DE GRUYTER
OPEN

10.1515/nor-2016-0007

Nordicom Review 37 (2016) 1, pp. 1-14

Data Journalists Using Facebook

A Study of a Resource Group Created by Journalists, for Journalists

Ester Appelgren

Abstract

On Facebook there are interest groups created by journalists, for journalists, that focus on the journalistic profession and work methods. One example is the Swedish group, "Data-journalistik" (in English, "Data Journalism"), which was created in 2012. This article builds on Granovetter's theory on the strength of weak ties and is focused on the skill development process taking place in the group. A content analysis has been carried out of all posts that received comments in order to explore the social functions of the group. The results indicate both a significant need for knowledge exchange and a need for self-affirmation. At the time of the study, the group was unique in the Nordic countries and as such has played a major role in data journalism's development process in the Nordic region.

Keywords: data journalism, Facebook, network theory

Introduction

As part of a current global trend towards harnessing information from large quantities of unstructured data, journalists have recently become interested in developing advanced skills in data analysis (e.g. Lewis 2014, Fink & Anderson 2014). Gray, Chambers and Bounegru (2012) argue in the first "Data Journalism Handbook" that using methods and digital tools to gather, filter and visualize stories based on data introduces a novel approach to producing journalism. In contrast to the claim that data journalism is a novelty, pioneer Phillip Meyer began as early as the end of the 1960s to emphasize the importance of a new generation of journalists that knows how to find, evaluate and analyze information (Meyer 2002).

This study aims to contribute to the growing body of research on the data journalism practice and specifically the skill development process where knowledge is created and shared between data journalists on the social network site, Facebook. The development of data journalism skills may challenge our understanding of what set of skills a journalist needs and the boundaries for the tasks journalists perform. In this context Carlson (2015, p. 3) claims that research on boundaries for the journalistic practice does not have a strong foothold in journalism studies, and that it therefore is necessary to include other research traditions within the social sciences. For this study, sociologist Granovetter's theory from 1973 is used to explain the importance of social relationships for acquiring new information.

Appelgren and Nygren (2014) found that using data journalism methods and techniques in Swedish newsrooms was still new to many journalists, even though these journalists also claimed that they had always worked with data. Karlsen and Stavelin (2014) showed that as journalism and computing are merging into a single process, the computational skills that are needed represent a different practice than that of traditional journalism (p. 45). The news gathering process is increasingly aided by technology, and journalists are thus led to new technologically specific forms of work, such as computer-assisted reporting (Carlsson 2015, p. 8). It is thus also important for researchers to study emerging forms of such development from the perspective of how it may strengthen the journalism practice.

Due to the economic downturn in the news industry, data journalism is still a practice that has considerable potential for further evolvement (Fink & Anderson 2014). In a recent Belgian study, however, De Meyer et al. (2014, p.13) describes how journalists return to their newsrooms with ambitious data journalism projects after attending training courses but have to put these projects aside as they get caught up in the constraints of routine news production. Deuze (2007) states that the introduction of new technology in journalism has tended to amplify existing ways of doing things rather than radically change what journalists are doing. It should also be noted that the process of introducing new technologies in any setting has proven itself to be slow since, over time, it requires behavioral change (Nygren & Wadbring 2013). According to Gynnild (2013), little is still known about innovation processes in news media and, in particular, the role of human aspects, such as skill development and collaboration forms, when extended technological approaches are applied.

The purpose of this article is to describe a small part of a current data journalism skill development process that was displayed on "the wall" of a Nordic journalistic Facebook group, Datajournalistik. The group is public and devoted to discussion about data journalism methods and techniques. It was created in 2012 by three members of a small, Swedish journalistic non-profit association called Fajk. In the beginning it targeted the small community of journalists interested in data and data journalism in Sweden. Since its start, this group has grown to more than 1,800, most of whom are active journalists working primarily at Swedish media companies, but also at Norwegian, Danish and Finnish media companies. The different types of content posted to this group could partly illustrate the process journalists currently undertake when developing the skills needed to produce data journalism.

Summarizing previous research on social media and journalists, Hedman and Djerf-Pierre (2013, p.370) emphasize the process of "journalists normalizing, i.e. adapting their use of social media to fit traditional professional norms and at the same time adapting those norms to fit the emergent practices of social media". Studies focus, for example, on describing how social media can serve as a means for journalists to find trending topics or sources for stories (Schifferes et al. 2014), how journalists express opinions on social media (Lasorsa et al. 2011), or the role of social media when publishing breaking news (Vis 2012). These studies describe the journalism practice as closely connected to communication with the audience. However, as in the case of this study, social media platforms such as Facebook can also be home to interest groups that have been created by journalists, for journalists with a focus on different aspects of the profession and work methods and not primarily intended to reach the eye of the general audience.

One research strand on the use of social media explains interactions made by individuals, personal relationships and the benefits that come with them as the goods and services of social capital (Williams 2006). For example, Ellison et al. (2015) assess network theory in the light of social capital to explain how, why and with what results individuals turn to Facebook. The argument is that mobilization activities, i.e. "posts that request some type of assistance from one's network, which might take the form of an informational question, a request for advice, or help with a physical need" (p. 3) exemplifies social capital conversion, as individuals intentionally are using their network in their requests.

In Williams' view, social capital is a measurement of the effects of interactions, and while the effects of the interactions may explain interaction taking place in the group, measuring them are outside of the scope of this study. The aim of this study is to explore social functions appearing in the group in order to contribute to a wider understanding of the ongoing skill development process where journalism and computing are becoming closer to one another. The main research questions are: "What social functions can be derived from the posted content?" and "What role does the network have in the development process of Nordic journalists with regard to their data journalism skills?"

Networks and Tie Strength

Social scientists have a long tradition of investigating the dynamics of social networks and information exchange, beginning long before relationships and information could be managed using digital technology. Granovetter's theory (1973) explains the importance of social relationships for acquiring information, where the information-seeking behavior and success in spreading information are related to the strength of a relationship. In a network, nodes or network members are tied by one or more types of relations (Wasserman & Faust in Marin & Wellman 2014). Network theory is defined as the proposed processes and mechanism that relate network properties to outcomes of interest (Borgatti & Lopez-Kidwell 2014, p. 40).

Granovetter (1973) describes relationships between network members using the terms *strong ties* and *weak ties*. According to him, the stronger the tie between two people, the more likely they are to have several acquaintances in common. Summarizing research on tie strength, Granovetter argues that the stronger the tie between two individuals, the more similar they are. Also, the more frequently people interact with each other, the stronger their mutually perceived friendship will be.

In a network, both strong and weak ties are important and play different roles. Even though the Granovetter theory focuses on explaining the importance of weak ties, the presence of strong ties is described as crucial for local cohesion. Extending Granovetter's theory, Putnam (2001) describes two types of social capital: bridging social capital associated with weak tie networks and bonding social capital created in strong tie networks. Bridging social capital is created in networks where individuals are outward-looking, in contact with a broad range of people where they view themselves as part of a broader group and where there is a culture of giving to others without expecting something back. Bonding social capital is linked to networks of stronger ties, for example during the act of getting emotional support. Measures for social capital are focused on effects of social actions, but may also comprise the networks themselves (Williams 2006)

Although previous research has suggested that no consensus for measuring tie strength exists, the strength of ties on Facebook can be obtained in two ways (Gruzd & Haythorntwaite 2008): 1) measuring similarity between users' profiles with a substantial overlap between words and phrases, and 2) measuring the number of times two names appear in close proximity within the text, i.e. a co-occurrence metric. In this study, the second approach is used as a guideline. By analyzing the posts with the most comments and where *addressivity* has been taking place, I will discuss the ties forming the group and the kinds of topics being exchanged.

Addressivity in this study is defined as the occurrence of cross-references in online conversation, what often is referred to by journalists as giving "cred" to someone else. This has previously been studied, for example, on Twitter as one of several important types of interactions that could influence the formation of power relations and information diffusion patterns (Steensen 2013). Hedman and Djerf-Pierre (2013) lists a set of terms central to forming a social network where the term "retweet" shares similarities with the concept of addressivity. On Twitter, a tweet can be retweeted by other persons, i.e., the written content and author name is forwarded and hyperlinked in a new tweet, by someone else. Hedman and Djerf-Pierre describes how a person with high social capital who retweets content will enhance the social capital of the person being retweeted. According to Hedman and Djerf-Pierre (p.372), the strength and composition of the journalist's social media network is a significant part of the journalist's personal brand and the act of giving others credit in a social network is part of the common practice enhancing social capital.

Even though, the Datajournalistik group's hosting module is Facebook, this module shares similarities with how interaction is carried out on Twitter. The module is a discussion- and threads-based module, which provides members with the opportunity to interact with others sharing a common interest (Smock et al 2011). Furthermore, it allows members to receive information that may not be available elsewhere (Park, Kee & Valenzuela et al. 2009). In a uses and gratifications study of the use of Facebook, Smock et al. (2011, p. 2327) found that *groups* were associated with expressive information-sharing and *users* may view groups as sources of information rather than locations for social interaction. Furthermore, according to Smock et al. (2011), the composition of most analyzed groups consist of people without previous social connections to one another, and as a result found a negative association of social interaction in the group module. Gruzd et al. claims that Facebook differs from Twitter in that it encourages people who know each other to keep in contact and, therefore, it is likely that a portion of the group members have stronger ties to each other than just being members of the group.

The Importance of Belonging to a Community or a Subgroup

Having studied the professional identification of news journalists, Russo (1998) found that attachments to co-workers contributed to the professional identity of a journalist. Similarly, Weaver and Wilhoit (1996) found that contact with other journalists with regard to journalistic practices and performance reinforces the professional role of journalists. In this study, the object is treated as a subgroup of journalists specialized in data journalism methods. Since news is produced by a variety of subgroups (Lowrey 2002, p. 411), each subgroup has a different expertise within journalistic work. Lowrey

further states that members of each occupational subgroup "share a set of norms, practises, and values giving meaning to their areas of work and guiding the members of the subgroup in decisions".

In a previous study, Swedish data journalists expressed how they were one of few, or the only one, in the newsroom with a specific set of skills (Appelgren & Nygren 2013). Borgatti and Cross (2003) suggests that if a group has problems with access, as in the case of a limited number of data journalists working in different newsrooms, distributed or wireless technologies might make it possible for people to access one another.

Previous research has proven that ties maintained online are as real as offline ties (Gruzd & Haythornthwaite 2014). When using digital media channels, strong ties are maintained by, for example, email, texting, blogs and microblogs while weak ties are widespread and maintained through discussion lists, web forums and social networking sites (ibid.). Furthermore, ties created online may be latent, i.e. they are available technically, but not yet activated by social interaction. In this study, it is argued that Facebook may aid journalists trying to develop knowledge in data journalism. As Facebook is well-known as a social tool for the general public and for private rather than professional use, it is important to point out that the social network may serve social functions for journalists other than private social functions. In a national survey of Swedish journalists, Appelberg et al (2014) found that 67 per cent of the journalists use social media in their profession. Facebook was used on an everyday basis by 61 per cent of the journalists. Johansson (2015) found that Swedish journalists who use social media are mainly using Facebook to keep in contact with colleagues (73%), and other purposes for using Facebook included To get ideas (54%), For self promotion (43%) and For professional discussions (32%).

Since the beginning of the Internet, groups of journalists involved in data journalism methods have created forums for knowledge exchange. In a content analysis of blog posts from two such forums, the Guardian's Data Blog and the National Institute for Computer Assisted Reporting's listserv NICAR-L, Gynnild (2014, p. 15) found that the impact of what she denotes as computational exploration in journalism is less dependent on technological creation than on news professionals' values, goals, and interaction skills development. However, she does not examine social networking aspects connected to the two forums, but rather explores the content in them to detect how computational exploration is manifested.

Methods

The method of this article is inspired by Gruzd and Haythorntwaite (2014) and is based on a content analysis of all of the posts with comments from the inception of the group, i.e. April 24, 2012 to April 24, 2014.

Nodes in the collected Facebook data were people that were members of the group. Ties consisted of actions that entailed the interaction of group members, such as posts with comments and comments. A limitation of this study is that I will not analyze the "likes" category. Furthermore, posts without comments were excluded.

The network in the study is delimited by the Datajournalistik Facebook group. Therefore, a restriction to the analysis is that the data cannot say anything about the offline relationships of the nodes in the network, whether the members are Facebook

friends outside of the group or whether they have sent each other chat messages as a result of reading a post or comment made to the group. It is likely that many of the group members know each other on Facebook, have exchanged private chat messages and met offline. Furthermore, some of the members may be close friends or work together on a daily basis.

Four steps were used for the data collection and analysis and these steps were inspired by Gruzd and Haythornwaite (2014):

1. Data was extracted using a Python script called Facebook Crawler. This script was provided as an add-on to the SAS Institute Text Mining Tool. A Facebook Developers access token offered the possibility to extract the data compiled as a CSV file. Furthermore, the data was automatically pre-coded with metadata provided by Facebook.

2. Nodes were identified as members of the group. Latent nodes were members who had not yet posted, commented, liked or shared in the group.

Datajournalistik consisted of 1,084 members at the time of data extraction. Of these, 879 members were identified as latent and 205 were active (See Table 1). The members of the group who had made the most posts and comments, here referred to as authors, include well-known Nordic data journalists. Furthermore, the top three authors of posts in the group were the three group founders. Among the top ten authors were the most experienced data journalists from Sweden, Finland and Denmark. These data journalists were furthermore well-known workshop leaders in the area and use their experience as consultants for the Nordic media companies.

Table 1. *Number of Datajournalistik Members*

Types of nodes	N
Total number of members in the group	1,084
Latent members	879
Active members having posted or written comments	205
Active members having written comments	171
Active members having written posts that got comments	77

Note: Table 1 illustrates descriptive network data (downloaded 2014-04-28) of the number of members in the Facebook group Datajournalistik where the number of active members were 205.

Active members were those who had posted or commented at least once in the group. Table 1 shows the number of comments made. Of the 77 authors, the three founders of the Facebook group accounted for 27 per cent of all comments made. The top 10 comment authors accounted for almost half of all comments made. However, 40 per cent of the 171 comment authors only made one comment to a post in the Facebook group. Of the 549 posts made to the group (See Table 2), 291 posts have no comments. In posts without comments, addressivity, as it is defined in this article, was not present. Therefore, these posts were excluded for further analysis. The remaining 258 posts have at least one comment, and the most commented post has 25 comments. Eighteen more posts were removed from the sample because they were not written in an understandable language or only consisted of an image.

Table 2. *Number of Posts in the Group Datajournalistik*

Posts	N
Total number of posts	549
Posts with comments	258
Inconclusive posts with comments	18
Total number of posts included in the analysis	240

Note: Table 2 reports the number of posts included in the analysis. The material included a total of 549 posts from 2012-04-28 to 2014-04-28 where 240 were included in the analysis.

3. Ties were discovered using comments and addressivity (Table 3), i.e. referencing to a person in a Facebook comment.

Table 3. *Example of Addressivity in Comments*

Post	Comments
Journalist 1: Our newspaper has mapped all bicycle thefts in City 1 and City 2. Graphics were made using Tableau and CartoDB [Link]	[...] Journalist 2: I cannot see it using my smartphone, but maybe internet is slow or it is the torque function? [...] Journalist 1: No, Journalist 2, it doesn't work on smartphones. We are "working on a solution". [...] Journalist 2: Ok, but it looks nice on the computer, Journalist 1! [...] Journalist 1: Journalist 2, thank you! Journalist 1: Now the graphics work on a smartphone, too!

Note: The example in Table 3 illustrates how group members address each other in comments. The example is from June 1, 2014 and is here anonymized, shortened and translated from Swedish to English.

Addressivity was coded as a dichtomous variable. It was noted if the post mentioned a name.

4. Posts were categorized using content analysis to code common topics and categories in the posted content, which resulted in a number of topics. Furthermore, the tone of the posts was coded. Two variables were obtained from meta data: date and content type (post or comment). Three variables describing the text content in each post were coded manually: Addressivity, Post topic and Post tone.

The coding instrument *Post topic* consisted of 12 dichotomous topic categories. All categories that were present in a post were noted. The 12 categories were: promotion of journalistic project (one's own or the home organization's), self-promotion (non-journalistic), question programming, question data, question authorities, question tools, question general, tribute to other journalist, tribute to the Facebook group, resource tip (data, tipsheet, tool), invitation (event or job) and other (general reflection or information).

The nominal variable *Post tone* consisted of 7 categories: positive (contained at least one positive word), neutral, negative (contained at least one negatively charged word), doubtful (contained words expressing insecurity or doubts), boastful, instructive (informative and instructive posts often with a demand that other members should try something out, react or give feedback) and humorous (contained obvious irony or jokes).

Results

In the post cited below, a Swedish reporter at a small local newspaper requests Excel advice. In the quote, the comments have been included to illustrate how, in just a few minutes, three Swedish journalists (two reporters from a larger local newspaper and one data journalist from the Swedish public service broadcaster) responded with links and encouragement on how to solve a specific problem.

> *Hello, can anyone assist me with some Excel help? I have an Excel file with data showing every instance a specific road has been closed down. [..] I would like to see how many times per year the road has been turned off, average duration of such a stop and which months that are primarily affected by the stop [..]. Would be great if some Excel pro can help me further.*
>
> *- Sounds like you should use a pivottable. Here is one (of many) [..] [Link]*
> *- A pivottable is probably easiest. A little difficult to explain exactly, but you can learn pivot by googling it (That is how I learned it). [..] Otherwise, Tableau is excellent for this type of analysis.*
> *- Thank you. I will look into it.*
>
> [The Datajournalistik group on Facebook, April 15, 2014. Here, shortened and translated from Swedish to English.]

The interests of the group members can be reflected in the posted content. Table 7 summarizes the topics found in the posts that had at least one comment. A post could contain one or more of the topics; thus, 296 cases of topics were found in the 240 posts. Percentages are based on the number of topics found.

Table 4. *Topics Found in Posts with Comments*

Topic	N	%
Promote a data journalistic project	77	26
Question about data journalism tools and standard tool formats	43	15
Question about data	30	10
Resource such as data, a tipsheet, provide a link to a resource	30	10
Invitation to event or a job vacancy	24	8
Give credit to or praise someone	21	7
Other questions: general opinions, search for data journalism projects or general method questions	18	6
Question about programming	16	5
Promote oneself, however not a journalistic project	15	5
Other, including general reflections about data journalism on a national or international level	10	3
Give credit to or praise the Facebook group	7	2
Question about authorities	5	2
Total number of topics found in 240 posts	296	100

Note: The topics in Table 5 was in particular aimed at promoting projects or asking for help from the group community.

The five most common topics here will be illustrated using examples of the most commented post in each topic. The first quote illustrates how a journalist promotes his or her own published work in the form of a link to a data journalistic project. The selected post received 21 comments.

> *Tomorrow, [media company X] will launch an election compass based on EU data with an attached guide to the candidates' opinions. However, you can check it out now at [link]. It would be so much fun if you could share your opinions about this project.*

The tone used in the posts is interesting in relation to the topic of the post. Twenty-two per cent of the posts that promote a data journalistic project contain words that suggest that the journalists are proud of their work. Such posts, which in contrast to the more neutral posts on the topic can be seen as boastful since they are written by the journalist about his or her own work, include phrases such as "we won first prize", "this is a shameless marketing of my own work", "I am quite satisfied with this visualization" or simply "I think this is really good journalism". Twenty-one per cent of the posts on this topic were written in an instructive style inviting the reader to follow a set of instructions to enjoy a data journalistic project.

Questions about tools for data journalistic purposes deal with a range of tools or questions about the right tool to use. Three specific tools dominated the discussion: Google Fusion Tables, Tableau and Excel. This selected post illustrating the topic received 14 comments and is more of a general tool question than a specific question related to one of the three most commonly mentioned tools.

> *How much time will it take for a beginner with Excel skills to do a first plot of tweets based on location on a map of Sweden. What kind of tool do you recommend?*

The tone in 42 per cent of the posts on this topic was neutral. A slightly more negative tone was found in 19 per cent of the posts. In those posts, the journalist described his or her situation using phrases such as "I feel skeptical", "I wonder if anyone working with this tool is experiencing problems to the same extent as I am" or "For six months now, I have been struggling with this tool". Furthermore, posts on this topic contain more cautious descriptions (12 %), such as "This should be really easy, but I cannot do it" or "This is possibly a stupid question".

Questions about data were related to searches for data sets and were mostly neutral (53 %) or positive (13 %). The selected post received 18 comments.

> *Hello data journalists! I hope it is OK for me to be a member of this exciting group, even though I am not a journalist. I wonder if any of you know about the existence of free GIS-files with post codes? I am interested in polygones rather than points.*

The positive data questions were asking in an encouraging manner if certain type of data exists, as in the case above.

Resources posted as links to data sources or large-scale international and inspirational data journalistic projects from other companies than the author's own were the fourth most common topic in terms of posts with comments in the group. This topic often contained other topics, such as in the example below, where the author also poses a question about data. The selected post received 21 comments.

> *Does anyone know if there are Scandinavian media organizations working with Linked Open Data in a more structural manner? I looked at this excellent speech [link] and then checked the journalistic projects that were mentioned in the speech, [link], [link], [link]. It feels as if this will open up for new possibilities in terms of how to produce data journalism, see, for example, the BBC Olympics site where links and relationships are built around linked data [link].*

The tone found in posts addressing this topic was positive, neutral and sometimes instructive, where the journalist would encourage people to use a resource and in 10 % of the posts give instructions for how to use it.

The fifth topic most commonly found in the posts with comments was related to invitations to events or job postings. Over the course of the group's existence, invitations for several hackathons and conferences were repeated in the group. Almost half of the posts were written in a neutral manner or a more encouraging manner, as in the post below. The selected post received 8 comments.

> *On Saturday and Sunday, it is time for Hack for Sweden at the Environmental Protection Agency in Stockholm. Never before have so many Swedish authorities cooperated creating a joint hackathon with open data. They are specifically asking for data journalists. There are a few late cancellations and therefore there is room for one or two teams. Don't miss this opportunity! Sign up here: [link]*

Addresivity, was found in 19 per cent of the posts that received comments. Naturally, addressing someone will spur a comment from the person being addressed and may spark a conversation. However, only 16 of the 77 post authors in the data set used addressivity in their posts, and among these 16 authors were the top authors of the group.

None of the authors of posts containing addressivity used a negative tone. Instead, 46 per cent were positive and 15 per cent contained an almost boastful tone that praised the person addressed. The majority of the posts containing addressivity were written by an author who had a connection to the person addressed. The example below is written by one of Sweden's most recognized data journalists working at the company mentioned in the comment.

> The talented [Name] at [Company] has put together a visualization of changes in the government budget. [Link]

Typically, in the analyzed posts, as in the example above, the person mentioned worked in the same group or the same organization as the author. And in 31 per cent of the posts, the topic was a project they carried out together. Such posts suggest a stronger tie between the author and the person addressed as compared to the other members of the Facebook group.

In the occurrences where addressivity was found, the author may have a stronger tie to the person addressed. However, since no network analysis of relationships outside of the group has been carried out, the results serve here only as indications of a stronger relationship. The results support the assumption that most of the group members are connected by weak ties, since it is rare for members to address one another, and in such instances they mainly address people to whom it is evident they have a connection to outside the group.

Table 5 presents the top five topics found in posts that contain addressivity. When someone is addressed, it seems that the information being shared is more along the lines of recognition, i.e. giving someone credit rather than sharing knowledge.

Table 5. *Top Five Topics with Addressivity*

Topic	N	%
Promote a data journalistic project	18	31
Give credit to or praise someone	12	21
Resource such as data, a tipsheet, provide a link to a resource	6	10
Other question: general opinions, search for data journalism projects or general method questions	5	9
Invitation to event or a job vacancy	4	7

Note: Table 5 shows a top list of topic genres found in posts with addresivity. These posts were aimed at promoting projects or giving credit to someone in the group. Since topics may overlap, a total of 58 topics were found but only 46 included addressivity.

Discussion and Conclusions

In this study, network theory was used to explore the social functions of the Datajournalistik Facebook group with a focus was on the process of skill development. As suggested by Carlsson (2015), technological advancements in an editorial setting have given rise to debate about journalistic boundaries and journalism as a profession. The Datajournalistik Facebook group represents a forum for such skill development processes, where traditional boundaries are challenged in terms of what skills a journalist should have. The interactions taking place can be seen as social functions that potentially could create social capital. However, the contribution of this study is a discussion on the dynamics of the group, rather than the effects of the actions taken. In a future study, the functions found could be linked to the effects they may create for the individual and measured in terms of social capital.

The Facebook group is an internal group created by journalists, where the audience is other journalists. Even though the group was constructed with data journalists in mind, all members may not work actively with data journalism. The results indicate, however, that the active group members use the group to pose questions about data journalism methods and tools and to promote themselves as data journalists. While the questions that were posed qualify as mobilization attempts, as previously shown by Ellison et al. (2015), contributing to social capital, the act of promoting oneself or one's work may serve not only as a selfish act, but an act of "givingness" (Williams 2006, p. 600), where an individual is giving to others without expecting something in return. Such actions have been linked to bridging social capital, in Granovetter's view typical for weak tie networks. The posts in the group are often made in the spirit of "givingness", however, at the same time with expectations of getting feedback from the group. At the beginning of the Result section, a post was cited that is typical of the topics that were found in the Datajournalistik group. The quote illustrates the rather open process of knowledge sharing that is taking place in the group, regardless of the level of difficulty of the question and the rank of the person posing it. It furthermore illustrates how the author expects to

get new information in comments made by peers in the group. If the author knew exactly whom to ask and had a tie to that person other than through the group, the question could have been posed in an e-mail or a phone call. When a seemingly trivial question is asked, such as in this example, the most esteemed Nordic data journalists frequently respond. By doing so, the more experienced data journalists also confirm themselves as experts. Repeatedly answering questions, like the most active group members do, could therefore be seen as an act of self-promotion resulting in the strengthening of social capital, both in terms of bridging social capital where they confirm themselves as part of a broader group of experts, but oddly also bonding social capital, as both the person giving and the person receiving will both benefit from the interaction taking place (Williams 2006).

Questions that are answered imply that knowledge sharing and learning is taking place. On an aggregate level, such activities dominated the post topics, thus suggesting that bridging social capital is created within the network. A major function of the group was thus to find new information in the anticipated comments. This would support the assumption that the group is indeed used as a resource group, sharing both similarities and differences, in comparison to the NICAR-L resource group previously described by Gynnild (2014).

The most common *single* topic found in posts with comments was journalists promoting their own work. One speculation of the intended effect of such interactions, is that journalists were striving to boost their self-confidence. Posts occasionally indicated a sense of suppression, i.e. not getting enough recognition from peers in the newsrooms, thus seeking acceptance from a group of people with similar skills. Such posts also reflected professional as well as personal values and goals. When promoting one's own work, it was common to find posts where the tone was almost boastful. When posing questions, however, the tone was mostly neutral, or even slightly negative and frustrated. In several posts an instructive tone was used as the author encouraged group members to try something out or sign up for an event. These instructions were often written in a manner that indicated that the author expected the group members to be new to the topic. The author was writing in a style that was intended to educate. Since such posts receive both likes and comments, this would indicate the possible formation of a sub-community of journalists and others interested in developing their data journalism skills.

The results of this study thus indicate a significant need for knowledge exchange and a need for strengthening their journalistic identity. At the time of the study the group was the only digital forum for exchanging ideas and knowledge about data journalism in the Nordic region. Therefore, since its start, it has played a major role for the development of data journalism skills among Nordic journalists outside of their newsrooms.

In this study, addressivity was present in the Datajournalistik group, although to a very small extent, and only performed by a small number of group members. The low level of addressivity in the results could indicate that the group consists mainly of weak ties. Nevertheless, there are stronger ties present in the group. In the majority of the few posts with addressivity it was evident that the authors only addressed someone if they had a stronger tie to the person addressed. Most commonly, the tie here was considered strong because the author and the person addressed worked in the same newsroom or even on the same project. Furthermore, when addressivity occurred it was used in the context of praising a person for having worked on a data journalistic project. The act of addressing someone in the Facebook group is related to retweeting on Twitter. Hedman

and Djerf-Pierre (2013) suggest that the act of retweeting will affect a person's social capital, and such posts can thus be seen as a more sophisticated way of giving credit to oneself using the name of someone else involved. In this study, posts with addressivity usually linked to material that had already been published by the journalist's media organization and did not present new ideas to the members of the group, but rather placed an emphasis on information that was already available. Granovetter (1973) described how success in spreading new information is instead more likely to be achieved using weak ties. It is therefore argued that addressivity between two group members with stronger ties was not used for knowledge-sharing, but rather for the social function of increasing bonding social capital and promotion.

The results of this study indicate that members of the group post content to develop knowledge or receive self-affirmation. The findings of this study illustrate the making of a subgroup of Nordic journalists interested in data journalism as they form specific values and ideals, and in this process the posts that are appreciated and commented on by the group members could shed some light on the direction of these ideals as they are being formed. The intention of addressing peers, apart from taking some of the credit themselves, might also be a means to create cohesion in the group, i.e. to reinforce the group members in their mission to become more skilled as data journalists.

References

Appelberg, Jonas, Johansson, Elena, Nygren, Gunnar, & Baranowski, Pawel (2014). Social media in the professional work of Polish, Russian and Swedish journalists. *Journal of Print and Media Technology Research*, 3(2), 107-118.

Appelgren, Ester, & Nygren, Gunnar (2014) Data Journalism in Sweden: Introducing new methods and genres of journalism into "old" organizations. *Digital Journalism*, (ahead-of-print), 1-12.

Borgatti, Stephen P., & Lopez-Kidwell, Virginie (2011). Network theory. In John Scott & Peter J. Carrington (Eds.), *The Sage handbook of social network analysis* (pp. 40–54). London: Sage.

Borgatti, Stephen P., & Cross, Rob (2003) A relational view of information seeking and learning in social networks. *Management science*, *49*(4), 432-445.

Carlson, Matt, & Lewis, Seth C. (Eds.) (2015) *Boundaries of Journalism: Professionalism, Practices and Participation*. Routledge.

Deuze, Mark (2007) *Media work*. Polity.

De Maeyer, Juliette; Libert, Manon; Domingo, David; Heinderyckx, François, & Le Cam, Florence (2014) Waiting for Data Journalism: A qualitative assessment of the anecdotal take-up of data journalism in French-speaking Belgium. *Digital Journalism*, (ahead-of-print), 1-15.

Ellison, Nicole B; Gray, Rebecca; Lampe, Cliff, & Fiore, Andrew T. (2014) Social capital and resource requests on Facebook. *New Media & Society*, *16*(7), 1104-1121.

Fink, Katherine, & Anderson, C. W. (2014) Data Journalism in the United States: Beyond the "usual suspects". *Journalism Studies*, (ahead-of-print), 1-15.

Granovetter, Mark S. (1973). The strength of weak ties. *American Journal of Sociology*, 1360-1380.

Gray, Jonathan; Bounegru, Liliana; Chambers, Lucy, (2012) *The data journalism handbook*. O'Reilly Media, Inc.

Gruzd, Anatoliy, & Haythornthwaite, Caroline (2008) Automated discovery and analysis of social networks from threaded discussions. International Network of Social Network Analysis Conference, St. Pete Beach, FL, USA, January 22-27.

Gruzd, Anatoliy, & Haythornthwaite, Caroline (2014) Networking online: cybercommunities. *The SAGE Handbook of Social Network Analysis. London: Sage Publications Ltd*, 167-179.

Gynnild, Astrid (2014). Journalism innovation leads to innovation journalism: The impact of computational exploration on changing mindsets. *Journalism*, 15(6), 713-730.

Hedman, Ulrika, & Djerf-Pierre, Monica (2013) The Social Journalist: Embracing the social media life or creating a new digital divide? *Digital Journalism*, *1*(3), 368-385.

Johansson, Elena (2015) New tools for the old practices? Journalistic profession in the context of interactive participation. In Nygren,G., & Dobek-Ostrowska, B. (ed) *Journalism in change – professional journalistic cultures in Poland, Russia and Sweden.* Frankfurt am Main: Peter Lang Publishing.

Karlsen, Joakim, & Stavelin, Eirik (2014) Computational journalism in Norwegian newsrooms. *Journalism Practice*, *8*(1), 34-48.

Lasorsa, Dominic L. ; Lewis, Seth C., & Holton, Avery E. (2012) Normalizing Twitter: Journalism practice in an emerging communication space. *Journalism Studies*,*13*(1), 19-36.

Lewis, Seth C. (2015) Journalism in an Era of Big Data: Cases, concepts, and critiques. *Digital Journalism*, *3*(3), 321-330.

Lowrey, Wilson (2002) Word people vs. picture people: Normative differences and strategies for control over work among newsroom subgroups. *Mass Communication & Society*, *5*(4), 411-432.

Marin, Alexandra, & Wellman, Barry (2011) Social network analysis: An introduction. *The SAGE handbook of social network analysis*, 11-25.

Meyer, Philip (2002) *Precision journalism: A reporter's introduction to social science methods*. Rowman & Littlefield.

Nygren, Gunnar, & Appelberg, J. (2013) Swedish journalists – a profession in decline? in *Journalists in Three Media Systems: Polish, Russian and Swedish journalists about values and ideals, daily practice and the future* / Ed. by Maria Anikina, Boguslawa Dobek-Ostrowska, Gunnar Nygren (eds.) – Moscow: Journalism Faculty, 2013. pp. 115-164.

Nygren, Gunnar, & Wadbring, Ingela (2013) *På väg mot medievärlden 2020: Journalistik, teknik, marknad*. Lund: Studentlitteratur.

Park, Namsu; Kee, K. F., & Valenzuela, Sebastian (2009) Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *CyberPsychology & Behavior*, *12*(6), 729-733.

Putnam, Robert D. (2001) *Bowling alone: The collapse and revival of American community*. Simon and Schuster.

Schifferes, Steve; Newman, Nic; Thurman, Neil; Corney, David; Göker, Ayse, & Martin, Carlos (2014) Identifying and Verifying News through Social Media: Developing a user-centred tool for professional journalists. *Digital Journalism*, 2(3), 406-418.

Smock, Andrew D; Ellison, Nicole B; Lampe, Cliff, & Wohn, Donghee Yvette (2011) Facebook as a toolkit: A uses and gratification approach to unbundling feature use. *Computers in Human Behavior*, *27*(6), 2322-2329.

Steensen, Steen (2014) Conversing the audience: A methodological exploration of how conversation analysis can contribute to the analysis of interactive journalism. *New Media & Society*, *16*(8).

Vis, Farida (2013) Twitter as a reporting tool for breaking news: Journalists tweeting the 2011 UK riots. *Digital Journalism*, *1*(1), 27-47.

Williams, Dmitri (2006) On and off the'Net: Scales for social capital in an online era. *Journal of Computer Mediated Communication,* 11(2), 593-628.

ESTER APPELGREN, Techn.Dr., Senior Lecturer, Division of Journalism, Södertörn University, Huddinge, ester.appelgren@sh.se