergeleken worden met de Nederlanders in bocht 7 op Alpe D'Huez, allesbehalve behulpzaam voor de wedstrijd maar wel een ontzettend gezellige bende. De basketbalploegmaats, vrienden van de scouts maar vooral de mannen van 'den Olympie'. Ik zou hier veel verschillende verhalen kunnen vertellen over hoe zij voor de nodige ontspanning zorgden maar kort samengevat, de drinkbus was nooit leeg. Ik weet nog steeds niet of ik mijn doctoraat heb behaald dankzij of ondanks deze geweldige groep vrienden, maar ik ben ze in ieder geval dankbaar voor alles.

Ook mijn familie heeft me steeds aangemoedigd om de meet te halen. Mijn grootouders die altijd geïnteresseerd waren in alles waar ik mee bezig was en er nu aan de finishlijn ook ontzettend graag bij zijn. Mijn zus Sofie, broers Jonas en Tom en schoonbroer Govaart die mijn gezaag over mijn onderzoek verrassend goed konden verdragen en ook altijd klaarstonden voor de nodige ontspanning. Maar twee supporters hebben me altijd al van begin tot einde aangemoedigd. De supporters die voor de koers al langs het parcours gaan staan om het beste plekje te hebben, de spandoeken ophangen en de aanmoedigingskreten op de weg schrijven. De supporters die een cola aanreiken als de koers even wat zwaar wordt of je weer op gang duwen na een valpartij. Mama, papa, jullie hebben mij altijd aangemoedigd in alles wat ik doe en ook tijdens mijn doctoraat waren jullie een grote steun, bedankt!

Maar het halen van deze finishlijn is voor een groot stuk te danken aan één persoon. De grootste supporter, een ploegmaat, waterdrager, mecanicien,… geen woorden genoeg om ze te beschrijven. De hardste werker, die niet op het podium staat maar in de ogen van de kopman wel op het hoogste schavotje thuishoort. Deze koers rijden was voor haar misschien wel meer afzien dan voor mezelf. Marie, bedankt om het beste lief te zijn dat ik mij kon wensen in deze tocht. Jij zorgde er keer op keer voor dat ik stevig in het zadel bleef zitten. Marie, een welgemeende sorry voor al het gezucht en gezaag, maar zonder jou had ik de meet niet gehaald.

Introduction

From the early beginnings of social media, academic research has investigated the impact of social media platforms on several aspects of journalism practice. Different research fields in journalism studies embraced these new digital platforms and the technological innovations sparked new streams of research on participatory journalism (e.g. Domingo et al. 2008; Singer et al. 2011), user-generated content (e.g. Hermida and Thurman 2008; Paulussen and Ugille 2008; Thurman 2008), journalist-audience interactions (e.g. Artwick 2013) and online news marketing (Barnard 2016; Molyneux and Holton 2015; Tandoc and Vos 2016). Besides research on the relation between journalists and the public, the advent of social media has also instigated a renewed interest in the relation between journalists and their sources. The use and influence of sources is a central aspect of how the news comes about. For decades a prominent question within journalism research is and has been which sources are present in the news (Gans 1979; Sigal 1973; Reich 2009). Although the question seems fairly straightforward and simple, it remains relevant since these sources are not simply carriers of information that are consulted by the journalists but, as Gans (1979) argues, actors that play a crucial role in the production of news and public discourse. Social media at least have the potential to influence the sourcing practices of journalists as they provide journalists with an easy and fast access to the opinions and statements of a large amount of relevant actors. These actors in turn use Twitter to reach a broader audience, but often deliberately target journalists to influence the news content. This dissertation focusses on the sourcing practices of journalists in the social media environment and the role of social media in the production of news. More specifically, this dissertation analyses how journalists use Twitter in creating news stories.

Originally, Twitter aimed at spreading messages to a group of people in a public network (Kaplan and Haenlein 2011). Twitter moved from a platform with short status updates for a small group of followers to a tool that can quickly spread information and news. The strong interactive possibilities combined with the relatively low threshold to participate in these interactions sparked the idea that social media had the possibility to alter the way news is produced. From 2010 onwards, Twitter gained a lot of attention in scholarly work. Already in 2010, Hermida (2010) suggested that for journalists Twitter could function as an awareness system that is always-on and creates an ambient stream of information. The value of information on the platform is “defined less by each individual fragment of information that may be insignificant on its own or of limited validity, but rather by the combined effect of the communication” (Hermida 2010: 301). The strength of the platform lies in the ambient stream of information that alerts journalists to certain issues and trends.

This PhD project started in 2014, when the initial excitement concerning Twitter had already somewhat decreased. Content analyses, such as the work of Broersma and Graham (2012, 2013) and Paulussen and Harder (2014), studied the use of explicit social media references in the news, trying to uncover the importance of social media as a source. They did not find evidence for a strong effect of Twitter on the news content; social media references had become accepted sources but were undeniably still subordinate to traditional sources. Other scholars, such as Gulyás (2013) and Hedman and Djerf-Pierre (2013), focussed on the perceptions of journalists towards these new social media platforms using surveys and interviews. Again, their findings indicated that traditional sourcing methods maintained the upper hand but journalists certainly saw value to social media. Social media, and especially Twitter, were not their essential sourcing tools but were considered useful monitoring tools to follow ongoing debates and discover new information. A lot of research around this time concentrated on political news, with only a few exceptions, such as the work of Deprez, Mechant and Hoebeke (2013) on sports journalists. This dissertation focusses on news about the economy. Economic news has often been neglected in journalism studies, even though it has gained more scholarly attention since the financial crisis in 2008 (see further).

Journalists' appreciation towards Twitter on the one hand, and the limited direct effect of the platform on the other, may seem contradictory at first, since the positive stance towards social media cannot be detected in the journalists' work. Therefore, to fully understand the role of Twitter in journalists' sourcing routines, we may have to look beyond manifest social media references in the news output. The functions social media fulfil within the newsroom and news production can be divided into two categories: manifest and latent functions – based on the idea of sociologist Robert Merton (1949; 2016). Research looking for explicit social media references expects a direct, manifest impact of social media platforms. Manifest use of social media can thus be considered as sourcing behaviour that is clearly visible, like for instance the tweets of leading politicians, which have become a regular part of political news coverage. Social media can, however, also serve a second, more latent, purpose. In this sense, there is no direct impact and we cannot easily obtain evident results. Monitoring social media, however, could have the potential to spark story ideas and have a latent impact on the news that is eventually produced. This indirect influence of Twitter is suggested by several scholars considering the absence of explicit social media references and journalists' appreciation of Twitter as a monitoring tool (Broersma and Graham 2016; Hedman and Djerf-Pierre 2017). In this study, I try to analyse what the actual role of Twitter is, and whether and how this monitoring function influences the news content on the level of sources.

To fully understand the role of Twitter in the sourcing process, I aim to investigate both manifest and latent functions, and look for influences of these functions. Manifest functions are easily detectable and are clearly visible within the news content, whereas latent functions of Twitter are less visible and often stay below the radar. The fact that the latent functions are not visible in the produced content forces us to study the sources that journalists consult. Twitter provides the ability to build a network online. This network, as opposed to regular sourcing networks, has no limitations and can include everyone on the social media platform. These online opportunities might influence the sources that are contacted, the sourcing process in general, and, eventually, the news content. Through social media, actors who are not present in the journalists' current network might become more visible to the journalists, or, put differently, journalists may become more aware of actors they follow on social media. In this way, social media might affect the news production process and alter the relations between journalists and their sources. The questions this dissertation tries to address are:

(1) Which sources are present within economic journalists' Twitter networks?

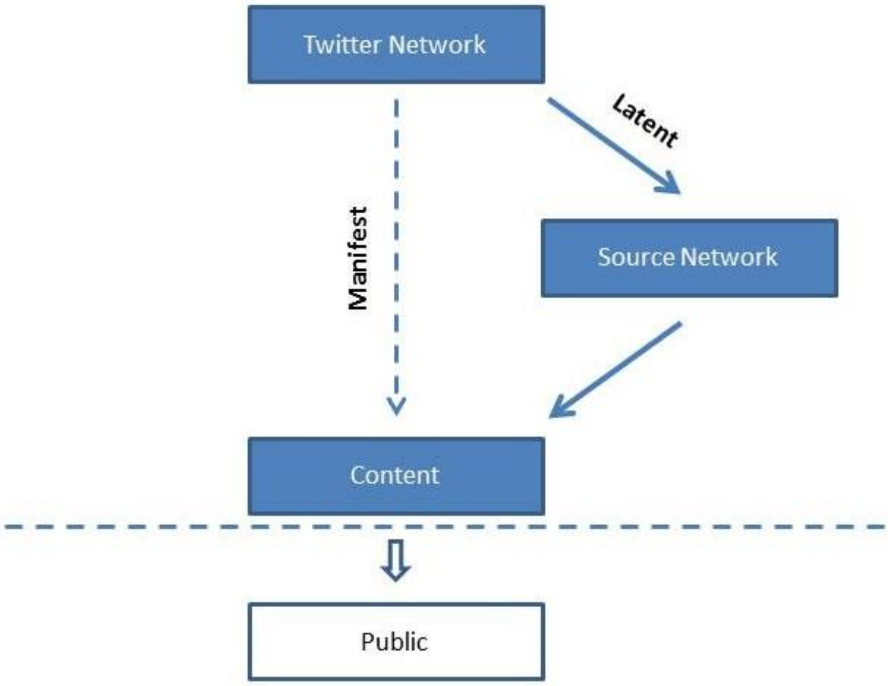
(2) How do economic journalists' Twitter networks influence the journalistic sourcing process?

(3) How do economic journalists' Twitter networks and the changing sourcing environment influence the economic news output?

To answer these three questions, the studies within this PhD analyse sources on three different levels: (1) the Twitter network, (2) the actual source network, and (3) the sources in the news content. Weaver (2015) argues that research on news production should strive for a complete overview, looking both at the news production process and the produced news content. In combining these three levels, I aim to address this argument and analyse the role of Twitter in the sourcing process as well as in the end product, the economic news itself. Moreover, instead of focussing only on the manifest functions of social media, I will investigate linkages between these networks which might be attributed to latent functions of the platform that also influence the news content. The same sample of journalists is studied throughout the different chapters, resulting in an in-depth analysis of the sourcing process from the online network to the news content.

Figure 1 summarises the conceptual model. Although the online networks and the sources of journalists are not completely separable, the starting point of our research is the Twitter network of the journalist. From there, two options are possible. First of all, this network could have a direct impact on the news content. Based on previous research, it is expected that this impact will be modest. The second option is that the Twitter network has a latent influence on the news content, firstly influencing the source networks of journalists. This will ultimately influence the news content and end up with the news consumers, the public.

Figure 1: Conceptual Model



The combination of three different studies on the sourcing practices of economic journalists in Flanders provides us with an in-depth analysis of how the introduction of social media as a new technology has altered journalists' routines of news discovery and gathering. This PhD distinguishes itself from previous research on the relation between Twitter and the news by looking both to journalists' online and offline source networks, both to manifest and latent uses of Twitter, and both to journalists' potential and actual sources.

Theoretical background

This theoretical chapter presents the background for the subsequent three empirical studies on the role of Twitter as a sourcing tool for economic journalists. In this theoretical chapter, I discuss the central concepts in this PhD which are crucial to understand sourcing and the changes within this sourcing process at length. Firstly, I present my definition of sources based on the seminal work of Gans (1979) and Sigal (1973), and I discuss the relevance of sources in the production of news. Secondly, I focus on the role of media for different sources and how sources communicate in the contemporary media environment. Thirdly, I zoom in on the role of social media in the newsroom by discussing research on the adoption of social media among journalists and their use of social media, especially Twitter, as a sourcing tool. To get a comprehensive overview of the different functions and fully understand the place of Twitter within the newsroom, also journalists' promotional and conversational uses of Twitter will be briefly discussed. In the fourth and fifth part of this theoretical chapter, I zoom out again by discussing some of the key notions in theories on journalistic sourcing, such as source availability and source suitability (Gans 1979) and the distinction between sourcing practices in the news discovery and news gathering stages of the news production process (Reich 2009). After the discussion of social media and sourcing, I present the case in which I studied these processes, namely the news beat of economic journalism. The theoretical concepts described throughout this chapter are necessary to gain insight in the sourcing process of economic journalists and the current knowledge on the role of social media within this process. The empirical chapters that follow try to build on these theories and expand the knowledge on Twitter in economic journalism, the platform's role in the sourcing process and the influence it has on the news content.

Defining sources

It is first necessary to define what is considered as a source. Gans (1979) describes sources as "the actors whom journalists observe or interview, including interviewees who appear on the air or who are quoted in magazine articles and those who only supply background information or story suggestions" (80). Sources are here seen as human actors i.e. as individuals or as organisations that group these individuals. Gans (1979), but also Sigal (1973), thus maintains a strong division between the human actors, the sources and the technological tools that help these sources communicate, the channels. Channels are, according to Sigal (1999), "the paths by which information reached the reporter" (225). In the digital news environment, the lines between these two concepts sometimes tends to blur, which leads many scholars (e.g. Lewis and Westlund 2015; Reich and Barnoy 2016) to conceptualise non-human entities as 'actants'. In this sense, technological devices, such as social media, have ‘agency’ and can also contain and spread information as an actant and consequently become a source. In this study, however, I argue that actors can be separated from channels, and that information can always be traced back to the actor that provides the information. As a consequence, sources are conceptualised as human actors and studied on the actor level. Hence, this study focusses on the role of a channel, Twitter, in the relation between journalists and their (human) sources.

The importance of sources for journalism is evident. Gans (1979) states that news is “information which is transmitted from sources to audiences, with journalists – who are both employees of bureaucratic commercial organizations and members of a profession – summarizing, refining and altering what becomes available to them from sources in order to make information suitable for their audiences.” (80). He sees the production of news as a process that starts with the source and the information this source provides, which then passes through the gates of journalistic selection and processing, and is ultimately provided to the audience. News is thus, in its essence, information that is provided by sources, and transmitted via journalists to the audience.

If we take this one step further, sources lie at the root of a constructed reality that audiences receive from the news media (Carlson 2009). This leads to the idea of Sigal (1986) that “news is not reality, but a sampling of sources’ portrayals of reality, mediated by news organizations” (27-28). The link between news and reality exists, but this link can be characterised as sources that provide a form of reality to the journalist who then presents it as such (Carlson 2009; Sigal 1986). Similar to journalists, sources not only determine what information is presented to the public, they also have an influence on what image of society is brought forward (Soloski 1989). If we consider news as being co-decided by sources, in providing the information, and journalists, in providing the sources with a platform, studying which and how sources make it into the news remains crucial for understanding the news itself.

One of the most well-known metaphors in sourcing research to describe the relationship between sources and journalists is brought forward by Gans (1979) who sees it as a dance, efficiently describing the idea of this two way relationship by stating “it takes two to tango” (116). Gans added, however, that more often than not, the sources do the leading and take control. In his work *Reporters and Officials,* Sigal (1973) makes a similar observation, when he describes the relation between journalists and their sources as follows:

“Like a pipeline carrying water from a reservoir to a city, it has some effect on what arrives at the end of the line. Not all droplets that enter the pipeline end up in the same destination; some are

routed elsewhere, others evaporate en route. Yet the effects of the pipeline are minor compared to the source of the water – the reservoir."

Sigal (1973) sees the start of the news production process as a reservoir that contains information of sources, which might be relevant to the journalist. The news platform as a medium and the journalists working for it carry the information, but the information sources provide simply passes through and is not fundamentally altered. Although not all information reaches the end of the line, Sigal (1973) argues that sources thus form the news that is presented to the audience.

For Hall et al. (1978), sources are the primary definers, since they establish the news content but also define the viewpoint and tone of this specific subject. Various authors have criticised the idea of primary definers (Cottle 2000; Miller 1993; Schlessinger 1990). This critique does not accept the automatic defining power of elite sources and various sources are to be seen as competitive definers (Carlson 2009). Moreover, the passive attitude that seems attributed to journalists is not accepted (Schlessinger and Tumber 1994). Nevertheless, even if there is a competitive sphere between sources, the narrow range of sources that is often consulted maintains their primary defining role (Berkowitz 2009; Splendore 2017; Tiffen et al. 2014). These primary definers do not only form the news output but define a certain form of reality to the public which is, however, not necessarily a conscious message from sources. As Berkowitz (2009) describes, both sources and journalists are immersed within an 'interpretive community' which represents "a cultural location where meanings are constructed, shared, and reconstructed during the course of everyday life" (106). The interpretation that sources bring forward is thus considered as normal since it is socialised within this community (Berkowitz 2009). If this norm gets presented within the news, however, this norm of a smaller group of sources within a specific interpretive community is pushed as the public opinion and, ultimately, as a depiction of reality. As a consequence, the ongoing question of who is present in the news and which sources are consulted by journalists remains relevant.

Since the seminal research of Sigal (1973) and Gans (1979), a lot of research has continued to focus on the relation between journalists and their sources. Although the news landscape seems to have thoroughly changed since their work, the findings of these scholars remain relevant and often unaltered. First of all, the relation between journalists and sources remains a two-way process where both parties try to maintain their upper hand (Brown et al. 1987; Reich 2006, 2009). Reich (2009) discusses this further and sees that as this dance moves along, other sources are invited to join. The two-way relation remains crucial in the research agenda on sourcing throughout the years but multiple sources compete over the journalist's attention (Brown 1987; Carlson 2009; Reich 2009). In the end, sources usually maintain their dominance obtaining their agenda setting role and defining the news agenda. This group of sources continues to be, throughout all changes, heavily dominated by elite sources (Brown et al. 1987; Carlson 2009; Grabe, Zhou and Barnett 1999; Reich 2009; Tiffen et al. 2014; Splendore 2017).

Distinctions between different source groups are often maintained to analyse the representation of sources and different source groups in the news. Most scholars studying this topic make the distinction between elites and non-elites to discuss who is present in the news and who obtains power over media coverage. A question that arises here is who can be defined as elites. Gans (1979) makes, in the first chapter of *Deciding What's News,* the distinction between 'Knowns' and 'Unknowns', which might be seen as the simplest form of explaining elite-bias that is often present in the news. Knowns are well known-people that hold official positions or other political, economic, social or cultural figures. Unknowns, on the other hand, are ordinary people that make up the nation (Gans 1979: 8). Over the years, other terms have been used, but this two-fold distinction is mostly what it comes down to: sources in privileged positions that possess the power to introduce their ideas and information are distinguished from sources who are not in such a position. Most studies show a distinction between elite/official sources and non-elite/unofficial sources (Bennett 1990; Lee 2001; Raeymaeckers et al. 2015; Vandenberghe, d'Haenens and Van Gorp 2015; Splendore 2017). In the article of Beckers and Van Aelst (2018) we get a convenient overview of the different actor and sourcing studies and their classifications. As they show, a lot of research has been done to analyse the main sources in the news, but classifications are consistently different which leads to different results. Harcup (2004) tries to list the major sources and comes up with 72 categories which are, according to him, still not exhaustive. The need for some classification is thus clearly present. A notion that strongly guides this choice of actor categories is what the goal or intention of the study is. Some studies, for instance, search for citizen voices in the news, which obligates them to add a citizen category. Other studies just focus on elite versus non-elite sources, providing them with two broad groups (Beckers and Van Aelst 2018). Throughout the chapters in this PhD, different terms are used to pinpoint this distinction. In Chapter I, I mainly focus on the categorisation introduced by Grabe, Zhou and Barnett (1999) who classify news sources by looking at their institutional affiliation. Following earlier research, journalists heavily rely on sources affiliated to elite institutions such as politicians and government. The term elite sources is also used further on. While I use this two-fold distinction, I believe we can roughly place all actor groups on a continuum, with powerful, elite, institutionalised sources who communicate in top-down manner on the one end, and common, not institutionalised sources that search for ways to communicate their ideas and information in a bottom-up structure at the other. One top of that, the dichotomous distinction is pressured by the introduction of social media, which may provide a more levelled playing field for the various actors on this continuum. The dissertation therefore goes beyond the often-used structure of elites versus ordinary citizens and continuously discusses various actors and actor groups such as experts, trade unions and employers organisations encompassing the entire continuum.

Disintermedation in a new media environment

In general, the sources on the elite side of this continuum are the sources that dominate the news content (Brown et al. 1987; Carlson 2009; Gans 1979; Reich 2009; Tiffen et al. 2014). Among other factors discussed more in-depth when explaining source availability and suitability, the way these sources communicate heavily increases their prospects of making it into the news. Gandy (1982) claims that these elite sources, and especially their PR practitioners, offer a form of subsidy to these news organisations presenting them with ready-to-print information via press releases, press conferences, special reports, etc. These information subsidies are useful in the newsroom, since they help journalists save time and money and research shows that journalists heavily rely on them to produce their news articles (Lewis, Williams and Franklin 2008; Van Leuven, Deprez and Raeymaeckers 2014). With the introduction of the internet, Hall (2001) argues that the race to make it into the news and spread a message via traditional media platforms is challenged by the concept of "disintermediation". Organisations and individuals have the ability to become, according to Hall (2005), "news providers in their own right" as opposed to merely sources of traditional media "which they required to disseminate their news" (52). Digital media are horizontally distributed technologies that are readily available to all actors and provide them with an alternate platform if traditional media outlets are not interested in their story (Hall 2001). In other words, traditional media seem to have lost their monopoly position of being the sole platform to spread a message. In the digital media environment, people can more easily circumvent the traditional media by publishing their content instantly and immediately addressing their target audience. Everyone can, in principle, create his/her own content and convey his/her thoughts, opinions and messages online (Punie et al. 2001). Ironically, however, the enormous amount of information that can be made available online is the reason why journalists become more necessary than ever to filter out relevant information, which leads to a paradox where the option to circumvent traditional media platforms leads to a growing importance of them (Domingo 2008; Singer 1997). Parmelee (2014) argues that, although tweets can address the public directly, elite sources such as politicians can also implement them in their communication pattern as a new form of information subsidy. The end goal of their online communication is not to bypass traditional media, but to use a new channel that reaches both the media and their target audience. Elite sources have different channels at their disposal and incorporate new media as an alternate way to obtain media attention (Splendore and Rega 2017).

Nevertheless, the introduction of social media might have an impact on the communication by bottom-up sources who gain access to new channels that have the potential to professionalise their communication patterns since they have fewer communication platforms at their disposal.

Social media in the newsroom

There is an agreement that Twitter and other social media have found their way into the newsroom and can provide journalists with relevant information from different sources (Broersma and Graham 2016; Gulyás 2013; Hedman and Djerf-Pierre 2017; Raeymaeckers et al. 2015). The adaptation of social media and the use of it by journalists is quite diverse and social media does not appear to uphold one specific goal within the newsroom (Gulyás 2017; Hedman 2015; Hedman and Djerf-Pierre 2013). As a consequence the different applications of social media platforms are still heavily studied. Gulyás (2013,2017) demonstrates that there are a lot of differences between countries why journalists choose to use social media and how frequently they use it. Social media use is inherently diverse and strongly varies between different newsrooms. The social process of appropriation within the organisational setting is equally or even more important than technological innovation when looking at the integration of social media tools in journalistic practices (Gulyás 2013). Within one country, Hedman and Djerf-Pierre (2013) also found different uses and a degree of individualisation but they manage to categorise social media users into three groups: sceptical shunners, pragmatic conformists and enthusiastic activists. The majority of journalist in their study can be situated in the group of pragmatic conformists who mostly use social media for "information collection and ambient scanning of what is going on online" (Hedman and Djerf-Pierre 2013: 382). Within the Belgian media landscape, where the research in this PhD took place, Raeymaeckers et al. (2015) have studied the importance of social media for journalists. According to them, social media, such as blogs, video sharing sites and social networking sites, are rarely used as tools for actual news gathering. When discussing the usefulness of social media, however, their survey shows that in 2012, two thirds of professional journalists had a positive opinion about the use of social media for producing news stories. On top of that, the percentage of journalists that said to use social media during the news gathering process strongly increased from 4% in 2003 to 24% in 2013. Broersma and Graham (2016) give a thorough description of the different social media practices of journalists and distinguish seven practices of (political) journalists on Twitter: monitoring, networking, interacting, sourcing, publishing, promoting and branding. Hedman and Djerf-Pierre (2017) synthesise the uses of Twitter a bit more and mostly see researching, networking and branding as the most important affordances. In Chapter I, I follow this threefold distinction and present three important functions of social media: promotion, conversation and sourcing. Promotion and conversation are discussed within this chapter but overall, the sourcing function of Twitter and its role in the newsgathering process is what interested me the most and is central in my work. Nevertheless, an analysis on the implementation of the three different functions provides a broader perception on the overall adoption of Twitter in the newsroom.

The functions publishing, promoting and branding defined by Broersma and Graham (2016) can be categorised as the promotional use of Twitter. The most obvious form of promotion is often seen as the dissemination of articles on the social media platform. This can be done by both the overarching media accounts, but it is increasingly being done by individual journalists on demand of their news organisation to try and generate traffic to the news website (Barnard 2016; Tandoc and Vos 2016). The promotion of news articles and the media platform in general is becoming increasingly individualised, with the journalist playing a crucial role in marketing the news (Tandoc and Vos 2016). This individualisation also seems to be intrinsically motivated to promote individual work and brand themselves online (Molyneux 2015; Molyneux and Holton 2015). According to Brems et al. (2017), Twitter is a suitable stage for these forms of self-promotion and personal branding. Journalists thus use the platform for both their organisational and personal brand identities (Ottovordemgentschenfelde 2017).

A second use of Twitter and social media in general is the conversational use. Personal brand development on Twitter also involves audience interaction, with journalists trying to cultivate and present their online persona to the audience (Molyneux 2015). This can be linked to the individualisation of promotion and the construction of the journalist’s online brand, but the interaction with the audience is a different use that is specific to social media and is not necessarily linked to promotional purposes. Artwick (2013) discusses this function and describes that the journalist-audience relationship on social media remains heavily characterised as one-way rather than two-way communication. The participatory role that is available to them is thus not fully exploited. Some journalists are clearly more eager to engage in a public dialogue on the platform than others, and the ability to network is even what draws these journalists to Twitter (Broersma and Graham 2016; Hedman and Djerf-Pierre 2017). If interactions on Twitter occur, journalists are more likely to engage with colleagues or elite actors who already dominate their professional network.

Social media as a sourcing tool

These first two functions are heavily focussed on the posting behaviour of journalists. A third use that can be distinguished is the use of Twitter as a sourcing tool which is based on the functions that Broersma and Graham (2016) describe as news gathering, monitoring and sourcing. Although the use of social media shows a lot of diversity, journalists often implement these platforms within their professional routines to follow ongoing debates and (a part of) the public opinion (Broersma and Graham 2016; Hedman and Djerf-Pierre 2017). Raeymaeckers et al. (2015) argue that the idea of monitoring information in an online environment is crucial to the use of social media platforms. Hedman and Djerf-Pierre (2013; 2017) also found that the majority of journalists in Sweden use social media to monitor information. According to the Social Journalism Study by Cision (2017), only nine percent of journalists in the U.S. deem the use of social media as not important to source information, whereas more than half attributes a large importance to it.

Based on longitudinal survey data, Djerf-Pierre, Ghersetti and Hedman (2016) found that the use of social media has reached its tipping point and suggest that the excessive optimism from earlier years has diminished. Von Nordheim, Boczek and Koppers (2018) also study the role of social media as a source. They link this to the diffusion theory of Rogers (2003) and especially the recent adaptation of Ekdale et al. (2015). Essentially the introduction of new technologies is broken up into three stages: changes in technology use, changes in audience relationship and innovation attributes (Ekdale et al. 2015). Firstly there is a phase of implementation and adaptation of the technology not only trying to add new tools but at the same time implementing it into the existing newsroom. Von Nordheim, Boczek and Koppers (2015) argue that social media are fully embedded within journalistic work routines, but the question remains whether the adaptation of social media as a news source is still ongoing. In a second stage, this adaptation within the newsroom will also affect the audience and the relationship with the audience. Thirdly, there is the stage in which the relative advantages of the innovation are assessed and compared to the previous status quo (Ekdale et al. 2015). As von Nordheim, Boczek and Koppers (2018) argue, the influence of technological tools within social practice are in reality dependent on more variables than the technological innovation alone. Other exogenous factors are added and can influence the introduction of this technological change. This relates to the theory of Chadwick (2013) that discusses the convergence of old and new media systems. In his work, *The Hybrid Media System,* he also acknowledges the idea that new technologies are not simply implemented in a vacuum but in an existing media environment. As Paulussen, Harder and Johnson (2017) describe, the impact of new technologies is therefore often overestimated. The lack of short-term effects, however, does not mean that long-term changes are not possible. Technological innovation pushes these changes but change is not merely technology driven (Paulussen, Harder and Johnson 2017; Conboy and Eldridge 2014; Örnebring 2010). When new technologies are introduced, an interaction between old and new media logics arises not only on a technological level but also in norms and social conventions connected to the medium (Chadwick 2013). It is not adequate to determine the possible impact of Twitter by simply considering the possibilities this new technology provides and looking at short-term effecsts. Although the technological affordances of this platform introduce new possibilities to broaden the journalists' networks and diminish the importance of availability in sourcing, the introduction of Twitter in the newsroom does not necessarily lead to abrupt changes. Solely focussing on the opportunities of Twitter might even lead to an overestimation of its impact. Therefore, I contend that only if we combine insights in social media with theories on news selection can we filter out the specific role of social media, and more specifically Twitter, within the news production process. In the next sections, I discuss two important notions from the literature on journalistic sourcing, namely the distinction between source availability and suitability, and the distinction between news discovery and gathering.

Source availability and suitability

Theories on the selection of news stories are typically linked to the work of Gans (1979) revolving around two processes: "One determines the 'availability' of news and relates the journalists to sources; the other determines the suitability of news, which ties the journalists to audiences" (81). These availability and suitability judgements of the news are guided by a number of considerations. Gans (1979) classifies them into seven sets: source, substantive, product and value considerations; and commercial, audience and political considerations. Together, these considerations drive the story selection within journalism. Other theories appoint more weight to these considerations or even see them as the driving factors between story selection and news production. Some scholars believe, for instance, that the professional routine of the journalists or, on a higher level, the organisational structures shape the news (e.g. Gieber 1964; Fishman 1980). Bureaucratic tendencies within their own organisation also drive them to other bureaucracies as sources leading the way for official sources (Fishman 1980). These bureaucracies are recognisable for the journalist and appear trustworthy because of their similar organisational structure. Other approaches focus more on external factors, with, for instance, a focus on the role of new technologies as catalysts of change. Not all considerations are always applicable and not all considerations are equally important. It is the mix of considerations that makes a story, and this is different every time. Nevertheless, Gans (1979) and other scholars such as Sigal (1979) and Reich (2009) emphasize that above anything else, sources play – and keep playing – a crucial role in the news production. Gans (1979) notes that a detailed mapping of story selection in the newsroom with all these different considerations in mind seems to make the claim that this process is well thought out, while it is, in the end, a strongly routinized process within the professional routine of a journalist that constantly works against a deadline. With the establishment of the 24-hour news cycle and online news, this limited time window has only become more pressing (Boczkowski 2010; Rosenberg and Feldman 2008).

To select the sources that make up the news not only their availability but also the suitability of the sources is important. In describing the availability of a sources, Gans (1979) keeps in mind several factors ranging from logistics and geographical and social proximity to the incentive and power of the different sources. With the concept of suitability, on the other hand, Gans (1979) considers the past suitability, productivity, reliability, trustworthiness, authoritativeness and articulateness. In other words, the source is rated on the information it can provide and if this is relevant for the audience but also how efficiently the source provides or has provided information in the past and if this easily fits the journalistic standards the reporter strives for. The selection process that is obtained by journalists seems to lead to a large representation of powerful sources that dominate the news. These sources fit in the profile of available and suitable sources (Gans 1979). Sourcing research throughout the years has shown that this concept of power remains relevant and the dominance of these powerful sources is omnipresent. In the early 70's, Sigal (1973) already observed a sourcing pattern that was heavily dominated by official sources mainly situated within the structures of government. Later research on this topic mainly resulted in similar conclusions reinforcing a strong top-down structure with a prevalence of elite sources (e.g. Brown et al. 1987; Reich 2009; Tiffen et al. 2014; Splendore 2017). The literature shows that sourcing has not fundamentally changed over the last decades. As noted by Carlson (2009), "the reliance on official sources and routine news channels is one of the most reproduced findings in studies of journalism" (529). The way news stories are produced and how story selection works mainly helps to maintain the dominance of elite sources. Several factors are accountable for this dominance but the suitability and availability of a source are crucial in the news production process (Gans 1979). Not only the power and availability of these sources helps them maintain their dominant position in the news, but also the suitability of their information and the efficiency of their communication.

Rony, Yousuf and Hassan (2018) discuss this and remark that "though credibility was apparently the most important factor behind source selection, resources constraints of news organizations and easier access to media had played a key role in establishing elite dominance in the news" (2). In other words, the strive for credibility is in theory the most important consideration of a journalist but this is or was often undermined by other, more practical constraints which leads us to the concept of availability. The rapid rise of social media initiated strong expectations of considerable change within the availability of certain sources and, as a consequence, a change within the entire sourcing process of the average journalist (Farhi 2009; Hermida 2010).

One of the first empirical studies on social media sourcing in traditional media is conducted by Broersma and Graham (2012), who focussed on political journalists in election times. This explorative study shows that there are Twitter messages included in traditional news media and are becoming regularly used sources in the news. They conclude that tweets can be the trigger of a news story or are used as illustrations to complement the news article, especially when politicians are not available for comments (Broersma and Graham 2012). Overall research shows an increase in social media references over different newsbeats (Broersma and Graham 2013) in day-to-day coverage (Paulussen and Harder 2014) and especially over a longer period of time (Rony, Yousuf and Hassan 2018; von Nordheim, Boczek and Koppers 2018). The use of social media is often linked to breaking news and crisis events. In their study on the role of social media during the Arab spring, Hermida, Lewis and Zamith (2014) found that a considerable number of non-elite voices on Twitter were used as sources during the Arab spring. Social media impact the sourcing process since journalists can use quotes "from people that are suitable as a source but not available other than on Twitter" (Broersma and Graham 2013: 460; Paulussen and Harder 2014). This is not only the case for well-known sources but also for unknown sources that would otherwise not be accessible (Paulussen and Harder 2014; Hermida, Lewis and Zamith 2014). Paulussen and Harder (2014) argue that this, in the end, has the potential to increase diversity of voices in the news. When comparing the social media references to other, more traditional channels, however, the findings are nuanced or even diminished. The frequency of social media references is, compared to other channels, rather low and social media only have the upper hand when the availability of official information is scarce (AlMaskati 2012; Van Leuven, Deprez and Raeymaeckers 2014). This immediately puts the idea that social media levels the playing field for non-elite sources into perspective, because the majority of sources will be contacted via traditional routines, thus maintaining the elite dominance within the news (Hladík and Štětka 2017). The adoption of Twitter as a source is still ongoing within the newsroom (Rony, Yousuf and Hassan 2018; von Norhdeim, Boczek and Koppers 2018). The increase we see in social media references are mostly quotes of elite sources, not the non-elite voices that are often suggested within social media research (von Nordheim, Boczek and Koppers 2018). The technological optimism that arose with the uprising of social media and its potential to level the playing field for all actors is only partially or even non-existent. It appears that journalists are continuously normalising Twitter and using it as a tool to fit their existing norms and practices within news making (see Lasorsa, Lewis and Holton 2012). As Chadwick (2013) argues, the technological innovation should be considered in conjunction with old professional norms, practices and logics. Sources can convey information via social media, which increases their availability, but it appears that, although available, the broader group of non-elite sources remains practically unused. The interaction between availability and suitability remains present and sources are still assessed on both levels.

Sources in the news discovery and news gathering phase

Although social media references are still gaining traction within the newsroom, critical voices may interpret these longitudinal results as insignificant. For instance, the presence of explicit social media references in traditional news coverage remains low. Lecheler and Kruikemeier (2016) also suggest that the techno-optimism that existed at the introduction of social media in the newsroom is not clearly supported by the empirical results. This leads us to the question whether social media have an impact and play a role within the news production process? Or are they simply an additional tool that helps journalists facilitate their usual sourcing routines? Reich (2018) argues that in looking for an effect of changes in the newsroom, we should not study every channel or technological change in a similar manner, but "technologies that contribute news information should be evaluated according to their 'epistemic bandwidth' – the scope of knowledge-seeking opportunities it affords" (2). Although the relevance of social media is stressed by journalists, traditional sourcing routines are often still preferred and social media are just one information channel amongst many (Reich 2013; Raeymaeckers et al. 2015). As opposed to non-mediated channels and oral technology, social media – and especially Twitter – mostly situate themselves in the realm of textual technologies, which results in "far thinner interactions than auditory ones" (Reich 2013: 421). Internet based interactions even concern journalists because it depersonalises their relationships with sources (Sallot and Johnson 2006). The epistemic bandwidth of social media should thus be kept in mind when looking for a certain influence of these tools. Throughout research on sourcing and social media, journalists all agree to a certain degree that Twitter and other social media obtain relevance in monitoring, simply providing an individual stream of information that can be curated by the journalists containing his/her interests (Broersma and Graham 2016; Gulyás 2017; Hedman and Djerf-Pierre 2017; Raeymaeckers et al. 2015). This stream is aptly described by Hermida (2010) as an ambient stream of information and describes Twitter as an always-on awareness system. Journalists are constantly bombarded with information coming from events, press releases, PR-officials and even informal talks. Social media is added to this mix and introduces yet another platform where this constant and always-on information stream is continually providing them with new information and opinions. When looking for the role of Twitter in the sourcing process we have to incorporate this idea of monitoring and how this eventually might influence the journalists' news production process.

Keeping this in mind, it becomes crucial to stress that quoted sources are not the only sources that journalists consult during their news production process. Gans (1979: 80) already argues that sources can have different roles within the news, ranging from quoted sources to background sources or generators of new ideas. Reich (2009) claims that the process of how journalists consult and select sources actually consists of two phases, which he describes as 'news discovery' and 'news gathering'.

The ‘news discovery’ phase is the moment when journalist become aware of the existence of a potential news item. At this point, the piece of information is still considered as a potential news item, since it does not necessarily end up as a published item. Reich (2009) refers to McManus (1994) who sees the information obtained in this phase as a trigger point towards a potential news item. In a second phase, the ‘news gathering’ phase, more information is collected to construct a solid story or to verify these preliminary discoveries. If we only look for explicit media references of social media, as most content analyses do, we may (partly) overlook or neglect the first phase that Reich describes and focus strongly on the actual gathering of news. The news discovery phase, where journalists become aware of potential news items, might, however, be the phase in which the monitoring function of social media plays a crucial role. The information stream that journalists are able to create on Twitter also provides them with an enormous amount of potential information (Hermida 2010). Again, the word potential is crucial here, since we do not know if they necessarily interpret the information they see online, and even if they do, the news items they pick up in an online environment might not be considered as trustworthy or suitable as the information they can gather on a similar subject via their traditional sourcing routines. Gans (1979: 117) already introduced the idea that journalists see people as potential sources; they all have a story or information which might be interesting or relevant. In the realm of social media, this idea of ‘potential sources’ becomes more tangible in the sense that journalists actually build a network online in which they follow several sources that might provide them with information. In line with Van Leuven and Deprez (2017) and Deprez and Van Leuven (2017), I thus define the actors that journalists follow online as ‘potential sources’, since we can assume that they potentially have an influence, even though tweets of these actors can just as easily be missed or even ignored by the journalist.

To further conceptualise this type of sourcing and scrutinise the use of social media in general, it is useful to dwell upon the idea of manifest and latent functions as introduced by Merton (1949, 2016). Manifest functions relate to the “conscious *motivations* for social behaviour” (Merton 2016: 68). Linked to social media, these are the more explicit functions of the platform that are consciously implemented in the professional routines of journalists. Latent functions, on the other hand, are related to unintended “*objective consequences”* of the social actions of participants in a system (Merton 2016: 68). The distinction between manifest and latent functions is used in this PhD in two ways. First of all, as further discussed in Chapter I, we can distinguish between the manifest and latent functions on the platform. Manifest functions relate to posting behaviour which is categorised under promotional and conversational use of the Twitter platform. On the other hand, sourcing behaviour is then seen as a more latent use of the platform, not implying consciously motivated behaviour but rather unintended or unconscious gathering of information that ultimately can lead to objective, more tangible consequences. This distinction is thoroughly discussed in Chapter I. In this chapter, sourcing on social media is mostly seen as a latent function since we cannot obtain detectable results whether or not journalists gather information from Twitter and all sources are thus perceived as potential sources. When we scrutinise the role of social media in the ongoing chapters, however, it becomes apparent that sourcing itself also displays both manifest and latent functions. The explicit social media references represent the manifest use of social media as a source, consciously using information that the journalist gathers in an online environment. The use of social media as a monitoring tool, however, links to the latent function of Twitter since journalists might not consciously collect actual sources but are constantly exposed to new potential story ideas. This latent function thus links to the news discovery phase as described by Reich (2009) where new ideas are considered and the potential sources journalists follow online can influence this phase. Manifest use of Twitter situates itself within the news gathering phase, actively looking for sources. Since the social media references in the news output remains relatively low, it is relevant to try and uncover a possible latent role of social media in the sourcing process.

Economic journalism

The questions that are brought forward in this PhD concerning sourcing practices and Twitter can be analysed in different contexts with different types of journalists. Throughout this research, I focus on one specific news beat, economic journalism, which I will study in depth. The choice for economic journalism is mainly driven by the (increased) importance and (growing) impact of economic journalism in society.

Since the economic and financial crisis in 2008, the topic of economic journalism became extremely relevant and shifted towards mainstream journalism (Manning 2013). The economic crisis ensured that not only the financial sector and politicians were concerned with economic topics, but the society in general was heavily invested in their economic well-being and the topic moved from niche markets to popular media. Financial justice became a heavily debated subject and economic themes continue to be important. An example of this is the weekly column of Dutch journalist Joris Luyendijk in The Guardian on the financial crisis, which ultimately resulted in his best-selling book. Globally, the success of Thomas Piketty's work, *Capital in the Twenty-First Century* published in 2013, was also widespread, showing that the theme of economics was and still is extremely relevant and prominent.

Next to this increase in prominence, economic news has a strong relevance and impact. A lot of effect studies on the impact of economic news, on both financial markets and consumers, have shown that a thorough understanding of this topic is highly important. First of all, there is a direct effect of economic announcements on the financial markets (e.g. Balduzzi, Elton and Green 2001; Goldberg and Leonard 2003). Both the study of Balduzzi, Elton and Green (2001) and Goldberg and Leonard (2003) study the effect of economic announcements and control for the numbers expected by the markets making it possible to fully analyse the effect of the news component. In these studies significant effects of economic announcements are found on bond prices in both the U.S. (Balduzzi, Elton and Green 2001) and Europe (Goldberg and Leonard 2003).

Secondly, several studies reveal that there is an effect of the economic news on the individual consumer. Economic news significantly affects consumer confidence, showing a decrease of consumer confidence when there is negative news coverage (see De Boef and Kellstedt 2004; Hetherington 1996). Svensson et al. (2017a) further scrutinise these ideas and show that ambiguous news leads to economic uncertainty with the consumers which, in the end, also leads to lower consumer confidence. Exposure to economic information has positive effects as well influencing and enhancing the economic sophistication of the audience, particularly in the frame that presents the economic consequences of events (Kalogeropoulos, Albæk et al. 2015). Negativity in these news stories also affects the economic efficacy of individuals, which Svensson et al. (2017b) define as the beliefs about one's own competence to understand and participate in economic matters. In the end, we can conclude that, next to direct effects on stock prices and markets (e.g. Balduzzi, Elton and Green 2001; Goldberg and Leonard 2003), the economic news has an influence on the economic knowledge of ordinary individuals. These frames and discourses are, however, (partially) construed by the sources journalists select, which ultimately leads us to the question who these sources are.

Research on sourcing in economic journalism in general has expanded since the financial crisis in 2008. The expertise of financial journalists has been in very high demand within the news organisations they work for and this also triggered scholarly attention (Manning 2013; Lee 2014; Schiffrin 2015). Often the main focus of this body of literature focusses on these crisis periods and how the press managed the economic crisis (Berry 2013; Kalogeropoulos, Svensson et al. 2015; Manning 2013; Schiffrin 2015). Nonetheless, these studies confirm the sourcing habits we see in earlier research on sourcing in economic journalism (Durham 2007; Glasgow Media Group 1979) and on sourcing in general with elite, institutionalised sources being highly cited (Gans 1979; Grabe, Zhou and Barnett 1999; Reich 2009; Sigal 1973; Tiffen et al. 2014). A clearly established 'hierarchy of sources' has been observed in many studies, with elites in the corporate and financial world, such as business professionals, being highly cited and an absence of bottom-up sources such as ordinary citizens (Manning 2013). This elite dominance is often maintained by structured flows of information on which journalists depend.

In economic journalism, these flows are even more crucial and are constantly being formalised by the introduction of public relations (Davis 2002; Manning 2013). Several changes within (economic) journalism pressure journalists into this small range of sources within the realm of public relations. In line with other news beats, the speed of news production has become extremely relevant and although this is not specific to economic journalism, the complexity within this newsbeat is also on the rise (Tambini 2010). The journalists within this news beat therefore become more and more susceptible for information subsidies provided by PR companies and business professionals. This strong dependence on PR content only encourages the idea of 'churnalism' as proposed by Davies (2008) where journalism is reduced to merely recycling market-driven PR content. The relation between PR practitioners and journalists is comprehensively studied but results all seem to agree that there is a mutual dependence on both sides (Avery, Lariscy and Sweetser 2010). Despite growing concerns, the economic news beat remains critical and is perhaps less affected by this trend of churnalism than other newsbeats. The sample of journalists that is studied throughout this dissertation are all writing economic news with most of them working for specialised quality media. These journalists still get the time and resources to fully explore a news story and will not plainly copy PR messages.

Doyle (2006) argues that economic journalists try to counter PR content with, for example, experts sources that can provide them with more information on the subject. Nevertheless, a paradoxical situation remains where journalists try to be sceptical but end up relying on a small range of (often elite) sources that most of the time consider their own strategic advantages above solid news production. As mentioned earlier, an important question is whether the news content would benefit from the introduction of non-elite sources in the news, especially in economic news. Van Leuven et al. (2018) address this and pose the same question, namely: "is it always necessary or valuable to represent ordinary people's viewpoints in the news?" (804). Non-institutionalised sources do not present similar expertise but as Gans (2011) describes, the idea of multiperspectival news is often seen as a democratic obligation to uphold by journalists. Economic journalists strongly depend on their network of sources since a lot of elite actors in this news beat communicate through established channels. This results in relationships where both journalists but also sources should benefit from their encounters which leads, according to Manning (2013), to a "I scratch your back and you scratch my back relationship" (183). The idea that journalists rely on a routine flow of information from a select network of sources is also present in other newsbeats since it is a constitutive part of the epistemology of journalism (Ettema and Glasser 1985; Ekström 2002). Be that as it may, this "standoff" in economic journalism between reporters and their sources is, according to Tambini (2010: 159), less scrutinised than in other news beats. It might be possible that the network of sources within economic journalists is more enclosed than in other news beats possibly increasing the power position of a limited number of actors (pack mentality). The inclusion of non-elite sources should perhaps not be the central goal within economic journalism, but the relation between economic journalists and their limited range of sources should be questioned. In this sense, the introduction of social media in their sourcing routines can be useful to gather information from non-elite sources and the public opinion. If the source network of economic journalists is more enclosed, the impact of social media on this news beat will be lower, not opening up to new or alternate sources. From a methodological perspective, however, these closed networks do allow us to analyse the composition of those networks on a micro-level, looking at individual actors. This could lead to insights that cannot be determined on a higher level. Instead of a broad distinction between elites and non-elites, a closer look at these enclosed networks allows us to obtain a more detailed description of the actor groups present. Different groups across the continuum, ranging from elite to non-elite sources, can be distinguished. This allows us to move beyond the idea of social media as tools to include citizen sources; they can also broaden the source networks across this entire continuum.

Within the research strand of sourcing and social media a lot of research focusses on journalists in general (e.g. Gulyás 2013; Hedman and Djerf-Pierre 2013) or political news production (e.g. Broersma and Graham 2012; Lawrence et al. 2014; Parmelee 2013). Other valuable news beats are often neglected. Occasionally, researchers have looked at the social media sourcing practices of specialised journalists like sports journalists (Deprez, Mechant and Hoebeke 2013) or health journalists (Deprez and Van Leuven 2017), but this research is still scarce. Hanusch (2012) also makes the consideration that several news beats are often ignored in journalism research but argues that the distinction mainly has to be made between hard news and soft news. He therefore pleads to study softer news beats like, for example, lifestyle journalism. In discussing the future of journalism studies, Wahl-Jorgensen and Hanitzsch (2009) concur and see an overestimation of certain news workers in research, especially in when looking at specialists. Again, however, they mainly point to soft news beats. Hard news beats are thus often seen as thoroughly studied, but it seems that within these hard news beats, especially political journalism receives a lot of attention. Although the argument that soft news should also obtain a larger amount of research attention is valuable and is not contested here, a specialised news beat such as economic news, though considered hard news, does not receive an equal amount of attention as political journalism. The idea that hard news gains a lot of research attention might essentially even be driven by the fact that political journalism is the centre of a large part of journalism research. Indeed, very few studies have been done on the use of Twitter and social media by economic journalists. One study, by Lariscy et al. (2009), analysed the use of social media with financial and business journalists in the United States. In their study, it became clear that Twitter was not highly used as a source in this news beat (Lariscy et al. 2009). A third of the business journalists in the study even claimed they did not spend any time on social media during their work. This finding might be due to the fact that Twitter was a relatively new platform and not really integrated in the journalists' working routines. Although none of the social media functions were considered highly valuable, surveillance appeared to be the most commonly used function (Lariscy et al. 2009). More recent studies by Avery, Lariscy and Sweetser (2010) and Russel (2015) already show higher use of social media tools within economic journalism. Russel (2015) compares the behaviour of economic journalists on Twitter with that of sports- and public affair journalists and finds that, besides many similarities, economic journalists seem to use the platform a bit less. He also discovers that even on Twitter, the economic journalists still hold on to their established source networks mentioning more official sources than other journalists (Russel 2015). The overall use of the platform, however, is comparable to other news beats since economic journalists mainly use it to track current issues and gather inspiration and information (Avery, Lariscy and Sweetser 2010). This dissertation builds upon this existing knowledge of social media use in economic journalism and further analyses the social media use focussing on how these platforms influence the tight knit source networks economic journalists rely on.

Overview of the dissertation

What is the role of social media within the sourcing process of economic journalists? In the paragraphs below, a short overview will be given of the different studies discussed in this dissertation which, all combined, try to answer this question. Three empirical chapters all highlight a different aspect of social media and its role in the sourcing process using three different methodological setups. Chapter I studies the Twitter network of economic journalists and the sources they follow and interact with online with the aim of gaining insight in their online behaviour and the potential source networks of economic journalists. Chapter II focusses on the use of social media within the newsroom and how it is implemented in sourcing routines. This allows me to construct the broader sourcing network of journalists, including those sources that might not be present in the Twitter network, nor visible in the actual content. Finally, in Chapter III the content of the journalists is analysed to examine the sources that end up in the news and the way sources' Twitter communication is visible. The combination of the three chapters aims to analyse both manifest and latent functions of Twitter not simply analysing manifest sources in the news content but trying to uncover the broader network of (potential) sources and comparing this to the sources that make it into the news. Sources that are followed online might not all exert a manifest impact but could have a more latent influence on the sources that are quoted in the news content. The three chapters devote attention to different parts of the news production process going from the sourcing routines on social media until, ultimately, the actual news content. As Weaver (2015) aptly describes research often neglects this distinction between news content and news production trying to analyse what happens in the process by looking at the content or vice versa. Doing content analysis to try and explain the sources that are present in the news, for example, does not provide us with the whole picture on this sourcing process but solely analyses the end product. Weaver (2015) therefore argues we should strive to produce research that links these findings and, more importantly, "try to link the characteristics and attitudes of journalists […] with the kinds of news coverage they produce" (10). In doing so, we get a better grip on the complex process that is news making in its entirety. This dissertation therefore highlights the different aspects in the news production process in an in-depth manner focussing on economic journalists. In order to fully exploit the combination of different theoretical insights and methods and make the different chapters comparable, the entire dissertation is based on the same set of journalists, following their news production process from beginning to end.

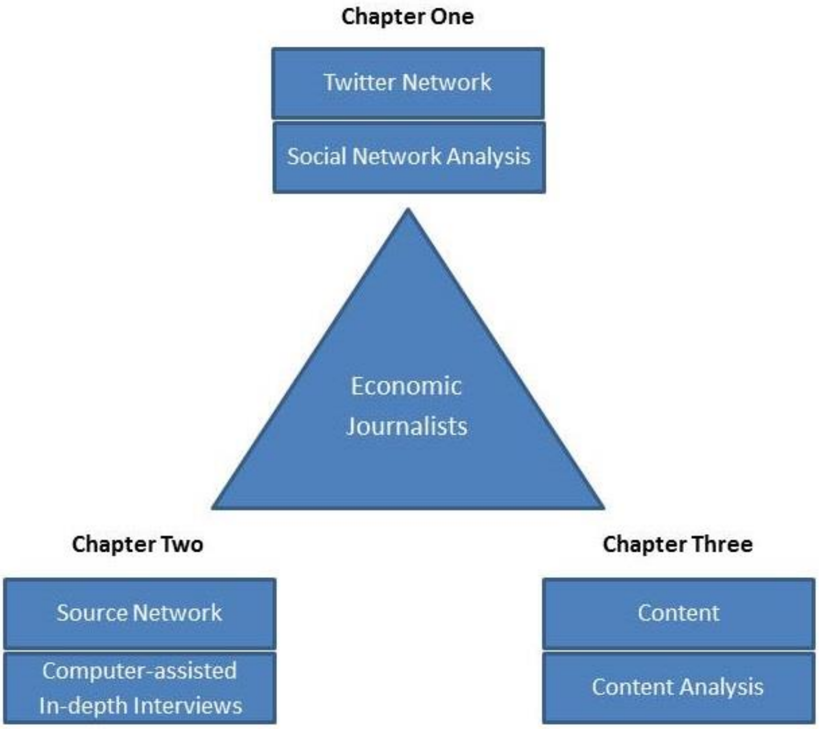
To assert the role of Twitter in the sourcing process, it is first and foremost important to study what journalists do on this platform. In contrast to many survey studies discussed above, Chapter I analyses the journalists' social media use by looking at their Twitter profiles and actual social media behaviour. The use of Twitter as a promotional-, conversational- and sourcing tool is discussed. The use of Twitter as promotional- and conversational tool are mostly analysed by the journalist's posting behaviour in an online environment and who they mention within their posts. The sourcing function of Twitter is here seen as a more latent function of the platform. The accounts that journalists follow online are scrutinised following a social network analysis approach and are seen as potential sources. We cannot exactly distinguish what the journalists interprets online, we can, however, get an insight in who the journalists follow and which actors have the potential to spread their message and influence the journalists. Chapter I concludes that a lot of variety exists in how and why economic journalists use Twitter. The number of tweets and activity on Twitter is diverse and shows no clear pattern amongst the sample of economic journalists. Similarities are found in the potential source networks the journalists construct with a strong institutional bias within these networks. Elite sources dominate the online networks and are complemented with various media sources making Twitter a press club.

To fully grasp the influence of this network, the next step is to see how Twitter is integrated within the newsroom and the sourcing routines of the journalists. In Chapter II computer-assisted in-depth interviews were used to study the role of Twitter in the sourcing process and to gather the journalists' thoughts on different social media platforms. As von Nordheim, Boczek and Koppers (2018) and Chadwick (2013) point out, the implementation of a technological tool and the adoption of it by journalists should not be studied considering only the technological innovation, it needs to be positioned in the existing media system. In this study, the journalists were confronted with their online behaviour and asked to explain their uses of Twitter. On top of that, the use of social media in their daily routine was discussed, not only talking about social media but trying to uncover their sourcing routines in general. Next to an assessment of Twitter a sourcing tool, this chapter also goes more in depth on the journalist's own reflection on his/her Twitter network and the actors present comparing this to their daily sourcing routines. This provides us with knowledge on why certain actor groups are present online and how they are represented in their actual sourcing behaviour. Chapter II emphasises the existing idea of Twitter as a monitoring tool. The use of potential sources in actual news gathering is not common practice but Twitter is seen as a tool that acts as an awareness system and can trigger certain story ideas. Although the explicit impact of Twitter is not substantial, it is an established tool in the newsroom.

Finally, Chapter III is completely centralised around the news content and the sources that eventually end up in the news article. Here <u>content analysis</u> is used to analyse the sources that are mentioned. To fully grasp the impact of the Twitter network, we look for both direct- and indirect influences of the platform. First, explicit social media references show a direct, manifest impact of the platform. Secondly, the comparison of the online network with the sources that eventually end up in the news gives an idea whether there is an overlap and shows a possible latent function of the social media platform. Chapter III establishes that in line with previous research, the number of explicit social media references is extremely low. On the aggregate level of the actor groups, there are definite correlations between the potential source network on Twitter and the sources that can be found in the actual news content. The Twitter networks are thus built from a professional perspective giving an insight in the journalists' interest and specialisations. On the level of the sources these effects become less strong. In the end, the existing literature on social media references is confirmed and it appears that a direct impact of Twitter remains limited.

Combining the different research methods and looking at the role of social media from the beginning, the Twitter platform itself, through the newsroom all the way until the final product gives, in the end, a comprehensive interpretation of the role of social media in the sourcing process. As shown in Figure 2, the methods described and used throughout this dissertation in the three empirical chapters all look at the sourcing habits of economic journalists. This triangulation of methods provides the opportunity to cross-check the results of the different research strategies and study the role of social media in the sourcing process from different viewpoints. The different chapters all focus on one aspect of this triangulation. The conclusion will ultimately combine all these insights and integrate the findings.

Figure 2: Overview of the dissertation



Chapter I

The Manifest and Latent Functions of Twitter Use by Journalists

An observational study among economic journalists

Accepted for publication in *Journal of Applied Journalism & Media Studies*

Introduction

There is little doubt that social media are influencing how journalists do their job. In particular Twitter is becoming a natural part of the journalist's toolbox. The growing importance of this tool has also attracted ample scholarly attention. In different countries, journalists have been questioned about their uses and perceptions of the social media platform (for an overview, see Gulyás 2017; Hedman and Djerf-Pierre 2017). Survey and interview data provide valuable insights in how journalists perceive the role of Twitter in their daily work, but give only an indirect indication of how social media affect processes of news production. Other studies have used content analysis to examine how social media appear as a source in news output of mainstream media (Broersma and Graham 2013; Paulussen and Harder 2014; Hladík and Štětka 2017). Such studies are relevant to see to what extent and how social media affect news stories, but as they focus only on the news-gathering phase of the news production process, they fail to show how social media have also become important tools for news dissemination, interaction, marketing and researching. Therefore, a third approach for studying the role of Twitter in journalism is to look at what journalists actually do on the platform by investigating their Twitter profiles and tweeting behaviour (e.g. Lawrence et al. 2014; Hanusch and Bruns 2017). This is also what this study aims to do.

To examine journalists' Twitter practices, this article presents a quantitative observational study of the profiles and activities of the Twitter accounts of 60 economic journalists in Belgium. Using social network analysis, we also investigated the links and actors they follow on the online platform. The choice to focus on journalists covering economic news was motivated by the idea that, as compared to political journalism, this news beat has been given much lesser attention in scholarly literature. Given the important role played by the media in the coverage of economic development and the most recent financial-economic crisis in particular (e.g. Shifferes and Coulter 2013; Joris, d'Haenens and Van Gorp 2014), remarkably little research has been done on the professional practices of economic journalists, notwithstanding some notable exceptions (Doyle 2006; Manning 2013).

Theory

Manifest and latent functions of using Twitter

Although most of today's journalists have a presence on Twitter, not all journalists use social media in the same way and to the same degree. Through a survey in four European countries, Gulyás (2013), for instance, found that, besides national differences, online journalists seem more apt to use social media than traditional media journalists, and that professional factors such as the length of one's career or the size of the media organisation affect how journalists use social media and how they view its impact on journalism. These findings are in line with the results of a survey among Belgian professional journalists in 2013 that indicated that older journalists were more reluctant to use social media for news-gathering than their younger colleagues (Raeymaeckers et al. 2015: 213-214). Based on survey research among Swedish journalists, Hedman and Djerf-Pierre (2013) made a distinction between (1) 'skeptical shunners', a small but significant group of journalists who avoid to use social media, (2) 'pragmatic conformists', the vast majority that use social media on a regular basis but in selective ways, and (3) a very small but supposedly growing group of 'enthusiastic activists' who have fully embraced social media.

The available studies also show that journalists who are on Twitter, are there for various reasons. Broersma and Graham (2016) differentiate seven practices of (political) journalists on Twitter: monitoring, sourcing, networking, interacting, publishing, promoting and branding. Hedman and Djerf-Pierre (2017: 421-422) present a similar but more general categorisation that distinguishes between researching, networking and branding practices of journalists on Twitter. We will discuss each of these three functions below, but before we do this, we want to draw attention to the notion of manifest and latent functions as proposed by sociologist Robert Merton (1949, 2016). Manifest functions relate to 'conscious *motivations* for social behaviour', whereas latent functions relate to the unintended '*objective consequences*' of the social actions of participants in a system (Merton 2016: 68, italics in original). Although the manifest-latent distinction has been criticised for its ambiguity and limited explanatory value (e.g. Campbell 1982), we consider it useful for descriptive purposes, especially as it reminds the researcher of the fact that social behaviour is often driven by both direct, intentional and indirect, consequential benefits, and that some social practices are easier to recognise than other. For example, while branding practices on Twitter are clearly – or manifestly – observable in the tweets posted by an account, it is more difficult to recognise how the social media platform also functions as an ambient social awareness system (Hermida 2010, 2017). We will now take a closer look at what research tells us about journalists' explicit and more implicit practices on Twitter in terms of promotion, conversation and research.

Promotional functions of journalists' Twitter use

Many journalists use Twitter as a tool for publishing, promoting and branding purposes (Broersma and Graham 2016). The most obvious form of promotion is to use the platform to disseminate articles published on their media's website. This process can be centralised and delegated by the overarching media accounts, which often leads to a one-way communication strategy (Ahmad 2010). However, news organisations increasingly demand their individual journalists to promote their articles on Twitter by sharing links to the media's website in their tweets, with the main aim to boost traffic to the site (Barnard 2016). Not only because Twitter constrains them to 140 characters, but because generating traffic on the website is still a main goal (Tandoc and Vos 2016). This leads to a situation where journalists are increasingly 'finding themselves having to also market the news' (Tandoc and Vos 2016: 950).

While organisational pressures influence how journalists use social media, many journalists on Twitter, or so-called j-tweeters (Hedman 2015), also seem to be intrinsically motivated to use the platform to promote their work and brand themselves online. Recent research shows that the individualisation of promotional practices is indeed becoming an important feature of digital journalism (Molyneux 2015; Molyneux and Holton 2015). Brems et al. (2017) describe Twitter as a suitable online stage for self-promotion and personal branding. In their study of the Twitter profile descriptions of 4,189 Australian j-tweeters, Hanusch and Bruns (2017) conclude that 'there is a clear awareness in these journalists of the benefits of increased audience interaction and brand promotion' (p. 39), a finding that is in line with the research on Twitter use among political journalists by Ottovordemgentschenfelde (2017). She also finds that much of what journalists do on Twitter can be described in terms of (personal) branding and (organisational) promoting practices, even though it proves difficult to draw clear lines between the journalists' organisational, professional and personal brand identities, as they overlap and flow into each other.

Conversational functions of journalists' Twitter use

Personal brand development on Twitter also involves audience interaction. Through their tweets and retweets, and through opinion and humour, journalists try to cultivate and present their online persona to the audience (Molyneux 2015). Moreover, in a digital media environment where virtually everyone can produce and share stories, audience interaction on social media is increasingly considered by journalists as a means to retain their professional status as gatekeepers online (Tandoc and Vos 2016). Artwick (2013) found that reporters on Twitter try to fulfil their gatekeeping role as curators 'serving citizens by tweeting their beats and sharing information' (p. 223), rather than taking up a participatory role, as they rarely post tweets citing citizens or inviting citizens to participate. In other words, also on Twitter the journalist-audience relationship seems to be defined by one-way rather than two-way communication. Broersma and Graham (2016) note, however, that some journalists are clearly more eager to engage in public dialogue on Twitter than others, depending on their personal stance towards social media.

Although journalists may be aware of the benefits of audience interaction, journalists are more likely to engage in Twitter conversations with colleagues or elite actors than with their audience. Hedman and Djerf-Pierre (2017, 421) conclude from the literature that the 'networking function is a key pull factor that draws journalists to Twitter', since a 'well-maintained professional network can provide access to information and sources, invitations and career opportunities, and professional support'. Hence, journalists' Twitter conversations tend to be media-centred rather than public-centred, thus creating a sort of professional bubble.

Sourcing functions of journalists' Twitter use

In contrast to the posting behaviour we discussed in the first two practices, the third use of Twitter is more focussed on news-gathering, monitoring and sourcing. In general, the literature shows that the impact of social media on journalists' news-gathering practices should not be overestimated, since it is 'not as fundamental as previously expected' (Lecheler and Kruikemeier 2016: 166). There seems to be a gap between what surveys suggest about the increased importance of social media as a source of information and what content analyses reveal about the rather limited appearance of social media references in news output. This discrepancy may be due to methodological differences: the perceived impact of new technologies, as it is measured by surveys, is often higher than what is observable in the content. On the other hand, content analyses only measure the manifest references to social media, and so they may fail to take into account how social media is also being used for monitoring purposes. As said above, many authors have emphasised that Twitter can serve as a social awareness system to monitor key debates, reactions and opinions in society, and to find story ideas or connect with informants. Such journalistic work practices 'behind the scenes' are not, or at least not completely, made explicitly visible in the news stories they produce and are therefore mostly ignored in content analysis.

Therefore, observational methods may be more appropriate to study journalists' actual Twitter practices. Several authors argue that if we want to get a better understanding of what journalists do on Twitter, we should look into their Twitter profiles and tweeting behaviour (Hanusch and Bruns

2017). Especially if we want to focus on journalists' monitoring and sourcing practices on Twitter, the concept of 'potential sources', as it is proposed by Deprez and Van Leuven (2017), can be useful. In their definition, 'potential sources' refer to all actors that a journalist follows on Twitter. The journalists' followings on Twitter can tell us more about the people and/or oganisations they consider as potentially relevant sources for their work (see also Van Leuven and Deprez 2017). By studying the following strategies of health journalists Deprez and Van Leuven (2017) show that bottom-up sources remain rare and that Twitter is mainly used as a 'press club' where journalist follow and interact with their colleagues (see also Lawrence et al. 2014). We thus see that both their tweets, which more often mention or address elite actors than regular citizens (Chorley and Mottershead 2016; Russel et al. 2015; Lawrence et al. 2014), but also their Twitter networks, where citizens are underrepresented in their following lists, show an 'institutional bias'.

Research questions

The main objective of this study was to examine to what extent, how and for what purposes economic journalists use Twitter on a daily basis, not by asking them about their perceptions of social media, but by observing their practices and the networks they maintain on the social media platform. In the literature review we discussed the promotional, conversational and sourcing functions of journalists' Twitter use. To study these functions we make a distinction between their posting behaviour and the following behaviour. Promotional and conversational use of Twitter are (mainly) present in their posting behaviour. We therefore look at their tweets to answer the following research questions:

RQ1: To what extent and how do economic journalists use Twitter for promotional purposes?

RQ2: To what extent and how do economic journalists use Twitter for conversational purposes?

The sourcing function, however, requires to look at the following behaviour of the reporters and distinguish between the different actor groups in their networks. We therefore ask the following question:

RQ3: Who (what kind of actors) do economic journalists follow on Twitter?

Method

The study consists of all print journalists specialised in economic news reporting in Flanders, the Dutch speaking part of Belgium. To identify these journalists, we used the database of the Flemish association of professional journalists (VVJ), which contains information about all Flemish professional journalists in possession of a press card. We selected those journalists who were included in the news beat category of economic or financial news. In addition, we scanned the economy pages of newspapers and magazines to identify journalists that fit our definition of economic journalists. This sampling procedure resulted in a list of 77 economic journalists working for print media in Flanders. Of those 77 journalists, 60 had a public account on Twitter at the start of the data-collection in April 2015. The study is based on content and social network analysis of the Twitter accounts of these 60 journalists. In the sample 42 journalists work for a specialised economic publication, 27 for *De Tijd*, the only economic daily in Flanders, and 15 for *Trends*, the only economic magazine. The other journalists worked for general publications with 11 of them working for two newspapers that can be considered 'elite newspapers' (*De Standaard* (8) and *De Morgen* (3)) and 4 working for 'popular newspapers' (*Het Laatste Nieuws* (2), *Het Belang van Limburg* (1) and *Het Nieuwsblad* (1)). The remaining 3 are freelance journalists. In the sample, 53 journalists are male and 7 female.

To study the journalists' Twitter use, we collected data through the software tool NodeXL, which has become a commonly used tool for social network analysis (Smith 2014). This tool also allows us to combine a content analysis of the tweets with a social network analysis since both tweets and following behaviour are crawled by the software. We downloaded the posts of the journalists during a five-month period from the 1st of April 2015 until the 31st of August 2015, providing us with a sample of 6,716 posts. These posts were automatically content-analysed to discover their interaction patterns. There are three ways in which Twitter users can interact with others: (1) via @mentions: tweets mentioning another account in the message; (2) via @replies: posts that are a direct reply to a post of another user; (3) via retweets: re-posted posts from other users. All data were coded as being an @mentions, retweets, a regular tweet (without mentions) or a direct reply to another post.

To investigate the *promotional* characteristics of their posts we analysed the embedded links. Links to their own medium's website clearly underline the use of Twitter to promote their own content. On top of that, also @mentions referring to their own platform or colleagues working for the same news outlet suggest a promotional use of the platform. Opposed to these @mentions, simply mentioning another account, we can identify *conversational* practices by looking at direct @replies. These posts are a direct reaction to another user and suggest actual conversation on the platform.

Sourcing practices are less clearly visible in the journalists' posting behaviour, so therefore we combined this automated content analysis with a social network analysis of the journalists' following behaviour. To map their personal networks, we constructed 1-degree ego networks of all the journalists' Twitter accounts in our sample and investigated their following relations and interactions on the medium. The construction of ego-networks starts from one central 'node' in the network, the journalist, whose Twitter account is the starting point of our analysis. Each of the central nodes is connected to all other nodes in the network, the 'alters'. Like Verweij (2012), we make a distinction between 'followees', i.e. the accounts followed by the journalist (as enlisted in the 'following' list) and 'followers', i.e. the accounts that follow the journalist (as enlisted in the 'followers' list). In our study, we focus on the followees of the journalists, whom we consider as their 'potential sources' (see also Deprez and Van Leuven 2017, Van Leuven and Deprez 2017). The total number of accounts followed by the 60 journalists and included in our dataset is 28,362. The actual number is a bit higher, since NodeXL restricts the maximum number of followees captured to 2,000 per Twitter profile; three journalists in our sample exceeded this limit (with 3,241; 2,875 and 2,061 followees).

The followees were subsequently coded into source categories. The categorisation of the potential sources is inspired by the study of Grabe, Zhou and Barnett (1999), who categorised news sources based on their institutional affiliation, suggesting that journalists tend to rely heavily on sources affiliated to elite institutions such as politicians and government, business and non-business professionals, and academics rather than on non-elite or non-affiliated sources such as celebrities, citizens and interest groups. In this study, we refrain from labelling an entire actor category as 'elite' or 'non-elite' since, in our view, not all individuals belonging to an elite institution can be considered as an elite actor, and not all celebrities, for example, can be considered as non-elite actors due to their lack of institutional affiliation. However, we do follow Grabe, Zhou and Barnett (1999) to categorise source actors based on their institutional affiliation. Hence, the potential sources were coded into eight categories, of which two were further split up into subcategories: (1) media and journalists, (2) politicians and government, (3) business professionals (comprising the subcategories of company representatives, financial agencies and PR professionals), (4) experts and academics (combining the subcategories of economic experts and non-economic experts), (5) civil society and interest groups, (6) celebrities, (7) citizens and (8) other.

Results

On average, an economic journalist had sent 1,279 tweets by the end of the sampling period, with a median number of 441 tweets as shown in Table 1. However, there is huge variation among journalists, ranging from a journalist having posted not one single tweet to one very active journalist who had already posted more than 10,000 tweets since the creation of his Twitter account. The final column of Table 1 shows that the third quartile is 1,299 tweets. This indicates that for a significant group of journalists, using Twitter as a sharing platform has become part of the daily work routine. At the same time, there is also a relatively large group that rarely, if ever, posts something on Twitter: one out of four has sent less than 36 tweets since the creation of his/her account.

A similar pattern emerges in terms of the number of followers and followees. The economic journalists have a mean number of 951 followers. The 25% percent segment of the most popular economic journalists in terms of number of followers, has more than 1,376 followers, with the most popular one reaching almost 5,300 followers. Still, there is also a large group of journalists with far less followers, as shown by the median and first quartile values. A similar pattern can be observed regarding the number of followees. Again, we see a very wide range between the minimum and maximum number of followees and large intervals between percentiles. The fact that the intervals are unequal indicate that there is a rather small group of journalists following a lot of people on Twitter, in contrast with a majority of the sample following just a couple of hundred actors on the social media platform.

Table 1: Number of tweets sent, followers and followees (N=60)

	Mean	Min.	Max.	1st quartile	Median	3rd quartile
Number of tweets	1,279	0	10,200	36	441	1,299
Number of followers	951	20	5,297	160	421	1,377
Number of followees	510	24	3,241	140	291	698

Consistent with our expectations, our analyses show that the number of tweets is positively correlated with the number of followers *($r=0.651$; $p<0.001$).* Further, also the number of followees is positively correlated with number of followers *($r=0.549$; $p<0.001$).* Being an active tweeter, both in terms of tweeting and following behaviour, thus seems to pay off in terms of audience reach, even though we note that the average number of 951 followers is still modest.

How do they tweet?

To analyse the tweeting behaviour of journalists, we collected all the tweets posted on their Twitter timeline in the five-month period of the study. We ended up with a total sample of 6,716 tweets sent by 49 of the 60 sampled journalists. Eleven Twitter accounts remained inactive for the whole period of the study and did not send out a single tweet. These journalists might still use Twitter for researching purposes, but definitely not for reaching out to the public. Half of the tweets (51%) was sent out by 43 of these 49 journalists, the other half (49%) was posted by a small group of six very active users. These results align with previous results found by Hedman and Djerf-Pierre (2013) when they introduce the group of 'enthusiastic activists', a very small group of extremely active users.

To answer the first research question, we are interested in the promotional content in their tweets. This promotional use is most often expressed through links to the site of their news organisation, trying to boost traffic and pushing their news pieces. Taking a closer look at the links posted by the journalists we see that half of their posts (49%) contain links to websites. More specifically, we see that 29% of their posts contains a link to the website of their own news organisation. These results support the ideas in the literature that journalists are increasingly expected to engage in the active promotion of their own and their organisation's news stories on social media. Further analysis shows that this linking to their own media platform is highly correlated with the number of times they mention their employer in a tweet using an @mention *($r=0.559; p<0.001$).* This correlation, however, was to be expected since this @mention is often automatically added after sharing an article of a website. Besides that, we find a similar correlation between these links and the number of times they mention one of their colleagues working for the same news outlet *($r=0.341; p=0.019$).* The journalists do not only push their personal brand, they promote their news platform and the journalists working for it.

The second research question focusses on the conversational use of Twitter. By using mentions, replies and retweets journalists can interact with other people on Twitter. Although every mention of another profile can be considered as interaction, true conversation can only be found in the @replies which are direct replies to other tweets or accounts. Of the 6,716 posts, 35% are retweets and thus the largest category. Tweets with @mentions (26%) and regular tweets (25%) are also commonly used by the journalists. Actual conversation on the medium is far less common with only 13% of the tweets containing direct @replies to other posts. The number of tweets posted has no effect on this percentage of @replies *($r=0.151; p=0.300$).* This means that even active Twitter users do not (fully) exploit the communicative opportunities of the platform.

To get a better idea of the types of actors they interact with, we do not only analyse if they mention other actors, but also look at who they mention. Therefore, we exclude the many tweets that link to the journalists' own media platforms and often contain automated @mentions. Overall, our data are consistent with previous research indicating an institutional bias and media-centeredness in journalists' Twitter accounts. Table 2 gives an overview of how many and how often Twitter accounts from different actor groups are mentioned or replied to in the tweets and retweets posted by the journalists. We thus see the amount of individual actors that are mentioned and the number of times they are mentioned since one account can be mentioned several times (for example, 1,197 individual profiles are retweeted by the journalists and this resulted in 2,483 retweets).

Table 2: Actors mentioned and replied to in tweets/retweets by journalists (N=6,716)

Actor groups	Number of actors mentioned in tweets	Number of @mentions in tweets	Number of actors replied to in tweets	Number of @replies in tweets	Number of actors mentioned in retweets	Number of @mentions in retweets
Media and journalists	222	480 (62.5%)	172	414 (32.3%)	590	1,492 (60.1%)
Politicians and government	35	64 (8.3%)	66	125 (9.7%)	105	206 (8.3%)
Business professionals						
Company representatives	64	88 (11.5%)	75	129 (10.1%)	81	109 (4.4%)
Financial agencies	10	11 (1.4%)	18	60 (4.7%)	49	110 (4.4%)
PR professionals	1	1 (0.1%)	24	46 (3.6%)	6	9 (0.4%)
Experts and academics						
Economic experts	9	12 (1.6%)	19	48 (3.7%)	59	125 (5%)
Non-economic experts	8	9 (1.2%)	31	61 (4.8%)	58	138 (5.6%)
Civil society and interest groups	6	7 (0.9%)	20	38 (3%)	28	32 (1.3%)
Celebrities	26	31 (4%)	15	23 (1.8%)	37	46 (1.9%)
Citizens	7	8 (1%)	114	225 (17.5%)	54	55 (2.2%)
Other	43	57 (7.4%)	62	114 (8.9%)	130	161 (6.5%)
Total	431	768	616	1,238	1,197	2,483

Even after excluding the posts purely focussed on promoting their own content, we still encounter a strong media-centeredness. Especially in the group of @mentions and retweets we see that more than 60% of the accounts are media accounts. Excluding promotional purposes, Twitter remains a media-centred platform were news is constantly published and shared. Since the number of @mentions and retweets is higher than the individual accounts present in these posts, several accounts are mentioned multiple times. Nonetheless, the group of actors is still substantial and widespread. In the other categories, the mentions and retweets also follow a similar pattern. Institutionally affiliated actors, such as political actors and business representatives, are a central focus of the journalists' Twitter posts while non-affiliated source actors, such as citizens, are far less present. Although civil society and interest groups are considered institutional sources, there presence is also limited. Actual conversation on the Twitter platform is mostly characterised by direct replies to other tweets. When we analyse the actors in these @replies, we see a more diverse image. Although media actors remain largely present, other actor categories gain prominence. We see that in 17.5% of their replies journalists mention citizens. Nonetheless, in our entire sample the journalists solely reply to 114 Twitter accounts of ordinary citizens. The potential of social media to actively converse with bottom-up sources is hardly used.

Who do they follow?

To gain an insight in the research functions of journalists' Twitter use, we decided to analyse the following relationships of the economic journalists on Twitter. Following Van Leuven and Deprez (2017) we consider the actors in the following lists of the journalists Twitter accounts as 'potential sources'. If we can regard the followees of a journalist as an indicator or a proxy of the sources they encounter and potentially use in their daily news-gathering, we see that economic journalists heavily rely on other media and institutionally affiliated actors to provide them with news and information. This is highly consistent with literature on journalistic sourcing (Reich 2012, 2009).

Since there is large variation in their following behaviour, we decided to group the journalists in quartiles on the basis of the network size in terms of number of followees, thus dividing the sample in 15 journalists per category. Table 3 gives an overview of the average share of different actor groups in the following lists of the journalists' Twitter accounts. To see how the size of the network affects the constellation of the network, we also calculated the effect of the number of followees on the share a certain actor group has within the network. These regression analyses are also shown in Table 3.

Table 3: Average share of actors in the journalists' Twitter networks, divided by network size in terms of number of followees (N=60)

	Q1	Q2	Q3	Q4	Total
Media and journalists* *(B=-0.007;p=0.009)*	32%	39.0%	34.4%	26.6%	30.4%
Politicians and government *(B=-0.003;p=0.237)*	13.8%	14.5%	22.3%	8,8%	13.3%
Business professionals					
Company representatives *(B=0.003;p=0.084)*	13.3%	7.9%	10.2%	15.5%	13.1%
Financial agencies *(B=-0.002;p=0.111)*	6.3%	6.0%	4.8%	3.5%	4.2%
PR professionals**(B=0.002;p<0.001)*	1.3%	1%	1.5%	4.0%	2.9%
Experts and academics					
Economic experts* *(B=-0.003;p=0.001)*	9.8%	6.9%	4.5%	3.2%	4.3%
Non-economic experts *(B=0.000;p=0.773)*	4.9%	4.6%	4.8%	4.9%	4.8%
Civil society and interest groups *(B=-0.002;p=0.091)*	10.5%	4.5%	5.3%	3.6%	4.5%
Celebrities *(B=0.000;p=0.835)*	1.3%	4.9%	2.0%	3.6%	3.2%
Citizens* *(B=0.008;p<0.001)*	4.2%	6%	5%	15.6%	11.2%
Other* *(B=0.004;p<0.001)*	2.6%	4.7%	5.2%	10.6%	8.1%
Mean number of followees	80	221	505	1,085	473

*Note: Significant correlations between network size and the ratio of actor group are indicated by an asterisk **

First of all, we see that journalists in all quartiles follow a relative large number of journalists and media organisations. In line with the literature, we see that a primary reason for journalists to use Twitter is to monitor colleagues and other media. Although there is a significant decrease of media actors as the network size increases, colleagues and other media remain largely present. Other prominent groups beside media can also be considered as institutional sources with politicians and government actors (either individuals or organisations) being the second largest group of followees. The third largest group is the group of business professionals consisting of companies and their

CEO's. The fourth and fifth largest groups are, respectively, civil society and the economic experts. Similar to media actors Table 3 shows that the relative presence of economic experts significantly decreases when the size of the network increases *(B=-0.003;p=0.001).* The category of civil society and interest group actors shows a similar, but only marginally significant, decrease *(B=-0.002;p=0.091)*. A possible explanation is that there is a limited number of actors in these groups that are already present in the smaller online profiles, expansion in larger networks is therefore not possible. In contrast to these decreases, the portion of citizens rises significantly in line with the network size *(B=0.006; p<0.001).* Especially in the most active networks we see this influence. This points at the idea that the online presence of the economic journalist starts from a professional perspective. Only when the online presence expands, the citizens in the network gain importance. The large 'other' category (which also contains music bands, parody accounts, non-news related blogs,…) with active Twitter profiles also suggests an implication of the tool that is not linked to their professional work. Nonetheless, we can conclude that journalists are more likely to follow institutional actors than private accounts. Only the largest networks of enthusiastic users show private influences, the other journalists still prefer a professional network on the platform.

In sum, we can conclude that journalists use Twitter to monitor and network with colleagues and institutionally affiliated actors that can be suitable as sources for their news stories. However, the more followees a journalist has, the more likely it seems that s/he will provide more room for citizens in their Twitter networks. Given that the number of followees is positively correlated with the number of followers and tweets sent, we can thus conclude that the most active Twitter users are more likely to open up their networks with a broader range and variety of potential sources.

To get a better idea of the actors that stand out in the 'potential-source-networks' of the journalists under study, we aggregated the different networks in one large network and calculated the average in-degree of the different actor groups (excluding the in-degree of the journalists in our sample). This in-degree allows us to see how many journalists of our sample follow the same actor. First of all, the network is extremely diverse and widespread. Combining all the ego-networks, we encounter 13,901 different actors. Of these actors, 10,074 have an in-degree of 1 which means that only 1 out of 60 economic journalists on Twitter follows this specific account. These accounts were eliminated from further analysis since we expect very little impact of these potential sources leaving us with 3,827 accounts.

Table 4 shows the average in-degree of the remaining sources in the different actor groups. This average in-degree differs from the ranking of the average share of actors in the network (Table 3). First of all, economic experts have the highest average in-degree with 6.8 (suggesting that an economic expert is followed by almost 7 journalists on average). Although their share in the network is not as extensive as other groups, the impact of their posts online might be more fundamental. We see similar results for political actors and financial agencies with an average in-degree of respectively 5.9 and 5.8. The groups that show a low average in-degree contain individual actors that are followed by a low number of journalists in our sample. Although company representatives represent a sizeable share of the network, these actors are more disperse and different for every journalist. This can be attributed to the large diversity in economic journalists we incorporated in our sample, each following the actors important in their sector.

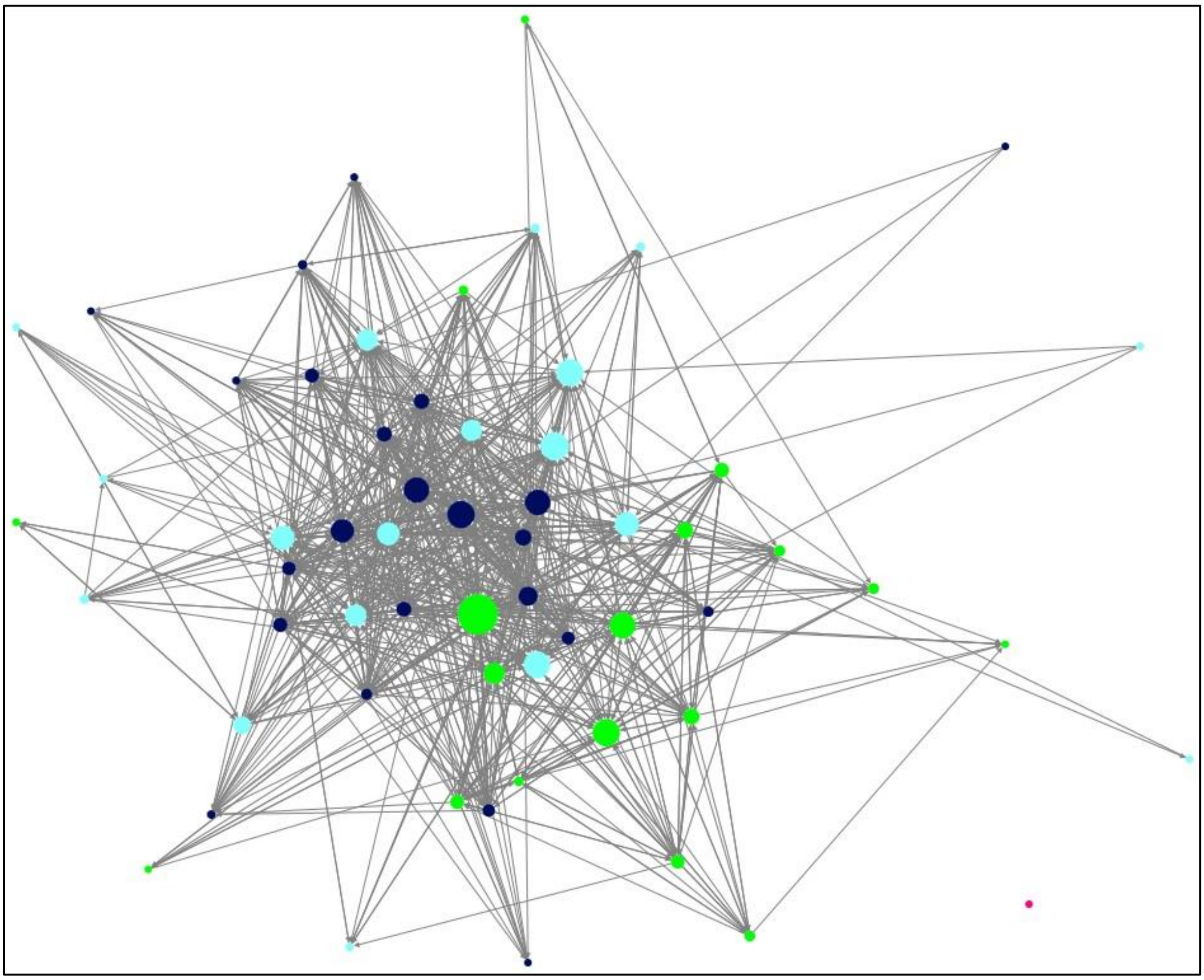
Table 4: Average In-Degree of potential sources (N=3,827)

	N	Mean In-Degree	S.D.	Maximum In-Degree
Media and journalists	1,055	6.0	6.4	54
Politicians and government	581	5.9	6.4	47
Business professionals				
Company representatives	530	3.5	2.9	31
Financial agencies	174	5.8	7.4	42
PR professionals	148	3.5	3	20
Experts and academics				
Economic experts	142	6.8	9.1	55
Non-economic experts	198	4.7	5.4	38
Civil society/ interest groups	208	4.8	5.6	42
Celebrities	134	3.6	2.5	19
Citizens	292	2.5	1.1	10
Other	263	2.9	1.6	11

Note: This table excludes all potential sources with an in-degree lower than 2 and all journalists in our sample.

In addition to the analysis of the network of potential sources (Table 3) and the importance of these sources (Table 4) Figure 3 focusses on links between the journalists in the sample. This network provides more insight in the 'press club' of economic journalists in Flanders. First of all, the density of this network, calculated by dividing the actual connections between actors and the possible connections, is with 0.25 not particularly high. This means that the Flemish economic journalists do not all follow each other on social media. The average geodesic distance, however, is 1.7, which means that, on average, every journalist in the network can reach a colleague in less than two steps.

Figure 3: Network of economic journalists in Flanders working for print media clustered based on algorithm by Clauset, Newman and Moore (2004) (N=60)



With a cluster analysis using the algorithm of Clauset, Newman and Moore (2004), we discover four different clusters within the network. This analysis is based on the concept of modularity and considers a division as fitting when there are many edges within communities and only a few between them. Journalists within the same cluster are thus densely connected. Besides one cluster that consists of one journalist, the other 59 journalists are divided in three groups. When we divide the journalists in these different clusters and analyse the relation between these cluster-codes and the journalists' medium we find a strong and positive correlation *(Cramer's V=0.86;p<0.001).* We therefore suspect that the connections that are most prominent in the networks can largely be attributed to two factors: the promotional context of Twitter and a form of collegiality. However, the clusters also partly overlap indicating that economic journalist are connected across media outlets.

Discussion and conclusion

In this article, we argue that journalists' Twitter use can be discussed both in terms of its manifest and latent functions. On the surface, Twitter serves as a tool for journalists to share information and opinions and engage in public conversations. The study's results support previous research showing that much variety exists in how and to what extent journalists use the platform for these purposes. In line with studies on Twitter use among political journalists (Broersma and Graham 2016) and health journalists (Molyneux and Holton 2015; Deprez and Van Leuven 2017), also the majority of economic journalists have become familiar with Twitter as a publishing platform. About two third of the economic journalists under study, used Twitter to share messages and links with their followers. Some are much more active in doing so than others, confirming previous studies that showed a lot of diversity in journalists' stance towards social media (Hedman and Djerf-Pierre 2017; Gulyás 2017; Broersma and Graham 2016).

The results of our study support the idea that Twitter is used by journalists for promotional, conversational and sourcing purposes. The promotional uses are most visible in the journalists' tweeting behaviour. Almost one third of their tweets contains a link to the website of their news organisation. This finding may be explained by the idea that journalists try to retain and protect their gatekeeping role on Twitter by trying to serve the audience with news and information produced by themselves or other professional media/journalists rather than by citizens or third parties (cf. Artwick 2013; Tandoc and Vos 2016).

Literature on Twitter and journalism suggests that Twitter also serves journalistic needs in a more indirect manner, for instance by offering them a platform to present themselves as professional gatekeepers or experts to the audience or to find their place in the profession. Regarding the latter function, our findings allow to describe Twitter as a 'press club' where journalists hang out to keep up with peers and colleagues and to monitor other media (cf. Van Leuven and Deprez 2017). This is reflected in their Twitter networks – media actors are highly represented in the following lists – but also in their conversational uses of Twitter. If they engage in conversations, which they rarely do, it is mostly with other journalists.

While it is relevant to focus on the promotional and networking functions of Twitter, the data about the journalists' following behaviour can also be considered as a proxy of their sourcing practices. In line with previous research (see also Deprez and Van Leuven 2017, Van Leuven and Deprez 2017) we considered the followees of the journalists as potential sources, providing us with an insight on the actors that have the potential to influence the journalists in this online environment. Our results show an institutional bias with a very strong focus on other media accounts, only reinforcing the idea of Twitter as a 'press club'. Only highly active users on the platform allow more bottom-up or private actors in their online networks. The networks in general also appear to be extremely disperse, with different accounts in the network of every journalist. Only a handful of institutionally affiliated actors are consistently present in the different ego-networks and have a substantial impact on the social media platform. Further research is needed, however, to investigate to what extent Twitter networks are indeed reflective of the source networks of journalists and to what extent these tools are used for news-gathering purposes.

Chapter II

Much Ado About Nothing?

The low importance of Twitter as a sourcing tool for economic journalists

Published as Johnson, Michiel, Steve Paulussen and Peter Van Aelst. 2018. "Much Ado About Nothing? The low importance of Twitter as a sourcing tool for economic journalists" *Digital Journalism* 6 (7): 869-888.

Introduction

Research suggests that while journalists' uses of Twitter may differ widely, the social media platform influences both their online and offline sourcing practices (Gulyás 2013; Hedman and Djerf-Pierre 2013). As Twitter is considered as a useful tool by a majority of journalists to monitor news and information (Broersma and Graham 2016; Hedman and Djerf-Pierre 2017), we can expect that this affects the processes of information gathering and news selection. More specifically, we assume that journalists' monitoring of Twitter will not only affect the actors whom they consult and use as sources in their news reports, but it may also influence and shape their broader perceptions of the importance of different source actor groups. To investigate these assumptions, this study poses two questions: (1) What functions does Twitter serve in journalists' sourcing practices?, and (2) How do journalists' uses of Twitter as a sourcing tool compare to their actual sourcing behaviour?

The study uses in-depth interviews with 33 economic journalists working for print news media in Flanders, the northern part of Belgium. First, we analyse the Twitter networks of these journalists, i.e. the organisations and people they follow on the social media platform. Through the interviews, we aim to investigate to what extent these Twitter networks reflect their broader online and offline sourcing practices in their daily work. In addition, the interviews give us a deeper insight into the journalists' perceptions about the importance of different source actor groups and about the role of Twitter as a sourcing tool. By combining and comparing findings from the Twitter network analysis with the journalists' actual sourcing behaviour and their own perceptions as reported in the interviews, we aim to arrive at a better understanding of journalists' sourcing behaviour in a changing news environment.

Our results identify that the Twitter networks of economic journalists to a large extent reflect their broader sourcing practices. In both the online and the offline source networks, traditional elite sources remain omnipresent, with only a very small group of active Twitter users including more bottom-up sources in their online networks. The most important difference is the more prominent presence of other journalists and media organisations in the Twitter network of journalists. This is in line with the finding that Twitter is mainly used as a monitoring tool that can operate as a source of inspiration and/or an actual trigger for news stories.

Theory

Defining sources

In *Deciding what's news,* Herbert Gans (1979, 80) described sources as "the actors whom journalists observe or interview, including interviewees who appear on the air or who are quoted in magazine articles and those who only supply background information or story suggestions". Following this definition, we also conceptualise sources as human actors, i.e. as individuals or as organisations that group these individuals such as political parties, companies or civil society organisations. This means that the term 'sources' does not refer to information channels, but only to the actors that use these channels to offer information that can reach journalists. A distinction between sources and channels was also made by Sigal (1973), who defined the latter as "the paths by which information reached the reporter" (Sigal 1999, 225). Although we are aware that in today's digital news environment, the lines between actors and channels are blurring to an extent that it may even become useful to also conceptualise non-human entities, such as Twitter, as 'actants' – i.e. technological devices that have 'agency' (see e.g. Reich and Barnoy 2016) – we persist in separating actors from channels. An important argument here is that information can always be traced back to the actor that provides the information. This is not to say, however, that the channel doesn't matter. On the contrary, we assume that the technological affordances of the information channel through which this process occurs, may influence the hierarchy between source actors. The question, then, is whether Twitter – as a channel – enables certain sources – as actors – to increase their access to the news at the expense of other actors. Here, the concept of 'potential sources' (see Deprez and Van Leuven 2017; Van Leuven and Deprez 2017) becomes important, since the profiles journalists follow on Twitter can tell us more about the actors they consider as potentially relevant sources for their work and their sourcing habits. We therefore address a journalist's Twitter following list as a network of 'potential sources', which may partially overlap with their 'actual sources'. With actual sources we refer to the actors that journalists use to make a concrete news item.

Another idea we take from the definition of Gans (1979) is that sources as actors can serve different functions for journalists; they can be quoted and explicitly used in news stories, but they can also be consulted for background information or as generators of new story ideas. As Reich (2009, 36-39) argues, it is important to understand journalistic sourcing as a process that consists of at least two phases. In the 'news discovery' phase, journalists become aware of the existence of a potential news item. The word 'potential' is crucial here, since not every lead found in the discovery phase generates an article. In the 'news gathering' phase, more information on promising leads is collected to uncover the whole story or to verify discoveries. Research on the role of Twitter in journalism suggests that the social media platform seems to be especially useful in the news discovery phase to monitor information streams and keep an eye on 'potential' sources or to look for background sources (Gulyás 2017; Hedman and Djerf Pierre 2017). Hence, studies on the influence of social media on journalistic sourcing practices should not only focus on the sources that make it into the news stories, but should also try to include the sources contacted in the preparatory news discovery phase. In sum, we define sources as actors that convey information that can reach journalists through different channels at both the discovery and gathering phases of the news production process.

The role of Twitter in journalistic sourcing

Several studies have already analysed the role of Twitter and social media in the sourcing process. Through content analyses, researchers have examined the appearance of social media, particularly Twitter, as cited sources in the news (Broersma and Graham 2013; Hladík and Štětka 2017; Paulussen and Harder 2014). These studies found that even though there is an increase of social media references in traditional media, their presence in the news remains rather small because journalists seem to turn to social media only to cite source actors who are not readily available other than on these platforms (Broersma and Graham 2013; Paulussen and Harder 2014). Overall, the content analyses do not support the assumption that social media would have enabled non-elite sources, such as citizens, to increase their visibility and access to news stories (Hladík and Štětka 2017; Lecheler and Kruikemeier 2016). However, content analyses focus on the finished news product, and only take into account those source actors that have passed the gates of journalistic source selection. This may lead to an under-recognition of the idea that social media are primarily used for monitoring purposes, to follow debates and public opinion in an online setting (Broersma and Graham 2016; Hedman and Djerf-Pierre 2017). The notion of Twitter as an online social awareness system that provides journalists with information in the news discovery phase may be underestimated in studies that are based on content analysis.

Compared to content analyses, survey research provides a broader insight into journalists' uses and perceptions of social media in their daily work. Based on a review of survey research on social media uses among journalists, Hedman and Djerf-Pierre (2017) conclude that despite a diverse use of Twitter by journalists, there are overall three uses of Twitter that can be identified: branding, networking and researching. Within this last use, they mainly see Twitter as a tool for journalists to constantly monitor information (Broersma and Graham 2016; Hedman and Djerf-Pierre 2017). We should keep in mind that Twitter remains a single information channel in competition with various other channels of information (Raeymaeckers et al. 2015). Nonetheless, Twitter is considered a relevant channel in the news discovery phase, especially since journalists can construct their own network and consequently their individual stream of information. In this sense, journalists build an awareness system that has the potential to constantly update them on relevant information (Hermida 2010).

Broadly speaking, we can thus make two observations regarding the role of Twitter as a journalistic sourcing tool. On the one hand, content analyses of news output suggest a rather modest influence of social media in the end-product of the news production process. Survey research, on the other hand, describes the platform as a monitoring tool and unveils its relevance in the news discovery phase. Little research exists that links the latent functions of social media in the news discovery phase with the manifest appearance of social media references in the news content, that is, as an outcome of the news gathering phase. Reich (2009) tried to tackle this gap between latent and manifest functions by using reconstruction interviews to uncover journalists' decisions in the different phases of source selection. While his research focusses on journalists sourcing habits in general, the present study will use interviews to examine how sourcing practices may be affected by the rise of Twitter as a new (potential) information channel for journalists. To date, research on Twitter and journalism based on interviews has been occupied with analysing how social media urge journalists to renegotiate their professional role and values in the digital environment (e.g. Zeller and Hermida 2015), or how journalists use Twitter as a tool for purposes of organisational marketing and personal branding (e.g. Tandoc and Vos 2016; Brems et al. 2016). This study uses interviews to investigate the functions of Twitter in the daily sourcing practices of journalists.

Sourcing in economic journalism

Since the creation of Twitter, scholars have been interested in how journalists use this medium as a sourcing tool in their work. Most studies concentrate either on journalists in general (e.g Hedman and Djerf-Pierre 2013; Gulyás 2013) or on political journalists in particular (e.g. Broersma and Graham 2012; Lawrence et al. 2014; Parmelee 2013). More occasionally, researchers have looked at

Twitter sourcing practices of specialised journalists, like sports journalists (Deprez, Mechant and Hoebeke 2013) or health journalists (Deprez and Van Leuven 2017). Few studies have been done on the use of Twitter by economic journalists. Lariscy and colleagues investigated the use of social media among 200 financial/business journalists in the United States, showing that Twitter was not highly used as a source in this news beat (Lariscy et al. 2009). This finding might be due to the fact that Twitter in 2008 was a new platform that was not really integrated in journalists' work habits. Therefore, we question whether their 'minimal influence' conclusion still holds today.

In recent years, the scholarly attention for economic journalism is growing (Kjær and Slaatta 2007; Lee 2014). Especially the financial crisis in 2008 has boosted the interest in this issue among both researchers (Lee 2014; Schiffrin 2015) and the general public (Schifferes and Coulter 2013). The emerging body of literature, however, focusses mainly on this financial crisis and studies different aspects of the economic breakdown, such as the failing role of the economic press as watchdog (Kalogeropoulos, Svensson et al. 2015; Manning 2013; Schiffrin 2015).

Studies that analysed the news coverage right before and during the crisis show that a narrow range of elite financial sources dominate the news (e.g. Berry 2013; Knowles, Gail and Lindberg 2017; Manning 2013). This is in line with earlier research indicating that a small range of elite sources dictate the economic news beat (Durham 2007). Economic journalists work in an environment of complex information and therefore often rely on familiar sources (Tambini 2010), with the majority of ideas originating from a routine flow of corporate and economic news releases combined with other media sources (Doyle 2006). This phenomenon is also present within other newsbeats, since professional journalists' routine of relying on a specific network of sources whom they deem relevant and credible, is a constitutive part of the epistemology of journalism (Ettema and Glasser 1985; Ekström 2002). Within journalists' network of sources, official sources, such as government officials, politicians and business actors are more likely to be considered as authoritative and suitable (Gans 1979; Sigal 1973; Reich 2009). In the digital age, the 'elite bias' and prevalence of institutional sources in the news is frequently questioned, since new platforms such as Twitter provide new and easier ways to contact sources. Furthermore, Twitter also allows to devote more attention to non-elite actors, such as ordinary citizens, perhaps not as prominent sources in the news, but rather as a more indirect or background source to get inspiration for stories or a better idea of what the public is concerned about. It is therefore needed to study these sourcing practices in a new media environment concentrating on day-to-day economic coverage. Especially since exposure to economic information in the media influences and enhances the economic sophistication of the audience, particularly in a frame that presents the economic consequences of certain events (Kalogeropoulos, Albæk et al. 2015).

Research questions

The goal of our empirical study is two-fold. First, we are interested in the role of Twitter within the news production process. Therefore, we try to uncover how their Twitter usage compares to and affects traditional news gathering routines. This leads us to the following research question:

> *RQ1: How do economic journalists perceive the functions of Twitter as a sourcing tool in the discovery and gathering phases of the news production process?*

Secondly, we are interested in the source networks of journalists. To fully grasp this network of sources, we try to identify all source actors that journalists encounter in both the news discovery and news gathering phase, both online and offline. We analyse journalists' Twitter networks and compare them with their actual sourcing behaviour. This comparison will allow us to answer our second research question:

> *RQ2: How does the Twitter network of potential sources of economic journalists compare to their actual sourcing behaviour?*

Methodology

To answer these two research questions, we combine data about the journalists' Twitter networks with insights gained from in-depth interviews with the same journalists. The interviews allow us to dive into the contacts whom journalists encounter, potentially influencing their news selection decisions. We also examine journalists' perceptions of the importance of these sources in their daily work.

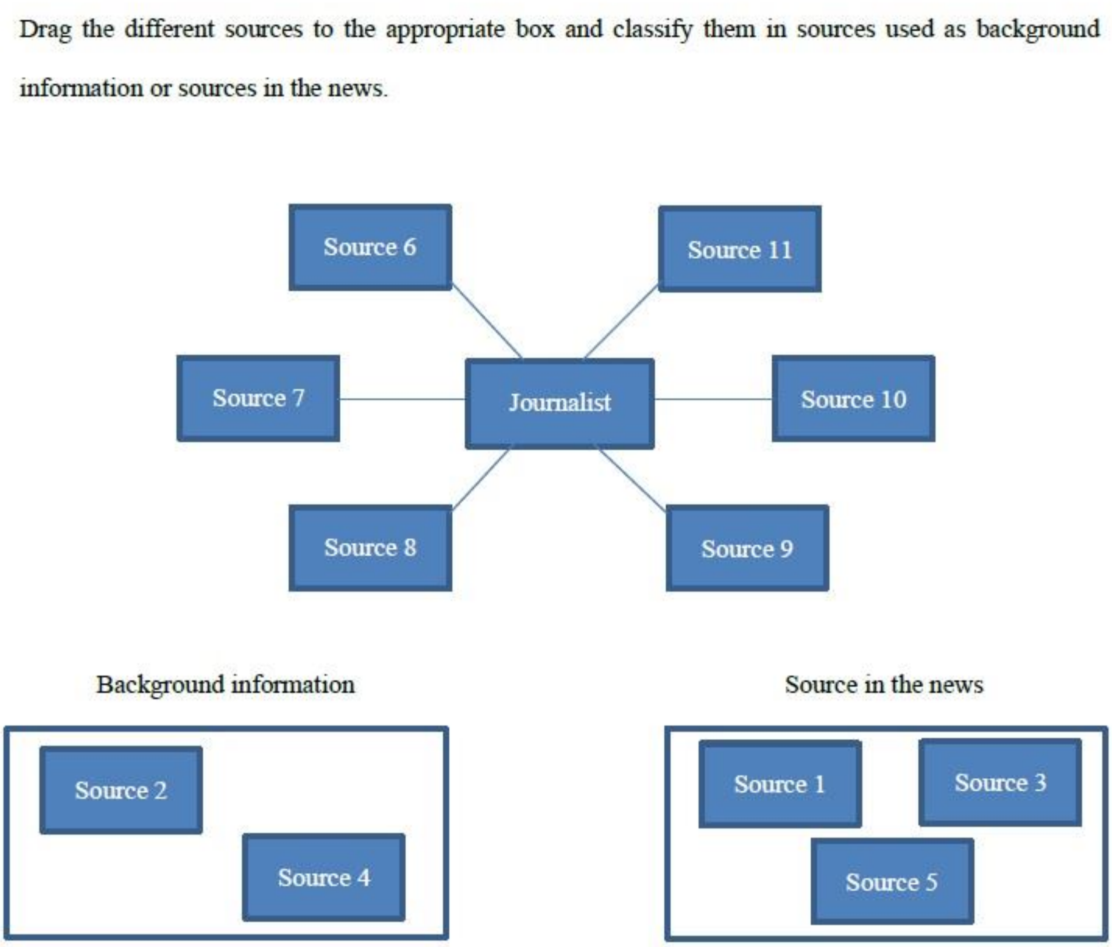
In total, we interviewed 33 economic journalists working for print media in Flanders, the northern, Dutch-speaking part of Belgium. We identified these journalists using the database of the Flemish association of professional journalists (VVJ), which contains information about all Flemish professional journalists in possession of a press card. Initially, we selected all journalists who were included in the news beat category of economic or financial news. This sampling procedure resulted in a list of 77 economic journalists of whom 60 had a public Twitter account. We contacted these 60 journalists for an interview and 33 of them agreed to participate in our study. The interviews with these 33 journalists took place between May and October of 2016[1]. Nineteen of the interviewed journalists work for a newspaper, of whom 12 for a business newspaper and 7 for a general newspaper; 12 journalists work for a news magazine, one for a news website and one interviewee is a freelancer. Although all of the interviewees maintained a personal Twitter account, their Twitter activity varies significantly (see Appendix for an overview of the journalists and their number of tweets, followees and followers).

Before the interviews, we analysed the Twitter profiles of the 33 economic journalists in our sample. We used a one-degree ego network analysis approach to investigate the contacts they connect with online. The construction of ego-networks starts from one central node in the network – in our study the journalist – who is connected to all the other nodes in the network – the source actors consulted by the journalist. We study these networks to the first degree because we are only interested in the relations between the journalists and their sources, not between the sources themselves. We collected the followees (i.e. the accounts followed by the journalist) of the journalists using the software tool NodeXL during a five-month period from the 1st of April 2015 until the 31st of August 2015[2]. The followees were subsequently coded into seven different actor groups: business professionals, media and journalists, experts and academics, politicians and government, civil society and interest groups, citizens and other (e.g. celebrities or parody accounts). The collected data give us an indication of the actors whom they consider as worthy to follow and who can be regarded as direct 'potential sources' in the journalists' Twitter networks (see also Deprez and Van Leuven, 2017; Van Leuven and Deprez, 2017).

In a second phase, we conducted computer-assisted in-depth interviews with each of the 33 journalists in our sample. As said above, these interviews took place between May and October of 2016. Although there is a time lag of about one year between the analysis of the Twitter networks and the interviews, the journalists indicated that their Twitter networks remained quite stable over time. Journalists were presented with survey questions on a tablet in a face-to-face setting. The survey was constructed in the Graphical Ego-centred Network Survey Interface (GENSI) developed by Stark and Krosnick (2017). This tool is designed to facilitate the questioning of ego-centred network data and to implement this network module in a larger questionnaire. We used it mainly to get a better insight in the actual sourcing practices of journalists. For the data collection of their sources, we base ourselves on the idea of the one-degree ego networks we constructed on Twitter and apply a similar network approach. This means that we start from the journalist as a central node and ask which sources they used in the last week prior to the interview. This provides us with multiple types of sources, but of course not with the complete network of sources. In network surveys the respondents are usually asked to list their contacts – here sources – in 'name generator' questions and afterwards report the attributes of these different contacts in 'name interpreter' questions. The GENSI tool provides an immediate graphic representation of this ego-network with the journalists in the middle and the given sources around this central node and allows us to ask follow-up questions about all the contacts at once (Stark and Krosnick 2017). Figure 4 shows an example question of the survey where the journalist, who contacted 11 sources in the previous week, was asked to classify the 11 sources named as either background information or as a source mentioned in a specific news report.

Not only the visualisation is an important feature; a study by Stark and Krosnick (2017) also shows that the use of the tool leads to a more positive evaluation of the questionnaire as compared to other online social network analysis tools.

Figure 4: Example question of the Graphical Ego-centred Network Survey Interface



Note: this is not the lay-out of the actual GENSI-survey but a recreated figure

The closed questions in this tool were combined with open-ended questions, posed by the interviewer, which provided us with additional information on how and why certain sources were used and how important they are perceived to be. This led to qualitative interview data that both complements and enriches the quantitative data from the survey questions.

In the interviews we asked four types of questions. First, we discussed the importance of different actor groups with the journalists and their frequency of contact with them. This provided us with a general understanding of the relevance of these different actor groups.

Second, to collect information on their actual sourcing behaviour, we asked journalists to reconstruct the sources that they had contacted in the workweek prior to the interview. We explicitly stated that we were not only interested in the sources that they had cited or mentioned in their news articles, but in every person or organisation from whom they had retrieved (background) information that helped them write their news stories in that week. It was also clarified that we meant by information any piece of published (articles, reports, emails, social media posts, …) or spoken information (e.g. gathered through a telephone call or interview). The average number of sources listed was ten, with a maximum of 18 and a minimum of five. While these numbers may seem quite low, we should keep in mind that our sample includes both newspaper and magazine journalists, and the interviewees in our sample wrote, on average, six articles in the week prior to the interview.

Third, the interviewees were asked four follow-up questions about the sources they named. We first inquired whether the source actor was an explicit source in the news or contacted for background information. Secondly, we evaluated the frequency of contact with the source actor. Thirdly, we asked them how they regularly contacted these sources, that is, which information channel they used to consult the source. Finally, we inquired if they followed the source actor on Twitter or not.

The fourth and final part of the interview contained several questions on social media use and the influence of these new tools on their work. Here, the journalists assessed different characteristics of Twitter use on a 4-point Likert scale ranging from 'totally disagree' to 'totally agree'. These survey questions give us an insight in the importance and relevance of Twitter and social media in general.

Afterwards, the sources studied were coded into the same six actor groups that were used to classify the followees in the journalists' Twitter network (leaving out the 'other' category). In total, the 33 journalists mentioned 329 source actors, of whom 327 could be coded into the actor groups; the two remaining sources were confidential. Since we define sources as being actors, published reports or articles were recoded into the source actors they originate from: e.g. if a journalist said to have consulted a press release by a company, it was the company (source actor) and not the press release (channel) that we considered as the source.

In sum, the methodology we used provides us with three different types of data on source actors. First, we mapped their online Twitter networks of potential sources. Secondly, the GENSI survey questions provided us with quantitative data on the actual sourcing practices and source networks of the journalists. In addition, the interviews also invited the journalists to share their own views and perceptions about the importance of different source actor groups and the role of social media in their daily work. These qualitative data allow us to interpret the findings obtained through the Twitter analysis and survey questions.

Results

To answer the first research question, we look at the use of Twitter and discuss the perceptions of the different functions of Twitter in the news production process. Next, to address the second research question we compare the Twitter networks of the economic journalists with their actual sourcing behaviour. Here we discuss the presence of the different actor groups and examine the overlaps and differences between their Twitter network of 'potential sources' and their actual source network. Finally, we further analyse the journalists' actual sources and their perceived importance.

The functions of Twitter as a sourcing tool

The 33 journalists in our sample display a very broad use of Twitter, with tweets, followees and followers being very widespread, as shown in Table 5 (see Appendix for a complete overview). Their Twitter profiles, however, were all mainly used for professional purposes. Only two journalists indicated that they also used Twitter in a private context. On average, an economic journalist in our sample follows more than 500 other people or organisations on Twitter. This suggests that Twitter at least potentially can play a role in the sourcing process of the journalists in our study.

Table 5: Descriptives on the number of tweets, followees and followers of the Twitter profiles of economic journalists (N=33)

	Tweets	Followees	Followers
Mean	1,152	522	898
S.D.	1,789	669	971
Range	0 – 7,784	24 – 3,241	47 – 3,682

To get an impression of the reasons for which the journalists use Twitter, we presented them with several statements. Most journalists agreed that they use Twitter to follow the news and to obtain story ideas. However, less agreement was found for our statement that referred to the use of Twitter as a tool to find sources; only half of the journalists said they use Twitter for this purpose. The journalists who were more sceptical about the use of Twitter as a sourcing tool were also less active in the online environment and showed a lower number of tweets and followers.

When discussing these statements more in-depth, the interviews clearly show that Twitter serves at least two major functions as a sourcing tool. First of all, Twitter has the function of an awareness system. The journalists indicated they use Twitter to create their own stream of information and stay up-to-date with trending topics. One journalist explained that Twitter influences their sourcing practices in an indirect way*: "We do not report what Twitter writes. It is a source of ideas"(journalist 12).* In addition to merely the facts and news events, an important feature of social media is that they also carry the immediate reactions to and opinions about these events. Journalists do not only get an overview of information, which, as some interviewees remarked, can also be provided by press agencies or other information channels, but they can also immediately monitor what the public and the politicians, peers and experts they follow on Twitter think about the news. One journalist compared it with a more traditional way of news gathering and stated: *"It is actually a kind of bar where you overhear and pick up everything, but digitally"(10).*

The second function we can distinguish relates to Twitter as a trigger. Journalists argue that the social media platform has a genuine signalling function, not just keeping journalists up-to-date but pointing out topics the journalist should look into. In this sense, Twitter can really be at the start of the news gathering process. The idea arises from social media, but when this idea becomes more elaborate, journalists fall back on their traditional sourcing routines. One interviewee described this process as follows: *"You see something appear on Twitter and think: 'we can work with this'. And then you pick up your phone"(7)*. Another journalist backed this idea and explained: *"A tweet in itself is never the news. In my case, it is rather an incentive to call a person or ask around what it is about"(8).*

In sum, with regard to the role and value of Twitter as a sourcing tool, our findings are consistent with previous research that found that journalists are likely to perceive the social media platform as a useful tool for following the news and for monitoring potential sources in the news discovery phase, rather than for finding or approaching informants in the news gathering phase of the sourcing process. The dominant functions of Twitter can essentially be seen as latent and indirect. The journalists do not often consciously seek out sources or information on the platform and when they come across something interesting, their traditional sourcing methods take over. This traditional work routine remains visible in their usage of the online platform. Specific features of Twitter, such as Twitter lists or the direct messaging (DM) feature, are hardly used by most of the journalists we spoke with. A handful of the interviewees said they were subscribed to one or more Twitter lists and mainly referred to the list maintained by the main business newspaper in Flanders. Two journalists said they actively used Twitter lists for news gathering; the others said they just monitor their own timeline. Furthermore, hashtags are sporadically used for specific searches or to follow events or conferences. One journalist specifically mentioned the trending topics on Twitter and said: *"I think [it might have] an influence on your output since you can see what is trending on Twitter which makes it easier to assess what is going on"(11)*. When we discussed their use of DM's on the platform, the preference of traditional sourcing channels remains present. Most of the journalists who work with this function simply use it to get contact information of sources. A journalist that was very enthusiastic about this feature said: *"Often I ask via Direct Message: 'Can my colleague give you a call regarding that subject?'"(6)*. When other contact information is available, this feature becomes less interesting, with one journalist explicitly stating: *"I don't think it is very practical, an e-mail works just as well"(1).*

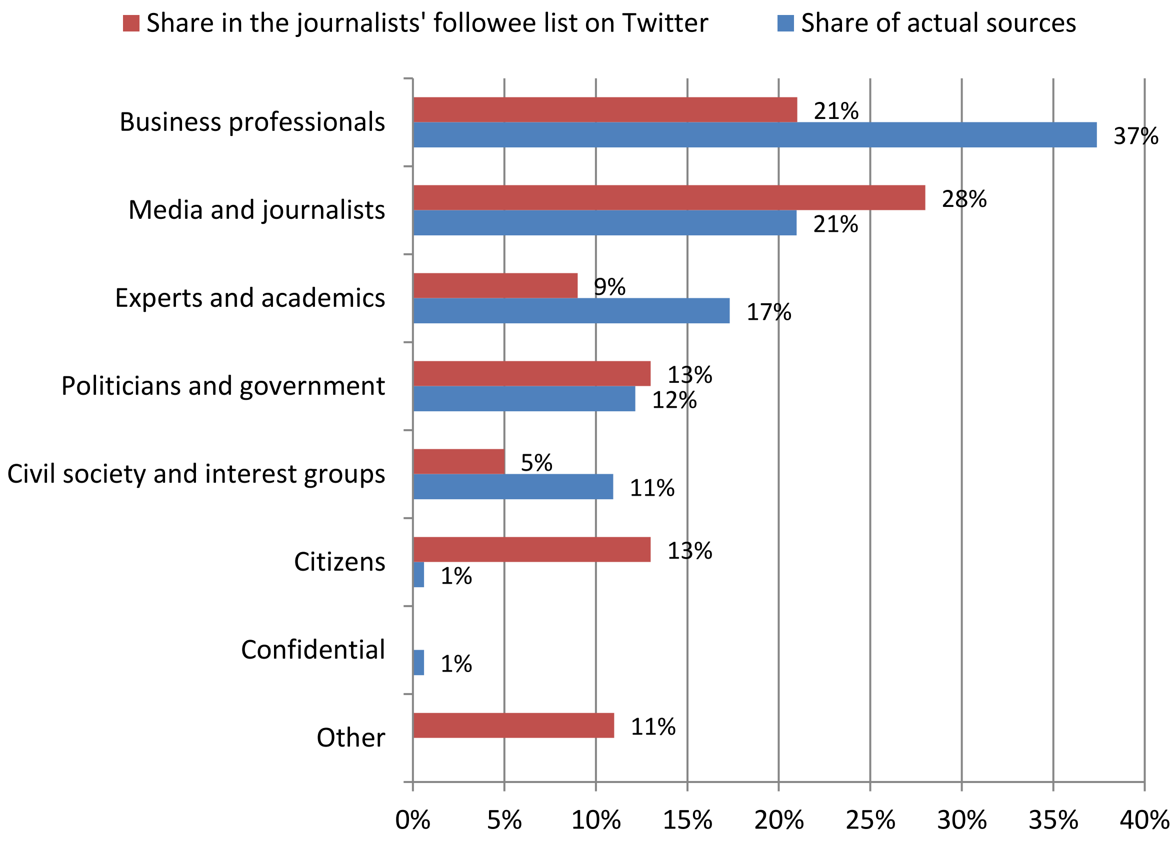
Potential vs. actual source networks

Next to the functions of Twitter within the sourcing process, this study also examines the relations between the networks journalists build online and their actual source network. Therefore, we make the comparison between the potential source networks on Twitter of the interviewed journalists and their actual sourcing behaviour. As explained in the methodology, we collected both the online networks via Twitter and an offline network of one week using the GENSI tool. Both datasets are based on one-degree ego networks starting from the journalist as a central node and studying the (potential) sources this central node is connected to. The following results discuss the quantitative comparison of these two networks by focussing on the actor groups present, but is enriched with qualitative data that illustrate the journalists' perceptions of these networks and actor groups.

In Figure 5 we make a comparison between the size of the group of potential sources on Twitter and the number of actual sources they used recently. We do this on an aggregate level, comparing the entire network of sources of the 33 journalists on Twitter and offline. This gives us a general overview of the relevant source actor groups within economic journalism. Overall, there are significant overlaps between their Twitter networks and their actual sourcing behaviour. In general, business professionals, experts and academics, and interest groups are overrepresented as actually contacted source actors, while media and journalists and ordinary citizens are relatively more present in the potential source networks of journalists. Politicians and government actors have an almost equal share in both the Twitter networks and the contacted source actors.

Media organisations and journalists have a significantly larger presence on Twitter than in the journalists' actual source contacts. This can be explained by the fact that media and especially press agencies are relevant for news discovery and are therefore carefully monitored, but once journalists decide to produce a news story, they will mostly complement the media sources with additional information from other sources. As one journalists commented: *"You don't want your newspaper to* *be filled with all kinds of things that are on the Belga News feed [the Belgian press agency]"(14)*. The journalists then look for a different angle or in-depth analysis to expand beyond the press releases: *"That is also the way in which I use [press agencies] as a source: they bring the news and then I look at how I can expand this"(21).* Not only press agencies, but also other media outlets are systematically monitored for story ideas and background information. One newspaper journalist mentioned that a day at the newsroom often starts with checking other media: *"The first thing we do is look at newspapers to see what our competitors have done. But sometimes it's also a lead"(22).* The relative overrepresentation of media sources in the Twitter network can partly be explained by the fact that media actors are closely monitored to stay informed on a wide range of topics, but they are less often used as an explicit source in their own news production. Besides the fact that journalists want to know what their competitors are doing, some interviewees argued that it has more to do with collegiality, considering it obvious to follow their peers and co-workers on Twitter.

Figure 5: The share of different actor groups in the journalists' followee networks on Twitter compared to their share in the journalists' source contacts in the previous week (N=33)



Total number of sources mentioned in the interview N=329

Total number of actors in the Twitter followee network N=15,894

Business professionals are clearly the most contacted sources according to the journalists we interviewed, occupying 37 percent of the actual source network. We should note that we asked the journalists to mention different sources separately as much as possible. This means that, for example, annual reports of a company, conversations with the CEO of the same company and encounters with their spokesman could all be entered in the GENSI tool as separate sources that trace back to this actor group. Nevertheless, business-related actors are highly present in the actual source network. Economic journalists consider the high presence of this actor group in their source contacts rather obvious because business professionals are usually at the centre of their news stories. One journalist stated it as follows : *"Companies? We contact them on a daily basis. They are very important"(30).* Compared to the other groups, business professionals are also intensively followed on Twitter: one out of five followees in the journalists' Twitter networks (22%) were identified as business professionals. Yet, their presence is less substantial on the social media platform compared to the actors journalists contacted for background information or as sources in their news reports. A possible explanation is that, while business professionals are often needed as sources in a particular story, they are not, or not necessarily, considered as worthy to follow on a regular basis. A similar pattern can be seen with regard to the actor groups 'experts and academics' and 'civil society and interest groups'. Again, we notice that these actor groups show a higher presence in the actual source network than on Twitter. One journalist explained this as follows: *"Experts are less interesting for their newsworthiness but are relevant for comments that distinguish your piece from other media"(21).* In other words, they do not regularly bring them new news topics but help them elaborate on new information. Still, we should also recognise that the population of experts, academics, and civil society actors that can be followed on Twitter is rather small compared to other actor groups such as political and business actors.

With a share of 12 percent, the actor group 'politicians and government actors' takes the third position in the list of most contacted actual sources. When discussing the importance of political sources, the journalists said they were particularly interested in actual policy and research done by governmental institutions rather than in political debates. One journalist put it as follows: "*The 'political game' doesn't interest me, I want to know what the information is"(5).* As Figure 5 shows, the share of source contacts with political actors is similar to the share of this actor group in the Twitter networks of journalists. As opposed to the other source actor groups, citizens are poorly represented in the journalists' actual source contacts. The economic journalist who named two citizens as sources even nuanced the relevance of these source contacts because it was *"very specific for this particular story"(20).* The journalists said they rarely have contact with citizens and if they do, it is mostly because citizens contact them to comment on an article. Nonetheless, some journalists added that they do have contact with their readers, but not during the sourcing process. As one journalist stated: *"Ordinary citizens - I don't know if this falls under the category [of sources] – well, actually we are closely connected to them [because we have] a website that allows comments"(3).* Another journalist told us: *"Sometimes you receive complaints via e-mail about a company or something else from a citizen and occasionally this leads to something, but most of the time, it doesn't contain a bigger story"(13).* One journalists dismissed these sources completely by stating: *"I don't consider the use of vox pops a journalistic practice"(5).*

In contrast to actual sourcing behaviour, the journalists' Twitter networks show a much larger presence of ordinary citizens. A closer look into our Twitter analysis, however, shows that this is due to a small group of very active Twitter users, as we find a significant effect of the network size on the number of citizens in their network. Nonetheless, according to all journalists in our study, the impact of ordinary citizens as potential sources is small and not perceived very valuable. One journalist said that he just tries to follow people back: *"[It has a] public function. It's not the people that give information to me, I give information to them"(1).* The citizens in these active networks remain linked to their professional work and do not originate from a private use of the medium. As mentioned above, only two journalists said they also use Twitter for personal purposes. Most of the citizens in journalists' Twitter networks are not friends or relatives, but people with interesting or strong opinions. As one journalist stated: *"Twitter remains a professional medium. In my group of friends I don't know a lot of people that use Twitter"(6).*Altogether, we see a lot of similarities between the economic journalists' actual source networks and their Twitter networks. The differences we found may be attributed to the role of Twitter in the news production process. The very high presence of media is in line with the use of Twitter as an awareness system, as is the smaller role of experts who do not regularly offer story ideas or news topics but make themselves newsworthy through comments and observations.

When discussing the sources journalists used in the previous week, we also asked follow-up questions regarding how they contact or follow these different sources. Table 6 shows the 325 sources categorized into actor groups[3] divided by the type of contact and whether or not journalists follow them on Twitter. As opposed to the comparison on an aggregated level as presented in Figure 5, Table 6 allows a more individual and in-depth assessment of which of the sources the journalists contacted are actually followed on social media. In general, more than half (58%) of the sources are not followed on Twitter. This means that the journalists in our sample did follow 42 percent of the source actors they contacted in the week prior to the interview. The ratio of sources the journalist follows is significantly correlated with his/her number of tweets, followees and followers *(respectively $r=0.440;p=0.010$; $r=0.472;p=0.006$; $r=0.463;p=0.007$).* Journalists with an active Twitter profile were more likely to have the source actors they contacted included in their following list on Twitter. As shown in Table 6, media organisations and journalists are heavily followed (64%). Within the other actor groups, there is an opposite pattern, especially in the group of business professionals. As mentioned above, these sources are considered extremely relevant in their articles, but seem less worthy to be added as potential sources in the journalists' online information stream. All the other actor groups show an average following of approximately 40 percent.

Table 6: The type of source contact and the number of actual sources followed on Twitter, divided by actor group (N=325)

Actor group	Twitter relation		Type of source contact	
	Follow	Not follow	Background information	Source cited in the news
Media and journalists	64%	36%	67%	33%
Politicians and government	40%	60%	28%	72%
Business professionals	30%	70%	29%	71%
Experts and academics	44%	56%	40%	60%
Civil society and interest groups	42%	58%	50%	50%
Total	42%	58%	41%	59%

Correlations: actor group x Twitter relation: $\chi^2(4)=20.719$; $p<0.001$; actor group x type of source contact: $\chi^2(4)=29.550$; $p<0.001$

If we compare the sources quoted in the news to sources that are only used for background information, Table 6 shows that almost half of the sources are solely used for background information. Business professionals are the most used sources in the news, with only 28 percent of them solely providing background information. Although the number of political sources is lower, the ratio is similar with more sources in the news. Media and journalists are more likely to be used for background information rather than as a direct source in news stories.

Source actors who only provide background information occur slightly more often in the journalists' Twitter network than do source actors who are cited in the news stories *(Cramer's V=.149; p=0.007).* We find an even stronger correlation between the sources that are followed on Twitter and the frequency of contact with these sources *(Cramer's V=.301; p<0.001).* The sources that are contacted regularly appear more often in the journalists' Twitter networks of potential sources than sources for whom the frequency of contact is low. Again, this supports the idea that Twitter functions as an awareness system that is especially useful for monitoring sources who can provide ideas and background information.

Conclusion

Social media have become an important information channel for journalists. In line with previous research on other types of journalists we show that a majority of economic journalists use Twitter for researching purposes, implementing it in their daily routine as a monitoring tool to track relevant information and valuable insights. Journalists become aware of potential news items and pick up on trends on social media. The platform is less used to approach or contact source actors during what Reich (2009) calls the news gathering phase of the production process. During this second phase, other more traditional sourcing channels are employed, even if the initial idea originated from Twitter. Therefore, it is important not to confuse journalists' latent Twitter practices with their actual sourcing practices.

In this study, we compared these two sourcing practices using an innovative methodological approach in combining online social network data with interview data on sourcing practices. Media and journalists are regularly consulted for economic news coverage but display an even higher presence in the Twitter networks of economic journalists, which stresses the monitoring function of Twitter. Business professionals and, to a lesser extent, experts are also actively followed in the online environment but are even more prevalent in their actual sourcing behaviour. In line with previous research on news gathering in economic journalism, the financial elites are dominant in the actual sourcing behaviour of journalists. The stable influence of these actor groups might even lead to more attention towards their online output in the entire stream of information, despite being less established on Twitter. Civil society actors, such as unions and employers' organisations, display a similar pattern of partial overlap, but both in actual sourcing behaviour and in the online network their presence remains relatively low. Political actors show no significant differences between their presence online and their presence in the sources contacted by the journalists.

Although we did not expect citizens to play an important role, it is still remarkable that citizens turn out to be totally irrelevant as sources. Even the moderate presence of citizens in certain Twitter networks (with 13% citizens overall) does not change this matter. They are seldom considered as a source of inspiration or as an indication of public concerns in the discovery phase and they are completely ignored in the news gathering phase. Our results show that we have to nuance the optimistic idea that Twitter could have a positive influence on the elite bias in journalistic sourcing. At least for sourcing practices of economic journalists of the written press, citizens hardly matter.

The analysis of the overlap between the different actor groups is mainly discussed on the aggregate level. The overlap between the two networks, however, is to a certain extent confirmed when we approach this question from an individual level. Of the sources that journalists contacted in the week prior to the interview, 42 percent is followed on Twitter. The activeness on Twitter affects this measure, with more active Twitter users showing a larger overlap between their actual sourcing behaviour and their following behaviour on Twitter.

Our research focussed on economic journalists where previous research shows us a specific sourcing pattern with a strong elite bias. When we take this into consideration, our results are not surprising and show that economic journalists strongly rely on a network of elite sources containing business professionals, experts and political actors. These source actors can largely be found in their Twitter networks. Nevertheless, this study shows that the presence of non-elite actors, and more specifically citizens, on Twitter does not appear to be a turning point within economic sourcing practices, as their influence on the actual news gathering appears insignificant. Citizens are at best potential sources in the Twitter networks of a small group of highly active Twitter users. A minor impact of non-elite potential sources might be present during the discovery of news, yet they are still struggling to pass the rigorous gates of economic journalists. Twitter is used as a tool that has been implemented within and normalised to existing sourcing practices (see Lasorsa, Lewis and Holton 2012), rather than that it seems capable of drastically changing the production process of economic news. This conclusion leads to two questions that need to be tested in further research. First, whether the same irrelevance of citizens as news sources applies to other news beats. At least, our finding is in line with the study by Deprez and Van Leuven (2017) on health journalists, but we might expect for instance political journalists to be more open to citizen input. For political news, the opinions of ordinary citizens might be seen as an alternative indicator of public opinion. More comparative studies, across news beats, are necessary to improve our insights of these differences. Second, if economic journalists do not use Twitter to be informed about ordinary citizens, this raises the question whether they have other sources of public opinion or rather neglect the public at large in their journalistic work. Our study was not really focussed on this question, but might inspire others to dig deeper into this important issue.

Notes

1. The results discussed in this paper, both from the Twitter study and the interview data, contain information on the 33 journalists we interviewed. Although we exclude the Twitter data of the journalists we did not interview, there are no significant differences between these two groups regarding number of tweets, followers and followees.

2. Due to a technical issue within NodeXL the number of followees was restricted to 2,000 profiles per journalist, not incorporating the remaining followees. In our sample, two journalists exceeded this limit. When discussing the actor groups in Figure 2, we use the 15,894 followees gathered and coded via NodeXL. The actual number of tweets, followees and followers on their Twitter profile by the end of the data collection was also obtained to assess their overall online behaviour (see Table 1).

3. The 'citizens' category was not used for this analysis because it only contained two sources.

Chapter III

Tracing Twitter References in Economic News

A content analysis

Introduction

Twitter was introduced over a decade ago. The microblog platform is considered as a hybrid platform combining features of blogs and social networking sites (Kaplan and Haenlein 2011). The platform is characterised by a high degree of self-disclosure with the possibility to share short status updates, but it also contains the ability to interact and build a social network. Although these short status updates can be considered valuable for the small network that individuals maintain, it is clear that Twitter has the potential to rapidly spread information and comment on current topics far beyond this small network of friends and acquaintances. As journalists quickly adopted this tool for professional purposes, Twitter became a relevant instrument to monitor ongoing debates and follow up on interesting topics (Broersma and Graham 2016; Gulyás 2013; Hedman and Djerf-Pierre 2013,2017; Raeymaeckers et al. 2015). Twitter is a platform where information is massively distributed and quickly shared all around the world.

Although journalists have embraced Twitter as a useful tool, they also seem to nuance the importance of the social media platform. Chapters I and II already discuss the use of Twitter by economic journalists in Flanders. These journalists all display a network of potential sources that starts from their journalistic sourcing routines and contains various actors and actor groups that are also expected to be in the news content of these journalists (see Durham 2007; Manning 2013). It is assumed that the Twitter network of economic journalists reflects their offline network, as the journalists argue that this network is mainly built from their professional routines (see Chapter II). Yet Twitter is generally not considered as a sourcing tool by the journalists, but rather as a platform to gather information and get story ideas. Two important conclusions can be made based on these results. First of all, it appears that evidence of Twitter use by journalists does not always correspond with the perceptions journalists have of this platform. The Twitter networks in Chapter I lead us to believe that these networks are built from a professional perspective to aid the sourcing practices of the journalists. The journalists' perceptions portrayed in Chapter II, however, show us that empirical evidence of Twitter use does not necessarily indicate that journalists perceive it as an indispensable tool in the news production process. Secondly, evidence shows that Twitter plays a more important role in the news discovery phase than in the newsgathering phase, which suggests that Twitter messages are not directly sourced, but rather used to ignite an idea or a story.

The challenge here is that the impact of social media in the news discovery phase is not visible in the news content. Sources that are consulted in the news gathering phase are referenced in the news, but this is often forgotten for sources that spark story ideas in the discovery phase (Hijmans et al. 2011; Philips 2010). This chapter analyses sourcing in economic news by looking at who is represented in the news content and how these sources were contacted. Based on previous research (Broersma and Graham 2013; Paulussen and Harder 2014; Rony, Yousuf and Hassan 2018; von Nordheim, Boczek and Koppers 2018), I expect the manifest use of social media posts to be modest. This chapter therefore also analyses to what extent the use of social media and the networks journalists build online, consisting of potential sources, relate to the sources that actually make it into the news. This will give us an insight in the relationship between the journalist's potential source network and the sources that are actually used in his/her news articles.

Theory

The introduction of social media in journalism was considered as a technological evolution that would drastically change the way news was produced. With regard to journalist-source relations, it was expected that these technologies might alter the gateway to certain sources. Study after study has shown, however, that, even though newspapers have started to include references to social media, the overall number of such explicit social media references remains low (Broersma and Graham 2013; Paulussen and Harder 2014; von Nordheim, Boczek and Koppers 2018; Rony, Yousuf and Hassan 2018). After reviewing the literature, Van Leuven et al. (2018) conclude that "online information channels have not replaced but at most complement traditional information channels" (800). Moreover, there is no indication that Twitter has contributed to a more diverse sourcing pattern or a more balanced news access (Lecheler and Kruikemeier 2016). Relying on traditional sourcing routines and elite sources still seems to be far more efficient for journalists (Van Leuven et al. 2018). Longitudinal data of von Nordheim, Boczek and Koppers (2018) show that although the number of social media references in the news keeps slowly increasing, it is still low overall. In this study, I look at social media references in economic news. The first, descriptive question is:

> *RQ1: How frequent do economic journalists refer to social media as sources in their news coverage?*

To assess the importance of social media platforms and the role they fulfil, it is perhaps not adequate to only look for direct influences of the platform. Social media might, additionally, influence the news in indirect ways. The ideas of Reich (2018) already suggest this change of approach, as he argues that we should evaluate technological innovations with their epistemic bandwidth in mind. Reich (2018) defines epistemic bandwidth as "the scope of knowledge seeking opportunities [the technology] affords" (2). The impact of text-based information exchange often allows less depth and richness than direct contact with human actors (Reich 2013). The impact of certain technological novelties such as social media should therefore not be overestimated, but studied with their epistemic bandwidth in mind.

Although information on social media can be useful, the epistemic bandwidth of Twitter might not lie within the realm of manifest sourcing tools, considering the limited information in a single tweet. Hermida (2010) firstly described Twitter as an awareness system, so he suggested a latent function of the platform. He sees Twitter as a system where information and news is heavily shared and goes around at a fast pace. This leads to an ambient stream of information that is always on, not only providing consumers with a 24-hour news cycle, but also giving journalists unlimited access to information at all times. Although different uses of social media can be recognised (Broersma and Graham 2016; Hedman and Djerf-Pierre 2017), journalists consider this latent use of accessing information and monitoring potential sources as vital to the platform and a reason to use Twitter.

Despite the evidence that journalists use social media for its monitoring function, Lecheler and Kruikemeier (2016) rightfully argue that this remains in contrast with the empirical findings of the various content studies. If social media and Twitter in particular are heavily monitored, we might also expect these tweets to appear in the news content. The sourcing process, however, is more complex than a straightforward line between sources and content. Explicit social media references are therefore not always strongly portrayed in the final news product. Reich's (2009) distinction between news discovery and news gathering uncovers part of this complex process and provides a possible explanation for the discrepancy between direct and indirect sources of information. Within the first phase, news discovery, journalists simply become aware of information and potential news items. Reich (2009) then argues that only a few leads actually set off the second phase, news gathering. It is only in this second phase that journalists look for sources they can bring forward in their news piece. Considering the epistemic bandwidth of Twitter, the use of this tool can mainly be situated in the first phase, the news discovery phase (see Chapter II).The idea may arise on Twitter, but the sources will still be contacted in other ways and through different information channels (Raeymaeckers et al. 2015; Reich 2013).

With regard to source references in the news, it appears that source attribution is not always as transparent as the news consumer expects. There is, however, a difference between intentionally leaving out certain sources and simply having an idea from informal talks or social media posts that are not mentioned in the news item. From an ethical point of view, we could say that the initial idea should also be reported but it is only in the case of intentional faulty source attribution that this is problematic. Although the topic of transparency has always been relevant within sourcing research, Davies' (2008) work *Flat Earth News* heavily influenced the academic and even public interest in this matter. Davies (2008) describes how journalists simply copy PR sources without any further investigation or source transparency. Lewis, Williams and Franklin (2008) investigated this matter, showing that news is heavily recycled from elsewhere. Although it is not necessarily harmful that journalists rely to a certain extent on pre-packaged information, it appears that journalists are not transparent about where this information comes from (Philips 2010; Hijmans et al. 2011). Especially information that comes from news agencies or rivalry media platforms is often not credited and simply copied by the journalist using the quotes and sources that are readily available (Philips 2010; Van Leuven, Deprez and Raeymaeckers 2014). Apart from the fact that sources should be mentioned so the story can be checked by other journalists and news consumers, Philips (2010) argues that attribution also entails "giving credit to the originators of information" (380). This second part is often lost within modern journalism. This faulty source attribution can be transferred from PR and news wire copy to social media content. The origin of the story, namely a single tweet or several social media posts, is then also poorly referenced. This tweet will lead to further investigation and news gathering, but gets lost within the entire process of news gathering and is absent in the news content.

The difference in this social media context is that the origin of the story might often not be a single tweet, but the stream of information that highlights certain topics or issues. The ambient stream of information, as described by Hermida (2010), is monitored by the journalist and can spark a new story idea. It is, however, not one source or a single post that influences the journalist, but the general idea that people are discussing these topics. It is possible that source attribution towards specific social media posts might be flawed, but we also have to consider that Twitter often simply provides ideas. The origin of these ideas are not represented in the news content and for journalists, it could be difficult to pinpoint an exact post or conversation that triggered their story ideas. During the monitoring on social media the journalist is not only exposed to a lot of information, but also to a wide range of (potential) sources. In the end, it is possible that journalists favour these sources over sources not present on Twitter. Therefore, I expect that the size of the actor groups on Twitter will be similar to the constellation of sources the journalists use in their news stories.

H1a: Actor groups that are highly present in the Twitter network of a journalist will be relatively more represented in the news content of this journalist than actor groups that are less present in the online network.

The comparison gives us an insight in the similarities between the constellation of these two networks. Chapter I already discusses the Twitter networks of economic journalists and suggests that it heavily reflects the sources that are present in the news. Instead of simply suggesting this similarity, this chapter focusses on the same sample of journalists and empirically investigates the correlation between both networks. Next to the constellation of the actor groups, we argue that the monitoring function of Twitter might also have a more immediate influence on the sources that are used in the news content. Copying messages from social media or directly referencing social media posts is not necessarily an ingrained practice, but this does not mean that the online platform does not interact with the sourcing practices and eventually the news content. The constant monitoring of the platform might generate an overlap between the Twitter network of economic journalists and the sources they ultimately use.

H1b: Individual actors that are present in the Twitter network of a journalist appear more in the news content than actors that are not represented in the online network.

H1c: Individual actors that are present in the Twitter network of a journalist are quoted or mentioned more often in the news content than actors that are not represented in the online network.

Method

I will test the above mentioned research questions and hypotheses by studying sources in the actual news content and the potential sources the journalists follow on Twitter. To fully exploit the different methodologies presented in this dissertation, the content analysis is based on the same sample of 60 economic journalists that was construed for the online analysis in Chapter I. Of these 60 journalists, 53 produced news content for the print version of their medium during our sampling period. The Twitter networks of followees that are presented in the results of this chapter are based on the online analysis presented in Chapter I. To make the results comparable, only the online data of these 53 journalists is used. In the sample, 40 journalists worked for a specialised economic publication, with 27 working for the only economic daily in Flanders (*De Tijd*) and 13 for the only economic magazine (*Trends*). The other journalists were linked to general publications, with 9 of them working for two newspapers that can be considered 'elite newspapers' (*De Standaard, De Morgen*) and 4 working for 'popular newspapers' (*Het Belang van Limburg, Het Laatste Nieuws, Het Nieuwsblad*).

I executed a quantitative content analysis and collected the articles written by the 53 journalists. For the data collection, I used the online database GoPress, which contains all Flemish newspapers and magazines. In this database I searched for all articles that had one of the journalists in our sample listed as author. During the studied period from April until August 2015 I found 3,764 articles written by the journalists, 3,422 newspaper articles and 342 magazine articles. A sample of 1,608 newspaper articles were coded, approximately half. For the articles of magazine journalists, all 342 articles were coded. This resulted in a total sample of 1,950 articles. Table 7 gives an overview of the number of articles per media outlet. The coding on the articles happened on two levels: the article level and the source level. In total, the 1,950 news articles contained 3,950 mentions of a source.

Table 7: Number of articles per media outlet

Medium	Number of articles
De Tijd (n=27)	1160
Trends (n=13)	342
De Standaard (n=8)	198
Het Laatste Nieuws (n=2)	100
De Morgen (n=1)	96
Het Nieuwsblad (n=1)	33
Het Belang van Limburg (n=1)	21

On the article level the title, author, date, length and topic of the article were coded. For the newspaper articles, this data was collected by ENA (Electronic News Archive [www.nieuwsarchief.be]). The same codebook and thematic codes on the article level were implemented for the magazine articles.

Every source in the content was also coded separately and the coders noted the total number of sources present. Source were operationalised as actors in the news articles that clearly provided the journalist with information, so actors that are only mentioned as a subject in the article were not coded. When a company introduced a new policy, for example, the company was considered as the subject of the news, but the spokesperson explaining the new policy, or a politician who commented on it, were coded as sources. Since only the sources that could clearly be distinguished were coded, it was possible that an article had zero sources. Each source identified in the news article was subsequently coded on the following variables: the channel through which the source had been contacted (if mentioned in the article); the type of actor (using the same seven actor groups as used for the potential sources in Chapter I, with the addition of 'confidential sources' and 'public opinion'); the name of the source; and the type of mention (paraphrase or citation).

The coding for magazines on the article level and the coding for the entire sample on the source level was done by three different coders, the author and two well-trained coders. The overall sample of articles was divided between these coders. To test inter-coder reliability, a random sample of 114 articles was coded by all three coders. Krippendorff's Alpha was calculated for the different variables (see Table 8). Krippendorff's Alpha is strong for the variables 'type of channel' and 'type of mention' and also shows a solid result for the number of sources. The type of actor was coded to a satisfactory level, especially if we take into account that the coders first had to distinguish the same sources and subsequently put them in the right category.

Table 8: Krippendorff's Alpha for the variables coded on the article and source level

	Variable	Krippendorff's Alpha
Article level	Number of sources	.78
	Type of actor	.66
Source level	Type of channel	.82
	Type of mention	.80

Results

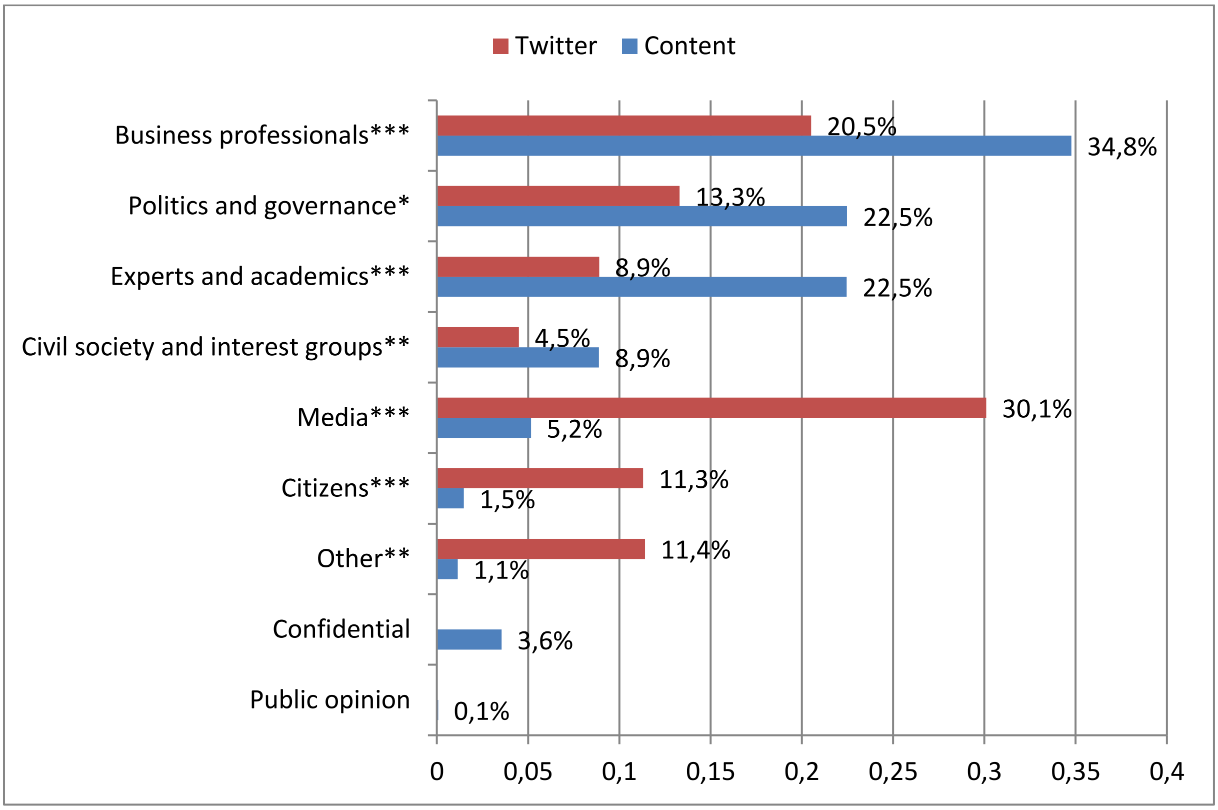
Sources in economic news

The median for the number of sources per news piece is 2, with a minimum of zero sources and a maximum of 20. This maximum is an exception, as 75% of the articles have 3 sources or less and the average number of sources is 2.1. These numbers are similar to the findings from other sourcing studies on economic journalism (e.g. Reich 2009) and print news in general (e.g. Tiffen et al. 2014). Almost one third of the articles (31.6%) only mention one source. In 14.5% of the articles no sources were found. In total, we distinguished 4,023 source mentions of which 3,915 could be coded. Of those 3,915 source mentions, 2,359 were unique sources. Not surprisingly, the number of sources correlates with the length of the articles *($r=0.382;p<0.001$).* Six out of ten cases do not mention the channel used by the journalists to contact the source is. When the channel is mentioned, face-to-face conversations (10.2%) and reports (10.6%) are the most prevalent. Twitter is mentioned as a channel in only one percent of the cases. Other social media are even less frequent and appear in only 7

(0.2%) of the analysed news items. The total number of explicit social media references in economic journalism is thus low with only 1.2%.

Figure 6 describes the relative shares of all sources present in the articles and the journalists' online networks of potential sources, divided over different actor groups. The online networks of the 53 journalists discussed here are based on the analysis discussed in Chapter I. For every actor group, the percentage of sources in the news content and the share within the online networks of the journalists is portrayed. First, we will discuss the source categories in the content, and then the comparison with the online network will be discussed. To assess this comparison, a paired samples t-test was conducted for every actor group. All the actor groups show a significant difference between the Twitter network and the sources in the content. We should keep in mind, however, that Figure 6 displays relative shares, which means that an increase in one group automatically results in a decrease of another group. The large difference in media sources, for example, thus affects the other discrepancies. It is therefore useful to make a descriptive comparison of these differences and consider the place where every actor group ranks within both networks.

Figure 6: The share of different actor groups in the news content compared to their share in the journalists' followee networks on Twitter (N=53)



*Paired samples t-test: *p<0.05; **p<0.01;*** p<0.001*

Total number of mentioned sources in the news content: N=3,915

Total number of actors (potential sources) in the Twitter followee network: N=27,131

More than one third (34.8%) of the actors in the economic news are business professionals. They are followed by the actor groups of ‘political sources’ and ‘experts’, who both cover 22.5% of the mentioned sources. Opposed to these elite and traditional sources, civil society actors and especially citizen sources are less represented in the economic news. Civil society actors, containing all interest groups such as trade unions, employers’ organisations and NGO’s represent only 8.9% of the sources. As expected, citizens are even less present: merely 1.5% of the sources are ordinary citizens. Media sources (5.2%) and confidential sources (3.6) complete the groups of sources present in the economic news. Overall, the findings in Figure 6 show that the output of economic journalism remains, in line with previous research, heavily dominated by elite and traditional sources.

Twitter vs. content on the level of the actor groups

As Figure 6 shows, the biggest discrepancy between the share of potential sources in the average Twitter network and the percentage of sources in the news content is the amount of media actors. Of the journalists’ potential sources 30.1% is a media actor. This share is lower in their actual news content, where only 5.2% of the mentioned sources are media actors. The share of citizen sources also appears to be lower in the actual news content. Approximately one out of ten (11.3%) potential sources online are ordinary citizens. They appear to be present in the online environment, but they hardly ever make it into the news as an explicit source of information. Although a low number of citizen sources in the news was expected, the discrepancy remains remarkable; on an aggregated level, it appears that the mere presence of citizens on social media does not allow us to expect more of these sources in the news content.

Apart from the high discrepancies within media and citizen actors, Figure 6 also shows that the three largest groups in the content are also the largest groups on Twitter. Although the percentages differ, the relative positions of the actor groups remain similar. Business professionals (20.5%), politicians (13.3%) and experts (8.9%) take up a large part of the journalists’ potential source networks. Sources within the actor group of civil society and interest groups also remain quite stable when comparing the online network with their actual sourcing behaviour.

Based on the aggregate results shown in Figure 6, hypothesis 1a is partially supported. Media and citizen sources are used decidedly different online compared to the news content. The network of potential sources does not simply mirror the sources in the news content. The other actor groups, however, show, despite clear differences in relative shares, a similar ranking of actor groups. Both on Twitter and offline, economic journalists rely mostly on business professionals, followed by politicians, experts, and at some distance civil society and interest groups.

Next to a descriptive comparison on an aggregate level, we can further scrutinise the presence of different actor groups and study the correlation between the Twitter network and the news sources on the level of the individual journalist. That way, we can analyse whether there is an interplay between the size of an actor group online and in the news from the same individual journalist. I therefore calculated for every actor group the correlation between the number of online sources and the number of sources in the content (Table 9).

Table 9: Correlation between the share of sources in the journalist's followee network on Twitter and the share of sources in the news content (N=53)

	r	p
Media	-0.128	0.363
Politics and governance	0.618	0.000
Business professionals	0.496	0.000
Experts and academics	0.235	0.090
Civil society and interest groups	0.206	0.139
Citizens	0.108	0.443

As suggested by the analysis above, hypothesis 1a is still supported for political sources (0.61) and business related actors (0.49), since for both actor groups there is a strong and significant correlation between their proportional presence in the journalists' Twitter networks and their relative appearance in the news content. In other words, a large group of political actors in the journalists' online network goes together with a large group of political sources in the news content. The same reasoning can be applied to the use of business actors, who also appear equally strong in the news content and in the potential source network. For experts and academics (.23) and civil society actors (.20), the correlation between their Twitter share and their source presence in the media is much smaller and not significant. The use of civil society actors, both online and in the news content, is too scattered and does not show a clear pattern. In general, these interest groups seem to be underrepresented in economic news. Also for media actors and citizens, the analysis shows no significant correlation between the Twitter presence of these actor groups and their appearance in the news. Hence, in sum, hypothesis 1a is only confirmed for political and business sources, but not for the other actor groups.

Twitter vs. content on the level of the individual sources

The analysis in Table 9 shows how the actor groups in the content and on Twitter relate to each other, which gives an idea of whether the source networks of the journalist, as shown in their print output, are also visible on Twitter. It does not, however, look at individual sources, who are the focus of hypothesis 1b.

To test hypothesis 1b, I used the names of the sources instead of their group codes. For each journalist, the names of their sources were compared to the names of the potential sources in their own Twitter network. This analysis is based on the 3,242 unique sources per journalist; a unique source can be present in the network of different journalists. I then analysed which sources were found both in their news output and online. In total, 371 actors were mentioned at least once in the articles of a journalist (i.e. as 'actual sources') and were also followed on Twitter by the same journalist (i.e. as 'potential sources'). Table 10 shows the average percentage of times a source actor appears in the news article and the Twitter network of a journalist. In general, the correlations on the level of the actor groups become less strong on the individual level, as compared to the aggregate level (see above). On an aggregate level, the findings suggested that the Twitter network journalists build for themselves online reflects – to a certain level – their interest and highlights different actor groups that journalists may find interesting, newsworthy and important enough to follow in the online environment. However, an analysis on the level of the individual sources provides more nuance. As Table 10 shows, in twelve percent of the occasions in which a certain source actor is mentioned in a news article, this particular source actor is also present in the followee network of the journalist who wrote the article. This percentage differs a little from one actor group to the other, but overall there are no actor groups where individual potential sources on Twitter are very strongly represented in the news content. If we consider the group of business professionals, for example, the overall number of sources mentioned in the news is 1,255. Of these 1,255 sources, only 69 (5%) were found in the potential source network of the journalists. The remaining 1,186 are thus contacted for an article, but are not present in the potential source network.

Political and media sources display the most overlap, with an average of 19%. This means that in 19% of the occasions in which a political and governmental source actor is mentioned in the news content, this actor could also be found in the Twitter network of the journalist who wrote the article. On the other end of the scale, the least overlap can be found for business actors (5%) and citizens (2%), while experts and academics (13%) and civil society and interest groups (12%) take a middle position. When we consider the distribution, it becomes clear that we do not see a structural overlap in any of the actor groups. In every group, the standard deviation of this overlap is high and at least one of the journalists does not display any overlap at all. This zero percent overlap means that for all the sources used in the news articles of a journalist, none of them were also present in the Twitter network of this journalist. It is also possible that a journalist used just one source of a certain actor group; if this source is also present in their online network, this results in a 100% overlap, which influences the average, but can hardly be considered as a structural overlap between the two networks. Hypothesis 1b suggests that individual actors on Twitter will also appear more often in the news content. The actors that make it into the news content and are present in the Twitter network of the journalist appear to be a minority. Hypothesis 1b is thus not supported. We should note that it is also possible that sources mentioned in the news item are simply not on the online platform, or that journalists, for example, follow the company account and not the CEO. Then again, keeping this in mind, we still see that journalists tend to choose for the most appropriate sources and broaden their networks beyond the sources that are easily accessible through this online platform.

Table 10: Percentage of times a source actor appears in the news article and the Twitter network the news content (N=3,242)

	Average overlap	S.D.	Min.	Max.
Business professionals	5%	8%	0%	50%
Experts and academics	13%	13%	0%	50%
Politics and governance	19%	20%	0%	100%
Civil society and interest groups	12%	24%	0%	100%
Media	19%	27%	0%	100%
Citizens	2%	10%	0%	50%
Total	12%	10%	0%	40%

Number of sources found in the news content and the Twitter network of the same journalist: 371

Number of unique sources per journalist: 3,242

The way economic journalists approach Twitter and how they use it does not affect the overlap. Active Twitter users are not more likely to incorporate (potential) sources of their online accounts in their actual news content. The number of tweets (*r=0.118,p=0.400*), followees (*r=0.170;p=0.225)* and followers (*r=0.232;p=0.094)* do not display a significant correlation with the percentage of overlap. Even if we refine our analysis and make a distinction between the different actor groups, no correlations were found.

In the news content of the journalists, many of these sources are mentioned multiple times. In the analysis above, we investigate whether a source that is followed online simply appears in the news content, not incorporating how many times this specific source is quoted or used by the journalist. Next to the sheer overlap between these source networks, it is also possible to analyse whether the presence of a source actor in the online network of a journalist relates to the number of times this specific source actor is mentioned in the articles. Table 11 shows that the potential source network does provide us some insight when it comes to the frequency in which a source is used. A linear regression with one independent dummy variable is used to analyse the relation between being present in the potential source network and the number of times a source is mentioned. A positive and significant coefficient thus means that the presence in the online network relates to a higher number of mentions in the news content. In general, there is a significant relationship between the presence in the online network and the times a source is mentioned. The rest of Table 11 shows the same analysis but calculates this dummy regression for each actor group. The correlation is also found for business, political and civil society actors. When a source belonging to one of these actor groups is in their Twitter network, it is likely to be mentioned more often as compared to actors of the same source group who are not present in the journalists' online network. Although hypothesis 1b was rejected and the relation between the two networks is modest, there is a significant relation with the frequency in which certain sources appear, thus supporting hypothesis 1c.

Table 11: The relationship between the presence of a source actor on Twitter and the number of mentions in the news content

	N	B	S.E. (B)	R^2
Presence on Twitter	3242	0.348**	0.32	0.035
Business professionals	1255	0.091*	0.039	0.004
Experts and academics	767	0.087	0.063	0.002
Politics and governance	656	0.697**	0.093	0.079
Civil society and interest groups	322	0.113*	0.054	0.013
Media	188	0.086	0.054	0.013
Citizens	54	-0.77	0.238	0.002

*Notes: * p<0.05; **p<0.001*

Conclusion

This study analyses the sources in economic news in a changing media environment and uncovers the relationship between the potential source networks of journalists and the presence of different actor groups as sources. Overall, there is a strong presence of elite sources in the economic news. This confirms sourcing research on economic news (Durham 2007; Manning 2013) and sourcing research in general (Reich 2009; Tiffen et al. 2014). The elite sources thus remain the primary definers (Hall et al. 1978) of economic news, who can decide on the content and dominant frames. The rapidly evolving technologies that are introduced within the media environment have little effect on these distributions. The explicit use of social media is also still not an ingrained practice. Nonetheless, we should consider that explicit references to sourcing channels in general are often not displayed. Overall, it seems that the traditional sourcing methods remain the most important. It is also possible that these newer forms of contacting sources are simply not, or maybe not properly, portrayed. The results, however, lead to the conclusion that social media do not introduce a direct impact on the written press. If there is a Twitter effect on the sourcing behaviour of journalists, it is an indirect one.

On the level of the actor groups, the journalist's constellation of sources remains similar both online and in the news content. The Twitter network of journalists definitely tells us something about their actual sourcing routines and the actor groups they deem important. Political actors, business professionals and experts are considered important sourcing groups both on- and offline. The largest discrepancies can be found with media sources and ordinary citizens. Keeping the epistemic bandwidth of Twitter in mind, these media accounts are perhaps simply followed online to monitor the news and keep an eye on the competition. The initial ideas come from these accounts to list potential news items in the news discovery phase. In further news gathering, however, these background sources are forgotten or perhaps not properly referenced due to negligent source attribution. Twitter simply remains a place for ideas, not sources. Nonetheless, as Philips (2010) argues, these ideas should, in the end, also be mentioned within the news item, even if the idea comes from competitors. The discrepancy for ordinary citizens on Twitter and in the news is less sizable, but the explanation is partially similar. These accounts are followed online, which levels the playing field to some extent, but are (almost) never referenced in the actual news content. A note we should make here is that the larger presence of ordinary citizens on Twitter is mainly due to a small group of heavy Twitter users, as shown in Chapter I.

We expected that this similarity between the source networks would also result in a higher chance for individual potential sources to make it into the news. Only one out of ten sources in the news content can also be found within the Twitter network. Journalists build a network online that suits their own profession and expertise but sources for their news items are most of the time not searched within this Twitter network. In the end, journalists choose relevant and suitable sources for the news they produce and rely on their traditional network. The extra sources that are easily available online do not appear to be an addition that is reflected in the news content. Political actors and media sources display the highest percentages of overlap. This is not surprising for political actors considering the strong correlation on the level of the actor groups. The 19% overlap for media sources was not expected based on these previous results. This group, however, is heavily followed online which increases the chance that a media source in the news content will also be found in the online network. These results undermine the idea of an indirect impact of Twitter as a sourcing tool. Twitter seems to matter when we analyse how many times a source is mentioned. Sources that are present in the online network get mentioned or quoted more often than sources that are not represented in the online network. The analysis in this study does not allow us to establish a causal relationship, but the correlation between the online network and the news content indicates that the constellation of the Twitter network is not random.

In the end, we can conclude that Twitter does not have a strong direct impact on the print media. Nevertheless, the online network is not irrelevant. It gives us an insight in the professional network of the journalist and gives a valid representation of the sources the journalist finds important. The constellation of the online network is similar to the sources we encounter in the content. This is especially true for political actors, business professionals and experts, because we find a positive correlation between the size of these groups on Twitter and in the news stories. We only measure one moment in time, which limits us in establishing a direction of this effect. We can establish a relationship between these two networks but cannot determine an effect. This correlation gives us some insight but we should not exclude the possibility that this correlation is simply a coincidence. Especially when certain news items and events occur, certain people will become relevant no matter what. A high profile politician can, for example, be in the Twitter network, but simply be in the news because of a topic that he/she is responsible for.

Two opposite options to explain for the correlation between online network and actual sources seem plausible. On the one hand, we could argue that the Twitter network affects the sources in the content. On the other hand, it is also possible that the sources that are frequently used by the journalist form their online network. The first option suggests that potential sources are followed on Twitter and influence the journalist in his/her selection of sources. The Twitter network is constructed and a high presence of a certain actor group in this online environment leads to more similar sources in the content. In other words, a lot of information of political actors in the online environment might trigger the journalist to include this content more often in their news articles. The data on the level of the individual sources suggest, however, that being in the online network does not necessarily increase the chance of making it into the news content. The absence of this direct effect makes the effect of the online network less plausible but presence in the online network does provide certain sources with a higher chance of appearing more often in the news items journalists produce. The second option is that sources that are contacted for news stories are added to the journalist's online network if their information was useful or interesting. The low overlap between the online network and the sources in the content on the individual source level also (partially) undermines this idea. In the end, we should consider a third option that does not show a direct effect of both networks on each other, but considers the role Twitter plays in the sourcing habits of journalists. An ethnographic approach, following journalists in their sourcing process and analysing every step of the news production, might give a more conclusive answer to this causal relationship. The correlations between actor groups show us that similar groups are deemed important on Twitter and in the news content but that the individuals contained in these groups are not (completely) similar. If the journalist values a certain actor group, this is visible in both networks. The only difference is that an important actor for their news content in a certain group might not be as interesting to follow on Twitter, and vice versa. The Twitter universe thus follows the specialised interest of a journalist, but seems to maintain its own opinion leaders who are not always considered suitable for print media. Those who are, get mentioned more often than actors who cannot be found in the Twitter network.

Conclusion

The aim of this dissertation was to investigate how the use of Twitter by economic journalists has impacted their sourcing practices. I combined different methodological approaches to tackle three fundamental questions: (1) Which sources are present within economic journalists' Twitter networks? (2) How do economic journalists' Twitter networks influence the journalistic sourcing process? And (3) how do economic journalists' Twitter networks and the changing sourcing environment influence the economic news output? Put differently, I studied whether journalists use Twitter for sourcing and the extent to which it mattered. These straightforward questions, turned out to be more challenging than expected. From a theoretical point of view, several matters complicate these seemingly easy questions. First of all, the sources that we find in news items do not paint the entire picture and are not equal to all the sources that are actually contacted throughout the sourcing process. Some sources only support background information and in some cases the source attribution by journalists is simply not thorough. Moreover, in a social media context, the conceptualisation of sources only becomes increasingly difficult given the large online network of potential sources. These potential sources can send out information at any time and it is not clear how much of this journalists actually acquire. In fact, throughout the dissertation I argue that sources can be found in at least three ways. First, there is an online network consisting of potential sources, which are in the case of Twitter the journalist's followees. Secondly, there are the actual sources of the journalists, all the sources a journalist consults during the sourcing process. Finally, there are the sources that can be found in the finished news product. All of these sources surround the journalists in their own individual source networks but can be found on different platforms and are contacted through different channels.

Apart from these conceptual challenges, the study of journalists' sourcing practices also leads to many methodological challenges. Although sourcing research provides us with interesting and viable results, it is often focussed on one of the three source groups discussed here. Content analysis, for instance, gives an overview of sources in the news but contains no information on other sources that are consulted throughout the news production process and can heavily be influenced by sloppy source attribution. Interviews have the ability to go more in-depth on this matter but rely solely on self-reporting and journalists' preparedness to reveal their sources. Moreover, as Weaver (2015) argues, research often neglects the distinction between the news content and news production trying to analyse what happens in the production process by looking at the content or vice versa. He therefore argues that we should strive to produce research that links these findings and "try to link the characteristics and attitudes of journalists […] with the kinds of news coverage they produce"

(10). In doing so, researchers can get a better understanding of the complex process that is news making in its entirety.

Within the literature on journalism and social media, this gap between news production and news content research leads to contradictory results. The role of social media seems to be overestimated when studying the production process, but nearly absent in content analyses (Lecheler and Kruikemeier 2016). To overcome the limitations of methodologies used, this dissertation is based on multi-methodological research, trying to combine the advantages of different methodological approaches and at the same time overcoming the limitations of the different methods. The suggestion made by Weaver (2015) is incorporated within this multi-method approach that looks at both individual journalists and their produced content. The different methodological approaches are used throughout this dissertation resulting in a triangulation of methods, cross-checking results of one research strategy with other methods (Bryman 2008: 611).

Although the term triangulation is often used lightly in a loose combination of methods, this dissertation actually looks at one question, the role of social media, from different viewpoints. One sample of journalists is studied by combining three different methods: (1) an online social network analysis, (2) computer-assisted in-depth interviews and (3) a content analysis. By using this same sample throughout the entire dissertation I was able to combine the different findings. This triangulation makes it possible to highlight different aspects of the sourcing process and look at the bigger picture while other research lifts out a specific aspect of social media in the news production process. In case of the latter, crucial factors that drive the sourcing process are often neglected.

During my PhD and in expanding my knowledge on social media in journalism, the following 10 questions have constantly intrigued me, considering a satisfying answer cannot be provided with one simple study. The theoretical framework at the start of this dissertation already provides several insights but cannot fully answer these questions. In this conclusion I try to give a well-argued answer to these questions. Since I want to fully exploit the use of the different methodologies, this conclusion contains some new results that have not been reported in the different chapters, but do help support the general conclusion of my work. In the rest of this conclusion, I will address these questions one by one, presenting my conclusions and demonstrating the differences between the various methodologies applied.

1. Has Twitter become normalised in economic journalism?

Twitter has not revolutionised the news making process but is normalised within this process. The Twitter network is often seen as an important tool by journalists but is definitely not their main news gathering tool. It is one platform of information amongst many that provides journalists with an individual stream of information.

As shown in Chapter I, 60 out of 77 economic journalists in Flanders working for print media had a public Twitter profile. In other words almost a quarter of economic journalists did not have a Twitter profile. This already predicts that the tool is definitely not indispensable at the start of this study in 2015. The journalists who do have a Twitter profile are rather conservative in their Twitter use, with half of the sample posting less than 500 tweets and following 291 accounts or less. This distribution on Twitter use substantiates the classification as suggested by Hedman and Djerf-Pierre (2013), arguing that there are three types of journalists on Twitter. First of all, a small group of sceptical shunners who are hesitant towards the platform. Secondly, a very large group of pragmatic conformists who use the platform, but not to its full potential. And finally, a small group of enthusiastic activists who fully exploit the opportunities the platform holds. Although Twitter has become normalised within the newsroom (see Lasorsa, Lewis and Holton 2012; von Nordheim, Boczek and Koppers 2018), the use of it remains passive for most of the economic journalists.

This passive behaviour does not mean that the tool is not useful. In discussing Twitter and social media with journalists in the Chapter II, they indicate that they use social media in their professional routines and often describe it as an important information channel. The uses they describe are not the manifest functions that researchers often look for in analysing the impact of a certain tool but are rather to be found in the latent functions of the platform. Most journalists see the opportunities that Twitter and other social media provide but are still cautious in using these platforms. On top of that, their sourcing routines are strongly routinized and are still heavily based on traditional sourcing methods. In this sense, Twitter is just one tool that has to compete with a range of other information platforms that are ingrained within the journalists' sourcing practices.

The news content in Chapter III strengthens the idea that Twitter does not lead to manifest changes within the news production process. Only 1% of economic news items referred explicitly to tweets and adding all other social media references only puts the number of references to social media at 1.2%. These very scarce references, however, are not considered out of the ordinary and are simply introduced in the news as any other source.

The triangulation of methods leads to the conclusion that Twitter has definitely become normalised within the newsroom and in economic journalism considering the number of journalists present on the platform and their opinions about it. Even as an explicit source, Twitter and other social media have been introduced within journalism. The number of references is extremely small, but their presence is not considered as strange or highly innovative. Although it is not considered out of the ordinary, Twitter as an information platform still has to compete with other, more traditional sourcing tools. It is used as a channel through which ideas can arise or potential sources can be followed. Further contacts with sources that result from these ideas, however, are still preferred via other channels such as e-mails and phone calls.

2. Why do economic journalists use Twitter?

The use of Twitter is diverse. The platform has the capacity to provide information but can also function as a conversational and branding tool. Although the journalists in our study use Twitter for different purposes and in different ways, our analyses clearly show that Twitter is for journalists still first and foremost a monitoring tool or as an awareness system (cf. Hermida 2010).

It is clear that the conversational use of Twitter can be deemed very low, with only 13% of their tweets showing a clear conversational attribute. If journalists make conversation on Twitter, it is mostly with their peers or with other elites. The capacities of Twitter as an interactional tool towards the broader public are not utilised by economic journalists. A far-reaching interaction with the audience is perhaps not favourable but now, the option is almost completely ignored. Promotion purposes do become more and more institutionalised, as shown in Chapter I, and the posting behaviour of journalists seems to be mainly linked to this function of the social media platform. When it comes to manifest functions of social media, branding is the most obvious form that can be distinguished quite clearly, with a range of mentions to both the journalists' own media and almost one third of the tweets with links to their own news articles. The promotion becomes a more individualised process on social media, not necessarily relying upon the overarching accounts of media platforms. As argued by Tandoc and Vos (2016), it is the journalist that increasingly has to market the news and social media provide a suitable platform for this promotion (Brems et al. 2017; Molyneux 2015; Molyneux and Holton 2015).

The lack of strong manifest practices on Twitter, besides an apparent shift towards promotional use, already suggest an underlying latent function linked to the sourcing possibilities this platform provides. Chapter II supports this and shows that most journalists use Twitter to follow the news. Even more explicit, only six journalists disagree with the statement that they use Twitter to obtain story ideas. When they were asked whether they use Twitter as a tool to find sources, this disagreement increases strongly, with only half still agreeing. The journalists that are more sceptical about this actual sourcing behaviour online were also less active in this environment, with a lower number of tweets and followers. A more in-depth analysis of these results ultimately uncovers two major functions of Twitter. As already argued by Hermida (2010), Twitter serves as an awareness system where journalists create their own individualised stream of information. This stream differs from other information channels, such as press agencies, since it also carries immediate reactions and opinions and not merely the facts. It is not a simple overview of information. On top of that, Twitter can also act as a trigger for journalists and generate story ideas or news stories. In this sense, it is not just a passive awareness system but the platform has a signalling function. Emerging trends and prominent topics immediately become clear through Twitter.

This deeper understanding of latent social media uses, however, explains the discrepancy between the obvious presence of social media in the newsroom but the lack of evidence in the news content. The combination of the three chapters shows that the paradoxical results with earlier social media research are also present in our study but that they can be reconciled. Twitter can be important in the early stages of news discovery but the impact of the actual news content should not be overestimated. In the end, Twitter is institutionalised within the journalistic sourcing process and although it posits some change, it has no fundamental impact on how journalists acquire their news.

3. When do economic journalists rely on Twitter?

The idea that Twitter is a monitoring tool is strongly supported by this dissertation, yet this monitoring of online content does not lead to a high presence of social media in the news. This is because the role of Twitter has to be situated at the very beginning of the news production process. The role of Twitter mostly posits itself within the news discovery phase, where journalists are looking for story ideas (cf. Reich 2009). Journalists construct a network on Twitter and use it in this stage to follow an individualised stream of information that encompasses their interests and specialisations. The high presence of media actors (30.4%) in the Twitter networks already suggest the use of Twitter as a monitoring tool in Chapter I and Chapters II and III fully confirm this. It is, however, not often more than a trigger within this news discovery phase. This online network is in constant competition with other information channels and platforms, such as other media, press releases and e-mails, that are ultimately often seen as more reliable and valuable by economic journalists. When it comes to actual news gathering, traditional sourcing methods are still preferred and a single tweet or a social media post will always be verified, supplemented, but most of the time even replaced by what journalists deem more credible sources and channels. The content analysis demonstrates this, with a very low number of social media references and a strong reliance on traditional channels.

The availability of sources remains crucial in this matter. Twitter has the ability to signal a topic that is prominent amongst the journalist's network and hands information to the journalist which is then investigated through traditional sourcing methods. When sources are not available elsewhere, however, the initial tweet might be the only, and therefore most important source. In this case, the journalist has no other option than to use the social media post.

4. Do economic journalists follow their sources on Twitter?

Although the platform provides a range of opportunities to broaden source networks, the Twitter networks of journalists are unmistakably developed from a professional perspective. Media, politicians and business professionals are strongly represented actor groups. With the exception of a relatively sizable group of citizens (15.6%) and other accounts (10.6%) in the largest Twitter networks, the platform is hardly ever used for personal reasons. Based on these observations, which are thoroughly analysed in Chapter I, we might conclude that the potential source network of economic journalists is closely related to their sources in general. Further analysis in Chapter III, however, shows that the overlap between these two groups is not present on the level of individual sources.

A prominent observation is the strong representation of media sources in the online environment. Media sources are not often strongly represented within the news content but several studies on this topic, and especially the work of Nick Davies (2008), have shown that these sources are commonly used. Although a large presence of media actors could thus be expected, the strong presence they have in the online networks is considerable. More recent studies that also focus on social media, however, show that Twitter can be considered as a 'press club' (Van Leuven and Deprez 2018; Rupar 2015; Lawrence et al. 2014) and Chapter I confirms this statement. As discussed in Chapter II, this large presence of media is, according to most journalists, a way of following the competition and seeing which stories they produce. These sources are relevant in the news discovery phase but are mostly complemented or even replaced by other sources in order to gain additional information and not simply copy the competition. The media actors are closely followed to stay informed but are less often used as an explicit source. During the interviews, journalists claimed that they are mostly referred to as background sources (67%) and not as sources cited in the news. Media are definitely relevant in the sourcing process but become less relevant when we solely study the news content. The reporters want to be certain they do not miss anything, but in the end, they want to make original news content. We should keep in mind here that this analysis is based on interviews with journalists. Another possible explanation for the lack of media sources in the final news content might also be attributed to poor source attribution, not extensively reporting these media sources (Philips 2010). Chapter III aligns with the previous results and shows that only 5.2% of sources are media sources.

Other groups that can be considered as elite actors are heavily followed online and also appear strongly in the content with business professionals, politicians and experts being the most important actor groups. Journalists follow similar source groups online, at least on an aggregate level. The active Twitter users show some shifts towards more bottom-up sources in their online networks but they are an addition online that we do not see reflected in the news content. The network in the online environment starts from a professional perspective and is based on certain source groups that are in the journalists' sourcing networks. When Twitter is heavily used, additional potential sources are added to the journalist's network. Despite the fact that similar actor groups are represented similarly in the different networks on an aggregate level, overlaps on the individual level are not that common. The results of Chapter II already display this since 58% of the sources they have used are not followed on Twitter. Chapter III even reduces this number and finds an overlap of only 12% between the sources in the content and the sources that are followed online. In other words, only 12% of the sources found in the content can be traced back to the online network of the journalist. The individual journalist construes a Twitter network of followees that fits his or her needs and shows them the news of the actor groups they deem important, but on an individual level, there is no clear link between the followees and the sources that eventually end up in the news.

The network is individualised for every journalist and favours certain actor groups that are also important in the articles of the journalist, but the exact composition of the network on an individual level is not complementary. It seems that the journalists follow a wide range of other sources online. The online network is built from a professional perspective but is, in the end, not a valid representation of the different sources the journalist uses.

5. Do economic journalists rely on sources they follow on Twitter?

The construction of a professional online network seems, at first, contradictory to the little amount of sources in the content that can also be found on Twitter. Not a lot of their potential sources make it into the news content, which means that economic journalists do not rely on sources they follow on Twitter. Twitter is just one of the many channels that might generate a news story, but the actual news gathering that follows is still performed by traditional information channels which seem to be considered more reliable. This does not mean, however, that journalists do not rely on their potential source network in general. The network constructs an information stream that provides the journalist with different viewpoints. Journalists might rely on the general information that comes out of this network but do not rely on individual actors within this network.

Chapter III describes this phenomenon by pointing out that journalists will (almost) never base their entire article on a tweet, it serves more as a starting point. We should keep in mind that journalists would also gather more information if they only had one source via any other, traditional channel. Nonetheless, even with more tweets and information on Twitter available, they will not rely solely on their Twitter sources and will favour traditional, institutionalised sources to make their claim. Twitter seems to have some impact on the number of times a source is mentioned. The sources that are considered as reliable but are also on Twitter seem to be quoted more often than sources that are not present in the Twitter networks. This is especially the case in the group of business professionals, politicians and civil society actors. A politician that is present in the Twitter network, for example, is mentioned more often than other politicians not followed by the journalist.

Twitter does have some influence in this sense, favouring institutionalised sources that are present in the Twittersphere of the journalist. This could be a direct influence of the tweets of these potential sources but can also be attributed to the fact that these specific actors might be more visible to the journalist in general. We cannot simply attribute the high number of mentions in the news content to the presence in the journalist's potential source network yet the correlation attributes value to the Twitter network.

6. Does Twitter diminish the elite bias in economic journalism?

Next to the usual suspects within the journalists' source networks, platforms as Twitter provide the opportunity to broaden these networks and increase the source diversity within economic journalism. Previous literature on economic news (Durham 2007; Glasgow Media Group 1979) and news in general (Gans 1979; Grabe, Zhou and Barnett 1999; Reich 2009; Sigal 1973; Tiffen et al. 2014) all illustrate an elite dominance. Despite the introduction of Twitter, the severe normalisation of the platform into existing norms ensures that this elite dominance remains and even persists within the online network.

As discussed in Chapter I, the 11.2% of ordinary citizens in the journalists' Twitter feeds can be attributed to the small range of very active Twitter users that utilise the medium to its full potential. For the other journalists, this number is much lower. On top of that, civil society organisations are also relatively scarce in the sourcing process, economic news remains strongly elite driven. Although the dichotomous distinction between elites and non-elites can be better evaluated on a continuum, it is clear that the majority of sources belong to the elite side of that continuum. Unsurprisingly, the content that is produced by the economic journalists strongly supports previous findings on this elite dominance. In general, the number of sources is already quite low within economic journalism as Chapter III and previous literature shows (Reich 2009; Tiffen et al. 2014). This already (partially) explains the preference for elite sources that apparently remain, in spite of all the changes in journalism, the most suitable and available sources (cf. Gans 1979). Although Twitter was eventually brought forward as a platform that had the potential to level the playing field, this dissertation does not find evidence of this levelled playing field. A question that remains is whether this is necessary. This question is tackled more in-depth in this conclusion as a part of question 10 (see further). Several scholars (e.g. Hladík and Štětka 2017; von Nordheim, Boczek and Koppers 2018) have already suggested that social media have (almost) no impact on the structure of sources in the news and found no sudden increase of bottom-up sources. The lack of bottom-up sources within the news content in Chapter III extensively supports this idea but these sources are not only left out of the news content, they are simply not present in any phase of the news production process.

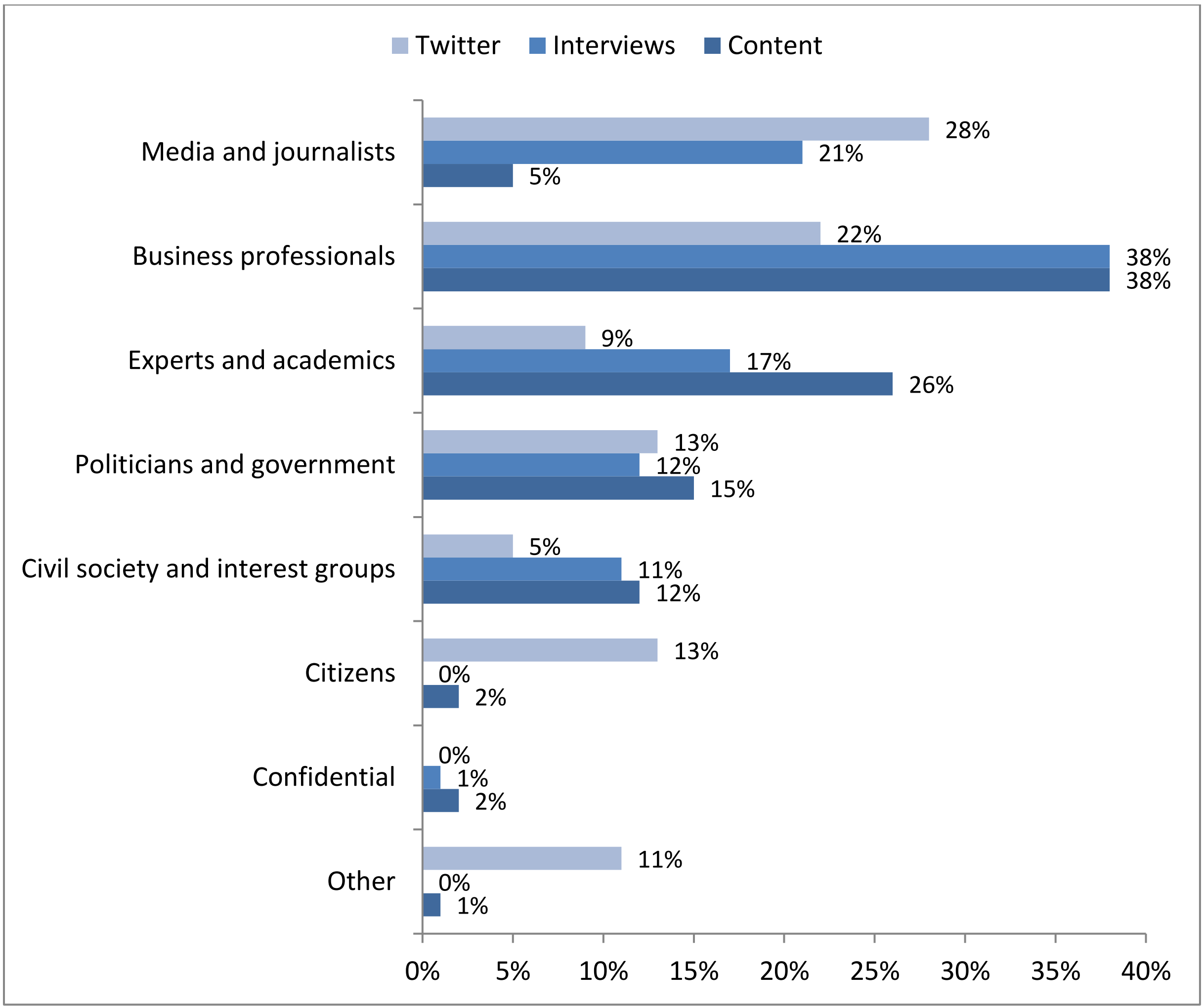
It was expected that there would not be a sudden shift in the use of sources within the content, yet the Twitter network clearly shows that there is hardly even a levelled playing field at the level of social media. Even in the place where most bottom-up sources are to be expected, there is no clear sign of potential sources at this end of the scale. Only the very active Twitter users seem to accept a larger amount of ordinary citizens in their Twitter networks, but their impact is not found in their actual sourcing behaviour and the content they produce. Part of the explanation perhaps lies in the private use of Twitter, simply adding friends and family to their online network. A majority of the news stories produced by economic journalists is news for elites that is driven by elites. Economic news becomes increasingly relevant for ordinary citizens but the topics discussed and the sources consulted remain fixed within an institutionalised realm of elites.

7. Has Twitter changed the economic news?

Economic journalism is here used as a case study. Nevertheless, the insights in day-to-day economic journalism is scarce. This dissertation gives an analysis of the economic journalism practice in Flanders, focussing on a specialised news beat that is widespread. In Figure 7, the data from Chapters I, II and III are combined to form a complete overview of all the different source groups in three different networks: (1) the Twitter network, (2) their actual sources collected during the interviews and (3) the sources from the news content. Considering not all journalists were interviewed and/or produced content during the studied period, this Figure is based on the 31 journalists that were analysed in the three different chapters.

The largest discrepancies shown in Figure 7 are found in the group of media and journalists and with ordinary citizens. Both groups maintain a strong presence online but this does not lead to any consequences in the news content. As Chapter III describes, the epistemic bandwidth of Twitter and the way it is used in the news sourcing process can explain these discrepancies. For media actors, poor source attribution will also be part of the explanation considering they are still a sizable group (21%) during the interviews in Chapter II. It seems they are mainly used as background sources, not making it into the news. This means that journalists are very much aware of what their colleagues are doing, but that latent influence is not formally recognised in the news content.

Figure 7: The type of source actors found on Twitter, during the interviews and in the content (N=31)



Total number of sources: Twitter=15,636; Interviews=318; Content=2,212

Business professionals and experts are the most important sources in the news content and especially business professionals portray an equally solid presence in the online network. Experts and academics are less present online but Chapter II addresses this and states that journalists do not find it necessary to follow these experts on a regular basis. Not considering media sources and citizens, however, the three largest actor groups in the news content – business professionals, experts and political sources – are also the most dominant groups during the interviews and in the online networks. Civil society and interest groups are both online and in the news content the least consulted source group apart from media and citizens.

Twitter has found its way in economic journalism but in the end does not fundamentally change economic news. Social media sources are not found in the news content and the potential sources that are followed online only cause minor changes to the journalists' sourcing patterns. Chapter II, that analyses the journalists' perceptions more in depth, already answers this question in its title: "Much ado about nothing?". The presence of Twitter is undeniable and has become a part of modern news making but the platform has not replaced traditional sourcing tools. The potential to use this platform in information gathering and to gain a broader view on public opinion, complementing their traditional routines, seems underused.

8. Can we extend the conclusions of this study beyond economic journalism?

A majority of social media research has focussed on political news (e.g. Broersma and Graham 2012; Lawrence et al. 2014; Parmelee 2014). Several scholars have therefore argued that journalism research should expand its horizon and study other specialised news beats (Hanusch 2012; Wahl-Jorgensen and Hanitzsch 2009). This dissertation answers this call and focusses on economic news. The economic news beat is increasingly studied but critical research on this topic remains scarce and thus necessary. This choice for economic journalism, however, also has some limitations. The economic news beat is a very closed news beat, relying on a small range of sources, which could entail a minimal impact of social media. On top of that, existing social media research argues that this impact of social media is found more within soft news than hard news beats (Broersma and Graham 2013; Moon and Hadley 2014; Paulussen and Harder 2014). Despite these limitations, the lack of research on economic news calls for a comprehensive study to fully understand the role of social media within a context where its impact is perhaps least expected. The narrow scope of this dissertation on economic journalism provides us with an in-depth view on these sourcing matters but considering its constraints, it would be interesting to compare these findings to other news beats in future research. Research on political journalism poses quite similar results seeing that Twitter is adapted within the routines of political journalists but not used as an explicit source more often than other news beats (Von Nordheim, Boczek and Koppers 2018). A difference between political news and the economic news studied here, is that the latter is a much more closed news beat based on tight knit networks (Tambini 2010). On top of that, it is important to recognise that this study is based on a select group of journalists. Most of the journalists in the sample work for specialised news outlets, purely focussing on economic news. The small network of these journalists combined with their far-reaching specialisation makes the possible impact of social media even less likely. People within political journalism might use it more often to search for news stories considering politicians, the most relevant elite sources in this news beat, employ Twitter frequently. Despite their presence on Twitter these same politicians are also available to journalists in other, more traditional ways. Due to the preference of journalists for these traditional sourcing tools Twitter thus remains a monitoring tool. The difference is that politicians also move towards social media to spread their information, direct quotes from the online platform of these politicians might thus be more common.

When we broaden the scope towards soft news different results are probable. In analysing explicit social media references, the results in various studies show a clear tendency towards soft news and sources such as celebrities and athletes are heavily sourced on social media. (Broersma and Graham 2013; Moon and Hadley 2014; Paulussen and Harder 2014). The difference here might be that the elites in soft news such as athletes in sports news or celebrities in lifestyle sections might consider social media as their main communication channel. Economic and political elites still spread important information via traditional channels while the elites in soft news often prefer communicating via social media which, in the end, would lead to a larger impact of social media in the long run. Again, politicians also use social media to spread their information but it appears that journalists working on soft news search more information on social media.

9. Can we extend the conclusions of this study beyond Twitter?

The PhD focusses on Twitter and neglects most of the other social media platforms which might limit some of the results. If we consider the low impact of Twitter, the use of other social media in combination with Twitter could increase the impact but would still not heavily change the news production process. In the interviews discussed in Chapter II, the relevance of other social media platforms was also questioned to uncover the relative position of Twitter and the perception of different platforms. Facebook and LinkedIn were discussed during the interviews but journalists said that these platforms were utilised for other purposes.

A prominent distinction between Twitter and Facebook is that the latter is often more used to consult non-elite actors as opposed to Twitter, which is more seen as an elitist channel (von Nordheim, Boczek and Koppers 2018). Overall, the dominant thought that Twitter is the main social media platform to gather information remains accurate. As previous literature suggests Facebook remains a rather private social media platform that is generally not used for professional contacts. Several journalists that were interviewed made this distinction very clear: *“Facebook is private and Twitter is for work”.* Although some journalists started to identify the sourcing possibilities of Facebook, it is not a general practice. If Facebook were to be included in this study, the biggest discrepancy would probably be found at the level of the online platform itself. Facebook remains a more private platform, which, ultimately, leads to more contact with non-elite sources on this platform. Since the small presence of non-elite sources on Twitter does not show any impact on the news content, it is probable that the impact of Facebook on the news content will be even smaller.

LinkedIn is another social media platform that was discussed with the journalists during the interviews since this is a platform that already positions itself in the realm of professional contacts and the working environment. Even though it is used within a professional context, journalists said it is not used as a place to discover news but seems to be a tool that has specific purposes. The majority of journalists said to use LinkedIn to gather information on individuals and look at their profile to discover previous employers, studies and interests. A magazine journalist describes it as follows: *"LinkedIn is of course always useful to gather information on individuals [….] If you need a complete CV, it is very easy to acquire this there".* The idea that the professional identity of people is readily available seems to be what drives journalists to LinkedIn, not necessarily to discover news stories or story ideas. Although the focus on Twitter can be perceived as a limited scope, the results throughout this dissertation suggest that Twitter remains a very important text-based, open source network that provides journalists with a realm of information.

10. Does this study have implications for journalism research?

Each time a new technology emerges, its impact tends to be overestimated. As Paulussen, Harder and Johnson (2017) describe, the short-term impact of these technologies often turn out to be exaggerated but this then clouds the vision on the long-term effects that do occur. Technological innovation has often pushed changes in news production but these changes are incremental and never merely technology driven (Paulussen, Harder and Johnson 2017: 427; Conboy and Eldridge 2014; Örnebring 2010). The techno-optimistic claims that are declared can become reality but usually collide with existing norms and habits within the journalistic profession. Chadwick (2013) argued that old and new media systems merge into a new hybrid form, not fully abandoning the old but also not entirely exploiting the new. Social media platforms such as Twitter were first seen as innovative technologies that had the potential to become a universal access point to journalists and the media. Throughout this dissertation it becomes clear that these far-reaching ideas based on technological innovation should be tempered and make way for a more nuanced view on the long-term evolution.

This universal access point is a noble view from a democratic perspective but raises the question whether a specialised news beat as economic journalism benefits from this change. Van Leuven et al. (2018) also address this challenge and pose the same question, namely: "is it always necessary or valuable to represent ordinary people's viewpoints in the news?" (804). The idea of multiperspectival news, as Gans (2011) describes it, is often seen as a democratic obligation to uphold by journalists but although this leads to more balanced news, this might not lead to better news. The choice for institutionalised sources is not necessarily a means to uphold elite dominance but is essentially driven by the journalist's search for reliable information that is validated by the professional role of these elites. Source verification is still crucial in this situation but it is conceivable that not every ordinary citizen is able to provide equally relevant and reliable information. On top of that, the use of social media platforms in the news production process makes it harder to disentangle the distinction between elite and non-elite actors. Both groups can use the same platform to profess their thoughts

(Van Leuven et al. 2018). Non-elites because they have no other option, elites because they want to utilise all measures to maximise their public relation efforts. It remains the task of (economic) journalists to uphold the role of fourth estate and to, at least, strive for a broader sourcing pattern. Journalism should consult citizen sources and the public opinion and journalism research has to stress the importance of media pluralism. Keeping in mind that a certain amount of knowledge is required to provide suitable information for this specialised news beat it is, however, logical that institutionalised and specialised sources maintain the upper hand. Democratic representation should remain a goal of journalists but this does not necessarily mean a perfect balance between elite and non-elite sources. Journalism scholars should keep looking for sources at the non-elite spectrum of the continuum but should not see complete equity between elites and non-elites as the minimum satisfactory level. Moreover, the debate should perhaps not always be held on the level of the news content. The sourcing pattern has to be diverse in the sense that all sources have the opportunity to spread their message. This dissertation shows that even in the form of potential sources, the use of social media can still be enriched by using the interactional and open platform to regularly consult these bottom-up sources. It is therefore necessary to expand these platforms with different perspectives, which the most enthusiastic users already do in some form, next to other ways of consulting ordinary citizens and the public opinion in general.

Only studying the content does not always provide the entire picture and perhaps even downplays the role of social media. Sourcing studies should therefore expand beyond the content. On the other hand, several studies on the topic of social media within the production process try to assess the role of these platforms but theoretically overestimate the impact these tools can have. In this study, the use of social media is integrated within the sourcing process. The theoretical framework that is introduced therefore combines seminal literature on sourcing practices that has been used for the last several decades with theoretical contributions of social media research. This combination allows us to study the role of social media in the entire news production process. Again, this entails that we should keep the theory of Reich (2018) on epistemic bandwidth of technological additions in mind. Social media provide different opportunities but also challenges and should be studied keeping these in mind.

The distinction between news discovery and news gathering made by Reich (2009) is a crucial theoretical frame that is often forgotten when it comes to social media research. Including this in the theoretical part of this dissertation contributes to the idea that social media should not only be studied in the news gathering phase but are also, or even more so, present in the news discovery phase. This dissertation shows that both manifest and latent functions in the entire process – news discovery and -gathering – should be included in research to uncover the true potential of these different tools. In the end, social media are introduced within the news gathering process and become a useful tool next to other, traditional forms of sourcing.

A narrow theoretical starting point always leads to a specific methodological approach that answers, or tries to answer, this theoretical question. The call for a holistic perspective in which these technologies should be studied also calls for an exhaustive methodological approach. While content analysis searches for manifest functions in looking for explicit social media references, approaches such as surveys and interview gauge the latent functions of Twitter. Paradoxical results keep on arising using these different methods but this is due to the different starting points these methodologies obtain. We hope this dissertation places all these different studies into perspective and that it shows how the results of previous research on social media can be consolidated. The combination of methods provides us with the opportunity to highlight the different uses of Twitter and shows why a use of the platform does not result in the heavy use of social media sources. Within this triangulation, a strength is that the same sample was continually analysed throughout the different studies making the results between the different methodologies comparable, not only on an aggregate level but also on an individual level that provides an in-depth understanding of the use of Twitter in the sourcing process. Future research on these topics in journalism studies should try and encompass this approach and put the idea of Weaver (2015) in practice, trying to describe the process of news making and not singling out different aspects.

References

Ahmad, Ali N. 2010. “Is Twitter a Useful Tool for Journalists?” *Journal of Media Practice* 11 (2): 145-155.

AlMaskati, Nawaf Abdulnabi. 2012. “Newspaper Coverage of the 2011 Protests in Egypt.” *International Communication Gazette* 74 (4): 342-366.

Artwick, Claudette G. 2013. “Reporters on Twitter. Product or service?” *Digital Journalism* 1 (2): 212-228.

Avery, Elizabeth, Ruthan Lariscy, and Kaye D. Sweetser. 2010. “Social Media and Shared – or Divergent – Uses? A coorientation analysis of public relations practitioners and journalists.” *Internatinoal Journal of Strategic Communication* 4 (3): 189-205.

Balduzzi, Pierluigi, Edwin J. Elton, and T. Clifton Green. 2001. “Economic News and Bond Prices: Evidence from the U.S. treasury market.” *The Journal of Financial and Quantitative Analysis* 36 (4): 523-543.

Barnard, Stephen R. 2016. “”Tweet or be sacked”: Twitter and the new elements of journalistic practice.” *Journalism* 17 (2): 190-207.

Beckers, Kathleen, and Peter Van Aelst. 2018. “Look Who’s Talking: An analysis of actors in television news (2003–2016).” *Journalism Studies* DOI: 10.1080/1461670X.2018.1463169

Bennett, Lance W. 1990. “Toward a Theory of Press-state Relations in the United States.” *Journal of Communication* 40 (2): 103-127.

Berkowitz, Daniel A. 2009. “Reporters and Their Sources” In *The Handbook of Journalism Studies,* edited by Karin Wahl-Jorgensen and Tomas Hanitzsch, 102-115. New York: Routledge.

Berry, Mike. 2013. “The Today Programme and the Banking Crisis.” *Journalism* 14 (2): 253-270.

Boczkowski, Pablo J. *News at Work: Imitation in an age of information abundance* Chicago: Univeristy of Chicago Press.

Brems, Cara, Martina Temmerman, Todd Graham, and Marcel Broersma. 2017. “Personal branding on Twitter: How employed and freelance journalists stage themselves on social media.” *Digital Journalism* 7 (4): 443-459.

Broersma, Marcel, and Todd Graham. 2012. "Social Media as Beat." *Journalism Practice* 6 (3): 403-419.

Broersma, Marcel, and Todd Graham. 2013. “Twitter as a News Source: How Dutch and British newspapers used tweets in their news coverage, 2007–2011.” *Journalism Practice* 7 (4): 446-464.

Broersma, Marcel, and Todd Graham. 2016. "Tipping the Balance of Power. Social media and the transformation of political journalism." In *The Routledge Companion to Social Media and Politics*, edited by Axel Bruns, Gunn Enli, Eli Skogerbø, Anders Olof Larsson, and Christian Christensen, 89-103. Abingdon: Routledge.

Brown, Jane Delano, Carl R. Bybee, Stanley T. Wearden, and Dulcie Murdock Straughan. 1987. "Invisible Power: Newspaper news sources and the limits of diversity." *Journalism & Mass Communication Quarterly* 64 (1): 45-54.

Bryman, Alan. 2008. *Social Research Methods* New York: Oxford University Press.

Campbell, Collin. 1982. "A Dubious Distinction? An inquiry into the value and use of Merton's concepts of manifest and latent function." *American Sociological Review* 47 (1): 29-44.

Carlson, Matt. 2009. "Dueling, Dancing, or Dominating? Journalists and their sources." *Sociology Compass* 3 (4): 526-542.

Chadwick, Andrew. 2013. *The Hybrid Media System.* New York: Oxford University Press.

Chorley, Martin J. and Glyn Mottershead. 2016. "Are You Talking to Me? An analysis of journalism conversation on social media." *Journalism Practice* 10 (7): 856-867.

Cision. 2017. "Global Social Journalism Study." https://www.cision.com/us/resources/white-papers/2017-global-social-journalism-study/

Clauset, Aaron, Mark E.J. Newman, and Christopher Moore. 2004. "Finding Community Structure in Very Large Networks." *Physical Review E* 70 (6): 1-6.

Conboy, Martin and Scott A. Eldridge. 2014. "Morbid Symptoms." *Journalism Studies* 15 (5): 566-575.

Cottle, Simon. 2000. "Rethinking News Access." *Journalism Studies* 1 (3): 427-448.

Davis, Aeron. 2002. *Public Relations Democracy: Public Relations, Politics and the Mass Media in Britain*. Manchester: Manchester University Press.

Davies, Nick. 2008. *Flath Earth News*. London: Vintage

De Boef, Suzanna, and Paul M. Kellstedt. 2004 "The Political (and Economic) Origins of Consumer Confidence." *American Journal of Political Science* 48: 633-649 .

Deprez, Annelore, and Sarah Van Leuven. 2017. "About Pseudo-Quarrels and Trustworthiness. A multi-method study of health journalism, sourcing practices and Twitter." *Journalism Studies* 19(9): 1257-1274

Deprez, Annelore, Peter Mechant, and Tim Hoebeke. 2013. "Social Media and Flemish Sports Reporters: A multimethod analysis of Twitter use as journalistic tool*." International Journal of Sport Communication* 6 (2): 107-119.

Djerf-Pierre, Monika, Marina Ghersettie, and Ulrika Hedman. 2016. "Appropriating Social Media." *Digital Journalism* 4 (7): 849-860.

Domingo, David. 2008. “Interactivity in the Daily Routines of Online Newsrooms: Dealing with an uncomfortable myth” *Journal of Computer-Mediated Communication* 13 (3): 680-704.

Domingo, David, Thorsten Quandt, Ari Heinonen, Steve Paulussen, Jane B Singer and Marina Vujnovic. 2008. “Participatory Journalism Practices in the Media and Beyond: An international comparative study of initiatives in online newspapers.” *Journalism Practice* 2 (3): 326-342.

Doyle, Gillian. 2006. "Financial News Journalism. A post-Enron analysis of approaches towards economic and financial news production in the UK." *Journalism* 7 (4): 433-452.

Durham, Frank D. 2007. “Framing the State in Globalization: The Financial Times’ coverage of the 1997 Thai currency crisis.” *Critical Studies in Media Communication* 24 (1): 57-76.

Ekdale, Brian, Jane B. Singer, Melissa Tully, and Shawn Harmsen. 2015. “Making Change: Diffusion of Technological, Relational, and Cultural Innovation in the Newsroom.” Journalism & Mass Communication Quarterly 92 (4): 938–58.

Ekström, Mats. 2002. “Epistemologies of TV Journalism.” *Journalism* 3 (3): 259-282.

Ettema, James S. and Theodore L. Glasser. 1985. “On the Epistemology of Investigative Journalism.” *Communication* 8 (2): 183-206.

Farhi,Paul. 2009. “The Twitter Explosion” *American Journalism Review* 31 (3): 26-31.

Fishman, Mark. 1980. *Manufacturing the News* Austin: University of Texas Press.

Gandy, Oscar. 1982. *Beyond Agenda Setting: Information subsidies and public policy* Norwood, New Jersey: Ablex Publishing.

Gans, Herbert J. 1979. *Deciding what's news: A study of CBS evening news, NBC nightly news, Newsweek and Time*. New York: Pantheon.

Gans, Herbert J. 2011. “Multiperspectival News Revisited: Journalism and representative democracy” *Journalism* 12 (1): 3-13.

Gieber, Walter. 1964. *News is what Newspapermen Make it.* New York: Free Press.

Glasgow Media Group. 1979. *More Bad News* London: Routledge and Kegan

Goldberg, Linda S. and Deborah Leonard. 2003. “What Moves Sovereign Bond Markets? The effects of economic news on U.S. and German Yields.” *Current Issues in Economics and Finance* 9 (9)

Grabe, Maria E., Shuhua Zhou, and Brooke Barnett. 1999. “Sourcing and Reporting in News Magazine Programs: 60 Minutes versus Hard Copy.” *Journalism & Mass Communication Quarterly* 76 (2): 293-311.

Gulyás, Ágnes. 2013. “The Influence of Professional Variables on Journalists’ Uses and Views of Social Media.” *Digital Journalism* 1 (2): 270-285.

Gulyás, Ágnes. 2017. "Social Media and Journalism: Hybridity, convergence, changing relationship with the audience, and fragmentation." in *The Routledge Companion to Digital Journalism Studies*, edited by Bob Franklin and Scott A. Eldridge II, 396-406. Abingdon: Routledge.

Hall, Jim. 2001. *Online Journalism: A critical primer*. London: Pluto Press.

Hall, Jim. 2005. "The News Blog in 2005: Social journalism at they eye of the storm." *Jornalismo Digital de Terceira Geração*

Hall, Stuart et al. 1978. *Policing the Crisis*. London: Macmillan.

Hanusch, Folker. 2012. "Broadening the Focus." *Journalism Practice* 6 (1): 2-11.

Hanusch, Folker, and Axel Bruns. 2017. "Journalistic Branding on Twitter. A representative study of Australian journalists' profile descriptions." *Digital Journalism* 5 (1): 26-43.

Harcup, Tony. 2004. *Journalism: Principles and Practice.* London: Sage.

Hedman, Ulrika. 2015. "J-Tweeters: Pointing towards a new set of porfessional practices and norms in journalism." *Digital Journalism* 3 (2): 279-297.

Hedman, Ulrika, and Monika Djerf-Pierre. 2013. "The Social Journalist: Embracing the Social Media Life or Creating a New Digital Divide?" *Digital Journalism* 1 (3): 368-385.

Hedman, Ulrika, and Monika Djerf-Pierre. 2017. "Journalists' Use of Twitter." In *The Routledge Companion to Digital Journalism Studies*, edited by Bob Franklin and Scott A. Eldridge II, 417-426. Abingdon: Routledge.

Hermida, Alfred. 2010. "Twittering the News: The Emergence of Ambient Journalism." *Journalism Practice* 4 (7): 297-308.

Hermida, Alfred. 2013. "#Journalism. Reconfiguring journalism research about Twitter, one tweet at a time." *Digital Journalism* 1 (3): 295-313.

Hermida, Alfred. 2017. "Twitter Breaking the News, and Hybridity in Journalims." In *The Routledge Companion to Digital Journalism Studies*, edited by Bob Franklin and Scott A. Eldridge II, 407-416. Abingdon: Routledge.

Hermida, Alfred, Seth C. Lewis and Rodrigo Zamith. 2014. "Sourcing the Arab Spring: A case study of Andy Carvin's sources on Twitter during the Tunisian and Egyptian revolutions." *Journal of Computer-Mediated Communication* 19 (3): 479-499.

Hermida, Alfred and Neil Thurman. 2008. "A Clash of Cultures: The integration of user-generated content within professional journalistic frameworks at British newspaper websites." *Journalism Practice* 2 (3): 343-356.

Hetherington, Marc J. 1996. "The media's role in forming voters' national economic evaluations in 1992." *American Journal of Political Science.* 40 (2): 372-395.

Hijmans, Ellen, Pytrik Schafraad, Kees Buijs, and Leen d'Haenens. 2011. "Wie Schrijft ons Nieuws?" *Tijdschrift voor Communicatiewetenschap* 39 (2): 77-91.

Hladík, Radim, and Václav Štětka. 2017. "The powers that tweet: Social media as news sources in the Czech Republic." Journalism Studies 18 (2): 154-174.

Joris, Willem, Leen d'Haenens and Baldwin Van Gorp. 2014. "The Euro Crisis in Metaphors and Frames. Focus on the press in Low Countries." *European Journal of Communication* 29 (5): 608-617.

Kaplan, Andreas M. and Michael Haenlein. 2011. "The Early Bird Catches the News: Nine things you should know about micro-blogging." *Business Horizons* 54 (2): 105-113.

Kalogeropoulos, Antonis, Erik Albæk, Claes De Vreese, and Arjen Van Dalen. 2015. "The Predictors of Economic Sophistication: Media interpersonal communication and negative economic experiences." *European Journal of Communication* 30 (4): 385-403.

Kalogeropoulos, Antonis, Helle Mølgaard Svensson, Arjen Van Dalen, Claes De Vreese, and Erik Albæk. 2015. "Are Watchdogs Doing Their Business? Media Coverage of Economic News." *Journalism: Theory, Practice & Criticism* 16 (8): 993-1009.

Kjær, Peter, and Tore Slaatta. 2007. "Mediating Business: Toward a Relational Perspective" In *Mediating Business: The Expansion of Business Journalism*, edited by Peter Kjær and Tore Slaatta, 13-35. Copenhagen: Copenhagen Business School Press.

Knowles, Sophie, Gail Philips, and Johan Lindberg. 2017. "Reporting The Global Financial Crisis: A Longitudinal Tri-Nation Study of Mainstream Financial Journalism." *Journalism Studies* 18 (3): 322-340.

Lariscy, Ruthann Weaver, Elizabeth Johnson Avery, Kaye D. Sweetser and Pauline Howes. 2009. "An Examination of the Role of Online Social Media in Journlaists' Source Mix" *Public Relations Review* 35 (3): 314-316.

Lasorsa, Dominic L., Seth C. Lewis, and Avery E. Holton. 2012. "Normalizing Twitter." *Journalism Studies*. 13 (1): 19 – 36.

Lawrence, Regina G., Logan Molyneux, Mark Coddington, and Avery Holton. 2014. "Tweeting Conventions." *Journalism Studies* 15 (6): 789-806.

Lecheler, Sophie, and Sanne Kruikemeier. 2016. "Re-Evaluating Journalistic Routines in a Digital Age: A Review of Research on the Use of Online Sources." New media & Society 18 (1): 156 - 171.

Lee, Micky. 2014. "A Review of Communication Scholarschip on the Financial Markets and the Financial Media since the 1980's." *International Journal of Communication* 8 (1): 715-736.

Lee, Seow Ting. 2001. "Public Journalism and non-Elite Actors and Sources." *Newspaper Research Journal* 22 (3): 92-95.

Lewis, Justin, Andre Williams and Bob Franklin. 2008. "A Compromised Fourth Estate? UK news journalism, public relations and news sources." *Journalims Studies* 9 (1): 1-20.

Lewis, Seth C. and Oscar Westlund. 2015. “Big Data and Journalism: Epistemology, experts, economics and ethics.” *Digital Journalism* 3 (3): 447-466.

Manning, Paul. 2013. “Financial Journalism, News Sources and the Banking Crisis.” *Journalism* 14 (2): 173-189.

Merton, Robert K. 1949. *Social Theory and Social Structure.* New York: Free Press.

Merton, Robert K. 2016. “Manifest and Latent Functions” In *Social Theory Re-Wired: New connections to classical and contemporary perspectives (2nd edition),* edited by Wesley Long and Dnaiel Winchester, 68-84. New York: Routledge.

Miller, David. 1993. “Official Sources and Primary Definition: The case of Northern Ireland.” *Media, Culture & Society* 15 (3): 385-406.

Molyneux, Logan. 2015. “What journalists retweet. Opinion, humor, and brand development on Twitter.” *Journalism* 16 (7): 920-935.

Molyneux, Logan and, Avery Holton. 2015. “Branding (health) journalism. Perceptions, practices, and emerging norms.” *Digital Journalism* 3 (2): 225-242.

Moon, Soo Jung and Patrick Hadley. 2014. “Routinizing a New Technology in the Newsroom: Twitter as a news source in mainstream media.” *Journal of Broadcasting & Electronic Media* 58 (2): 289-305.

Örnebring, Hendrik. 2010. “Technology and Journalism-as-Labour: Historical perspectives.” *Journalism* 11 (1): 57-74.

Ottovordemgentschenfelde, Svenja. 2017. “Organisational, professional, personal: An exploratory study of political journalists and their hybrid brand on Twitter.” *Journalism* 18 (1): 64-80.

Parmelee, John H. 2014. “The Agenda-building Function of Political Tweets.” *New Media & Society* 16 (3). 434-450.

Paulussen, Steve and Pieter Ugille. 2008. “User Generated Content in the Newsroom: Professional and organisational constraints on partcipatory journalism.” *Westminster Papers in Communication & Culture* 5 (2): 24-41.

Paulussen, Steve and Raymond A. Harder. 2014. "Social Media References in Newspapers: Facebook, Twitter and YouTube as Sources in Newspaper Journalism." *Journalism Practice* 8 (5): 542-551.

Paulussen, Steve, Raymond A. Harder and Michiel Johnson. 2017. “Facebook and News Journalism.” In *The Routledge Companion to Digital Journalism Studies*, edited by Bob Franklin and Scott A. Eldridge II, 427-435. Abingdon: Routledge

Philips, Angela. 2010. “Transparency and the New Ethics of Journalism.” *Journalism Practice* 4 (3): 373-382.

Punie, Yves, Jean-Claude Burgelman, Marc Bogdanowicz, and Paul Desruelle. 2001. "The Future of News Media Industries: Validated scenarios for 2005 and beyond" *MUDIA Work Package, 1.*

Raeymaeckers, Karin, Annelore Deprez, Sara De Vuyst, and Rebeca De Dobbelaer. 2015. "The Journalist As a Jack of All Trades." In *Gatekeeping in Transition*, edited by Tim P. Vos and François Heinderyckx, 104 - 119. New York: Routledge.

Reich, Zvi. 2006. "The Process Model of News Initiative: Sources lead first, reporters thereafter." *Journalism Studies* 7 (4): 497-514.

Reich, Zvi. 2009. *Sourcing the news*. Cresskill, NJ: Hampton Court.

Reich, Zvi. 2012. "Different Practices, Similar Logic. Comparing news reporting across political, financial and territorial beats.' *International Journal of Press-Politics* 17 (1): 76-99.

Reich, Zvi. 2013. "The Impact of Technology on News Reporting: A longitudinal perspective." *Journalism & Mass Communication Quarterly* 90 (3): 417-434.

Reich, Zvi. 2018. "The Decline in Orally Negotiated News: Revisiting (again) the role of technology in reporting." *New Media & Society*

Reich, Zvi, and Aviv Barnoy. 2016. "Reconstructing Production Practices Through Interviewing" In *The Sage Handbook of Digital Journalism*, edited by Tamara Witschge, C.W. Anderson, David Domingo and Alfred Hermida, 477 – 493. London: Sage.

Rogers, Everett M. 2003. *Diffusion of Innovation* New York: Free Press.

Rony, Md Main Uddin, Mohammad Yousuf and, Naeemul Hassan. 2018. "A Large-scale Study of Social Media Sources in News Articles."

Rosenberg, Howard and Charles S. Feldman. *No Time to Think: The menace of media speed an the 24-hour news cycle* New York: Continuum

Rupar, Verica. 2015. "Elections and Whom Journalists Talk To: Legacy Reporting and Tweeting." *The Future of Journalism: Risks, Threats and Opportunities,* 1-13. Cardiff, UK: Cardiff University, 10-11 September 2015.

Russel, Frank M. 2015. "Journalists, Gatekpeeing, and Social Interaction on Twitter: Differences by beat and media type for newspaper and online news." *ISOJ Journal* 5 (1): 188-207.

Russel, Frank M., Marina A. Hendricks, Heesok Choi and Elisabeth C. Stehpens. 2015. "Who Sets the News Agenda on Twitter? Journalists' posts during the 2013 US government shutdown." *Digital Journalism* 3 (6): 925-943.

Sallot, Lynne M., and Elizabeth A. Johnson. 2006. "Investigating Relationships Between Journalists and Public Relations Practioners: Working together to set, frame and build the public agenda, 1991-2004." *Public Relations Review* 32 (2): 151-159.

Schifferes, Steve and Stephen Coulter. 2013. "Downloading Disaster: BBC news online coverage of the global financial crisis.' *Journalism* 14 (2): 228-252.

Schiffrin, Anya. 2015. "The Press and the Financial Criris: A review of the literature." *Sociology Compass* 9 (8): 639-653.

Schlesinger, Philip. 1990. "Rethinking the sociology of journalism." In *Public Communication: The new imperatives,* edited by Marjorie Ferguson, 61–83. London: Sage.

Schlesinger, Philip and, Howard Tumber. 1994. *Reporting Crime: The Media Politics of Criminal Justice.* Oxford: Clarendon Press.

Sigal, Leon V. 1973. *Reporters and Officials: The Organization and Politics of Newsmaking*. Lexington, Mass: DC Heath.

Sigal, Leon V. 1986. "Sources Make the News." In *Reading the News*, edited by Robert Karl Manoff and Michael Schudson, 9-37. New York: Pantheon Books.

Sigal, Leon V. 1999. "Reporters and Officials: The Organization of Politics and Newsmaking." In *News: A Reader*, edited by Howard Tumber, 224-234. Oxford: Oxford University Press.

Singer, Jane. 1997. "Still Guarding the Gate? The newspaper journalist's role in an online world." *Convergence* 3 (1): 72-89.

Singer, Jane B., David Domingo, Ari Heinonen, Alfred Hermida, Steve Paulussen, Thorsten Quandt, Zvi Reich, Marina Vujnovic. 2011. *Participatory Journalism: Guarding open gates at online newspapers*. Malden: Wiley-Blackwell.

Smith, Marc A. 2014. "NodeXL: Simple Network Analysis for Social Media." in *Encyclopedia of Social Network Analysis and Mining*, edited by Reda Alhajj and Jon Rokne, New York: Springer.

Soloski, John. 1989. "Sources and Channels of Local News." *Journalism Quarterly* 66: 864-870.

Splendore, Sergio. 2017. "The Dominance of Institutional Sources and The Establishment of Non-elite ones: The case of Italian online local journalism." *Journalism*

Splendore, Sergio and Rossella Rega. 2017. "The Mediatization of Politics in the Hybrid Media System: The case of Italina political journalism." *Northern Lights: Film & Media Studies Yearbook* 15 (1): 111-129.

Stark, Tobias H., and Jon A. Krosnick. 2017. "GENSI: A New Graphical Tool to Collect Ego-Centered Network Data." *Social Network* 48: 36-45.

Svensson, Helle Mølgaard, Erik Albæk, Arjen Van Dalen and, Claes De Vreese. 2017a. "The impact of ambiguous economic news on uncertainty and consumer confidence." *European Journal of Communication* 32 (2): 85-99.

Svensson, Helle Mølgaard, Erik Albæk, Arjen Van Dalen and, Claes De Vreese. 2017b. "Good News in Bad News: How negativity enhances economic efficacy." *International Journal of Communication* 11: 1431-1447.

Tambini, Damian. 2010. "What Are Financial Journalists For?" *Journalism studies* 11 (2): 158-174.

Tandoc, Edson C. and, Tim Vos. 2016. “The Journalist is Marketing the News: Social media in the gatekeeping process.” *Journalism Practice* 10 (8): 950-966.

Tiffen, Rodney et al. 2014. “Sources in the News: A comparative study.” *Journalism Studies* 15 (4): 374-391.

Thurman, Neil. 2008. “Forums for citizen journalists? Adoption of user generated content initiatives by online news media.” *New Media & Society* 10 (1): 139-157.

Van Leuven, Sarah, and Annelore Deprez. 2017. “To Follow or not to Follow? How Belgian Health Journalists Use Twitter to Monitor Potential Sources.” *Journal of Applied Journalism and Media Studies* 6 (3): 545-566.

Van Leuven, Sarah, Annelore Deprez and Karin Raeymaeckers. 2014. “Towards more balanced news acces? A study on the impact of cost-cutting and Web 2.0 on the mediated public sphere.” *Journalism* 15 (7): 850-867.

Van Leuven, Sarah, Sanne Kruikemeier, Sophie Lecheler, and Liesbeth Hermans. 2018. “Online and Newsworthy” *Digital Journalism* 6 (7): 798-806.

Vandenberghe, Hanne, Leen d’Haenens, and Baldwin Van Gorp. 2015. “Demografische Diversiteit in het Vlaamse Perslandschap.” *Tijdschrift Voor Communicatiewetenschap* 43 (2): 169–185.

Verweij, Peter. 2012. “Twitter links between politicians and journalists.” *Journalism Practice* 6 (5): 680-691.

von Nordheim, Gerret, Karin Boczek and Lars Koppers. 2018. “Sourcing the Sources: An analysis of the use of Twitter and Facebook as a journalistic source over 10 years in the New York Times, The Guardian and Süddeutsche Zeitung.” *Digital Journalism* 7 (6): 807-828.

Wahl-Jorgensen, Karin, and Thomas Hanitschz. 2009. “Introduction: On why and how we should do journalism studies” In *The Handbook of Journalism Studies,* edited by Karin Wahl-Jorgensen and Tomas Hanitzsch, 23-36. New York: Routledge.

Weaver, David H. 2015. “Studying Journalists Across Four Decades: A sociology of occupations approach.” *Mass Communication and Society* 18 (1): 4-16.

Zeller, Frauke and Alfred Hermida. 2015. “When Tradition Meets Immediacy and Interaction. The integration of social media in journalists’ everyday practices.” *About Journalism* 4 (1): 106-119.

Appendix

List of journalists

	Tweets	Followees	Followers	Employer
Journalist 1	7784	3241	3682	Economic newspaper
Journalist 2	5773	1459	2075	Economic newspaper
Journalist 3	3969	405	1427	Economic newspaper
Journalist 4	3680	2061	2571	Economic magazine
Journalist 5	2507	231	3008	Economic newspaper
Journalist 6	1851	781	1856	Economic newspaper
Journalist 7	1769	110	2077	General newspaper
Journalist 8	1527	1091	1743	Economic newspaper
Journalist 9	1339	549	752	Economic newspaper
Journalist 10	1179	770	526	Economic newspaper
Journalist 11	1053	632	1067	Economic magazine
Journalist 12	990	189	1719	Economic magazine
Journalist 13	868	299	1668	General newspaper
Journalist 14	698	871	794	General newspaper
Journalist 15	690	208	202	Economic newspaper
Journalist 16	568	703	459	Economic magazine
Journalist 17	463	842	304	Economic magazine
Journalist 18	418	731	997	Economic magazine
Journalist 19	204	229	573	Economic magazine
Journalist 20	180	63	187	Freelance
Journalist 21	174	195	91	Economic website
Journalist 22	141	110	267	Economic newspaper
Journalist 23	43	263	166	Economic magazine
Journalist 24	42	73	95	Economic magazine
Journalist 25	28	161	110	Economic newspaper
Journalist 26	19	417	150	General newspaper
Journalist 27	17	118	215	General newspaper
Journalist 28	15	39	47	Economic magazine
Journalist 29	12	83	176	Economic magazine

Journalist 30	5	51	245	General newspaper
Journalist 31	3	133	95	Economic magazine
Journalist 32	2	93	106	General newspaper
Journalist 33	0	24	170	Economic newspaper