Paradigms in Social Media Studies

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Abstract

The aim of this project is to study the level of paradigm development in the domain of social media studies. Based on the works of Kuhn (1970), Pfeffer (1993), and Thompson and Tuden (1959), the level of paradigm development was defined as the degree of consensus regarding: research topics, methods, and theories used in a given field of study. A sample of social media research articles was studied to analyze the level paradigm development within this domain of study. The sample consisted of a group of social media research articles that were published in the top ten journals of communication studies in the last five years. Content analysis methodology was used to analyze the research articles and clusters analysis was utilized in order to investigate the level of paradigm development in this field of study. The analysis confirmed the lack of consensus in the social sciences (Pfeffer, 1993). The level of agreement regarding research methods, theoretical concepts, and research topics used in social media studies was quite low. The lack of consensus in this new domain of study may be explained by two factors. Social media as an academic field is still in its infancy (Van Osch and Coursaris, 2014), and thus it lacks of a shared body of theoretical knowledge that can be used to analyze the phenomenon of social media (Van Osch and Coursaris, 2014; Chong and Xie, 2011; and Khang, Ki, and Ye, 2012). In conclusion, this project suggests that social media studies should aim to develop a high level of paradigm development, since academic fields with high levels of consensus are better organized, have fewer power conflicts, and get more funding (Beyer and Lodhl, 1976; Pfeffer, 1993).

Keywords: social media research, paradigm, consensus in science, Kuhn, cluster analysis
Creed
By Steve Turner

We believe in Marx, Freud and Darwin.
We believe that everything is OK
as long as you don’t hurt anyone,
to the best of your definition of hurt,
and to the best of your definition of knowledge.

We believe in sex before, during and after marriage.
We believe in the therapy of sin;
we believe that adultery's fun.
we believe that sodomy's OK
we believe that taboos are taboo.

We believe that everything is getting better
despite evidence to the contrary.
The evidence must be investigated.
You can prove anything with evidence.

We believe there is something in horoscopes, UFO’s and bent spoons.
Jesus was a good man just like Buddha
Mohammad and ourselves.
He was a good moral teacher although we think
that his good morals were really bad.

We believe that all religions are basically the same,
at least the ones we read were.
They all believe in love and goodness. They only differ on matters of
creation, sin, heaven, hell, God, and salvation.

We believe that after death comes Nothing
because when you ask the dead what happens
they say nothing.
If death is not the end, if the dead have lied,
then it’s compulsory heaven for all
except perhaps Hitler, Stalin and Genghis Kahn.

We believe in Masters and Johnson.
What’s selected is average.
What’s average is normal.
What’s normal is good.

We believe in total disarmament.
We believe there are direct links between
warfare and bloodshed.
American’s should beat their guns into tractors
and the Russians would be sure to follow.
We believe that man is essentially good.
It’s only his behaviour that lets him down.
This is the fault of society.
Society is the fault of conditions.
Conditions are the fault of society.

We believe that each man must find the truth
that is right for him.
Reality will adapt accordingly.
The universe will readjust. History will alter.
We believe there is no absolute truth
excepting the truth that there is no absolute truth.

We believe in the rejection of creeds.

If Chance be the Father of all flesh,
disaster is His rainbow in the sky.
And when you hear "State of Emergency",
"Sniper Kills Ten", "Troops on Rampage",
"Youths Go Looting", "Bomb Blasts School",
it is but the sound of man worshiping his maker.
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Introduction

Many social media applications have gained a rapid popularity in the last years. For example, it was estimated that, 47% of world’s internet population had visited YouTube in 2010 and that 66% of Italians and 62% of British were Facebook users in the same year\(^1\). Moreover, social media was broadly used for commercial and political purposes (Stuart, 2011 and Castells, 2013). For example, social media played a significant role in many of the recent political uprisings in the Middle East (Khondker, 2011). Snow (2010 ) showed that Twitter presented a crucial information source in the green revolution in Iran in 2009 (which was called the Twitter revolution) and Khamis, Gold and Vaughn, (2012) illustrated that Facebook was an important mobilization tool in the Egyptian uprising of 2011.

Due to the importance of this new technology, many scholars have attempted to study social media and its effect on the society. Therefore, it was clear that, the number of research papers about social media had increased dramatically in the last years. According to Van Osch and Coursaris, (2014) the number of social media research papers that published in the databases ProQuest\(^2\) jumped from around 40 articles in 2006 to more than 300 articles in 2011. Khang, Ki and Ye, (2012) have confirmed Osch and Coursaris’s findings showing a fast rise in the sum of social media research papers issued in the fields of advertising, communication, marketing, and public relations between 1997 and 2010.

Given the importance of social media and the large number of research related to this new technology, a new area of studies entitled social media research recently created. Van Osch and Coursaris (2014) have identified 2004 as the date of birth of this new domain of study. The scholars have argued that the publication of Donath and Boyd’s (2004) paper on social network sites marked the beginning of social media research. However, other researchers, such as: Khang, Ki and Ye, (2012) and Chong and Xie (2011) have illustrated that the domain of social media research had started before that, in particular, in the middle of the 90s.

Recently, many scholars have attempted to analyze the knowledge development in the new domain of social media studies. For example, Van Osch and Coursaris, (2014, 2015) have analyzed all the social media research papers issued between 2004 and 2011. The scholars have conducted a vast research review analyzing more than 600 research papers.

\(^{1}\)“Newswire”. Social Networks Blogs Now Account for One in Every Four and a Half Minutes Online. Accessed

\(^{2}\) ProQuest is a group of databases that “provides a single source for scholarly journals, newspapers, reports, working papers, and datasets along with millions of pages of digitized historical primary sources and more than 450,000 ebooks” (http://www.proquest.com, Accessed August 30, 2015).
Furthermore, Khang, Ki and Ye (2012) have investigated the studies about social media conducted in four different academic fields: advertising, communication, marketing, and public relations. Additionally, Chong and Xie (2011) have analyzed the theoretical concepts used in social media research papers issued between 1997 and 2010. The reviews have presented social media studies as a new and immature field of study that did not develop its own theoretical and methodological knowledge.

But, why is it important to study the research development in social media studies? Based on the works of Van Osch and Coursaris (2014), Serenko and Bontis, (2004) and Serenko, et al. (2010), it is possible to give two answers to this question.

First of all, in order to develop a clear identity of social media studies, it is important to investigate the research topics, methods and theories used in this new domain of study. As Osch and Coursaris (2014) has shown, a clear identity of social media studies may positively influence the perception that several outsiders and stakeholders (such as: research grant agencies, university administrators, tenure and promotion committees, and prospective student) have about this new area of study. In particular, a lack of clear and shared image of social media studies would have a negative impact on funding, hearing and tenure decisions (Serenko and Bontis, 2004).

Secondly, a clear understanding of social media research may help the decision makers in this discipline at “examine and reexamine the core practices and assumptions of the social media domain to ensure that it progresses in the most beneficial manner with respect to impact, overall viability, and future prospects” (Van Osch and Coursaris, 2014, p. 287).

Hence, the aim of this thesis is to analyze the knowledge development in social media studies by investigating the level of paradigm development in this new domain of research. Based on the works of, Kuhn (1970), Pfeffer (1993), and Ciomaga (2012), the level of paradigm development is defined as the degree of consensus regarding methods, theoretical concepts and research topics studied in a given discipline. In other words, a field of study with high level of paradigm development would present a high level of agreement regarding research topics, methods and theoretical concepts studied in it. On the other hand, low level of paradigm development will be reflected by a high level of disagreement in a certain discipline of studies.

Therefore, in order to investigate the level of paradigm development in social media studies, a sample of social media research articles that has been published in the top ten journals of communication studies in the last five years is analyzed. In particular, research
topics, methods and theories used in those articles are investigated. Then, a cluster analysis is conducted so as to study the degree of consensus in this new domain.

This project is relevant for several reasons. First of all, it contributes to the ongoing discussion about the state of social media studies by analyzing the level of paradigm development across this field. Besides that, it gives useful insights about the state of the research of social media studies in the last five years. Finally, this study may help new scholars and outsiders to understand the new domain of social media research, its methodology and its object of study.

The thesis is organized as follows. Chapter 1 illustrates the ongoing discussion about the state of art of social media research. Chapter 2 discusses the notions of paradigm and consensus in science and presents the aim and the research questions of this project. Chapter 3 explains the research methods, the data and the sample used in this study. Chapters 4 and 5 present the results and analysis of the research. Finally, Chapter 6 gives this thesis’s conclusion.
Chapter 1

Literature Review: Social Media Studies

1.1. Introduction

In recent years, social media sites have become extremely popular (Kaplan and Haenlein, 2010). For example, in December of 2014, Facebook had an average of 1.39 billion users; Twitter, 284 million active users; and YouTube, 800 million users. Moreover, the social networking fact sheet shows that 74% of the internet users utilize social network sites; the data from the Pew show that 71% of the online adults use Facebook, and 23% of them use Twitter. The rapid spread of social media opens many questions about this new technology, and its impact on individuals, organizations and society. Therefore, a new domain of study entitled social media research has been established recently (Van Osch and Coursaris, 2015).

The aim of this chapter is to analyze the present state of this new domain of study. In particular, the chapter begins by giving a detailed definition of social media, and then gives a presentation of the scholarship produced in this new area of study. Finally, the goals of this thesis project will be illustrated.

1.2. Social Media

1.2.1. Introduction

The idea behind social media is far from innovative. In 1979 Truscott and Ellis developed the first worldwide discussion system called Usenet. This site aimed at allowing internet users to post public messages online (Danyel and Fisher, 2003). In 1997, Weinreich developed a social network site called SixDegrees that allowed people to create profiles and to have a friend list (Boyd and Ellison, 2008). Moreover, in 1998, Bruce Ableson created a social network called open diary. This site aimed at creating a virtual community for the online diary writers. Nevertheless, it was not until the development of MySpace in 2003 and

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Facebook in 2004 that social media became a globally popular instrument (Kaplan and Haenlein 2010).

It may be difficult to have a single shared definition for social media. For example, Kietzmann et al. (2011) have argued that “Social media employ mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, co-create, discuss, and modify user-generated content” (p. 241). On the other hand, Fuchs (2014) has argued that “the term ‘social media’ and ‘Web 2.0’ have in the past years become popular for describing types of World Wide Web (WWW) application, such as blogs, microblogs like Twitter, social networking sites or video/image/file sharing platforms or wikis” (p. 32). Furthermore, Kaplan and Haenlein (2010) define social media as a “group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (p. 61). All the above mentioned definitions use two keywords to define social media: Web 2.0 and user-generated content. Therefore, in order to better understand social media, these two terms are first discussed.

1.2.2. Web 2.0
Web 2.0 was defied in many different ways. For example, Grosseck (2009) has shown that “Web 2.0 refers to the social use of the Web which allows people to collaborate, to get actively involved in creating content, to generate knowledge and to share information online” (p.p. 478). Moreover, Kaplan and Haenlein (2010) have argued that Web 2.0 is “a platform whereby content and applications are no longer created and published by individuals, but instead are continuously modified by all users in a participatory and collaborative fashion” (p. 61). On the other hand, Constantinides and Fountain (2007) have defined Web 2.0 in a more detailed way:

Web 2.0 is a collection of open-source, interactive and user controlled online applications expanding the experiences, knowledge and market power of the users as participants in business and social processes. Web 2.0 applications support the creation of informal users ’ networks facilitating the flow of ideas and knowledge by allowing the efficient generation, dissemination, sharing and editing / refining of informational content. (p.232-233)

As is clear from the above definitions, Web 2.0 is characterized by the possibility of allowing internet users to participate in the creation of its content. Wikipedia is an example of Web 2.0, since it contains information created by many different internet users. On the other
hand, the online Encyclopedia Britannica is an example Web 1.0 application, since only a specific group of people can determine its content (Constantinides and Fountain, 2007). In the present study, Web 2.0 is understood as the technological platform under which social media was developed.

1.2.3. User-Generated Content

The term “User-generated content” (UGC) achieved popularity in 2005 (Kaplan and Haenlein, 2010). This term refers to the form of media that are publicly available and are created by non-professional users (ibid., p. 61). The Organization for Economic Cooperation and Development (OECD, 2007) has identified three essential requirements for UGC:

- The material must be published in public sites or in social network sites accessible to a specific group of people.
- The material must be produced with a certain level of creativity.
- The content must not be created for professional practice.
- Additionally, Balasubramaniam (2009) added a fourth condition, arguing that user-generated content outputs are created without any expectation of profit.  

The first condition excludes any forms of private communication such as email or private messages. On the other hand, the second condition excludes any form of copy-and-paste from already existing material. Finally, the last two conditions rule out content that has been created by professionals in order to gain profit. Therefore, it is possible to conclude that UGC is creative online output that is publicly accessible (although in some cases content may be restricted to a specific group of people) by non-professional users, without any expectation of gaining profits.

1.2.4. Definition of Social Media

After defining Web 2.0 and UGC, it is possible to better understand social media. It is arguable that social media is composed of new internet-based applications founded on the participatory feature of Web 2.0 in order to create and share UGC. However, there are various kinds of social media applications. For example, Kaplan and Haenlein (2010) identify six different types of social media: blogs, social networking sites (e.g. Facebook), virtual social worlds (e.g. Second Life), virtual game worlds (e.g. World of Warcraft), collaborative projects (e.g. Wikipedia) and content communities (e.g. YouTube). In the next section, these six kinds of social media applications are described separately.

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8 Other scholars have disagreed with Balasubramaniam (2009). For example, Smith, Fischer and Yongjian (2012) and Christodoulides, Jevons and Bonhomme (2012) have shown that UGC material are now widely created and used by professionals (brands) in order to gain profits.
1.3. Types of Social Media

1.3.1. Blogs

Blogs represent the earliest form of social media (Kaplan and Haenlein, 2010). However, the definition of blogs is debatable:

OECD (2007) defines a blog as a special kind of webpage that displays data-stamped entries in reversed chronological order.

- Microsoft defines a blog as an updated personal web that increases people’s ability to share ideas and information (Dearstyn, 2005).
- Harvard Law School defines a blog as a “hierarchy of text, images, media objects, and data, arranged chronologically, that can be viewed in an HTML browser” (Dearstyn, p. 39).
- Kaplan and Haenlein have defined blogs as: “Social Media equivalent of personal web pages and can come in a multitude of different variations, from personal diaries describing the author’s life to summaries of all relevant information in one specific content area” (2010, p.63).

From the various definitions abovementioned, it is possible to describe blogs as webpage that contain text, images and other media objects that aims at increasing people’s ability to present themselves online and to discuss different ideas in the cyberspace.

1.3.2. Collaborative Projects

The collaborative projects can be defined as projects that “enable the joint and simultaneous creation of content by many end-users” (Kaplan and Haenlein 2010, p.62). The idea behind the collaborative projects is that to join efforts of many actors will lead to better results than a signal actor would achieve individually. It is possible to distinguish two different kind of collaborative projects (ibid.):

- The first one is based on wiki software, and it allows users to add, change and edit text-based content. An example of this kind of collaborative project is Wikipedia, an online encyclopedia available in more than 230 languages.
- The second category is based on social bookmarking applications that “enable the group-based collection and rating of Internet links or media content” (ibid., p. 62). An example of this kind of collaborative project is the social bookmarking web service Delicious, which allows the storage of web bookmarks.
1.3.3. **Social Network Sites**

Social network sites can be defined as follows:

- web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system (Boyd and Ellison 2008).

Social network sites allow people to have a personal profile with some personal information, which are usually shared with a group of friends who are users of the same social network site. Examples of social network sites are Facebook, Twitter and MySpace.

1.3.4. **Content Communities**

The main aim of content communities is the sharing of media content between users (Kaplan and Haenlein 2010). There are various kinds of content communities that share different kinds of media material. For example, YouTube is a content community for the sharing of videos, Fiker allows the sharing of pictures and Bookcrossing allows the distributing of text-based material (ibid.). Content communities do not ask the user to create a personal profile; however, in some case they allow profiles with very basic personal information.

1.3.5. **Virtual Game Worlds**

A virtual world can be defined as “an electronic environment that visually mimics complex physical spaces, where people can interact with each other and with virtual objects, and where people are represented by animated characters” (Bainbridge, 2007). However, differing from virtual social worlds, virtual game worlds’ users are required to play according to specific rules. The users usually are represented by a personalized avatar and interact with each other as in real life. An example of this kind of social media is the world of Warcraft, a virtual game with more than 8.5 million subscribers who aim to explore the virtual planetet of Azeroth as any of a variety of humanoid races (Kaplan and Haenlein, 2010).

1.3.6. **Virtual Social Worlds**

Virtual social worlds can be considered the ultimate manifestation of social media. As with the virtual game mentioned above, virtual social worlds allow the user to create a personalized avatar permitting them to interact with other users as they would in real life.
However, virtual social worlds allow their inhabitants to choose their behavior more freely than virtual game worlds. There are not any rules for how to behave in the virtual social worlds except the basics of physics and gravity (ibid.). An example of virtual social worlds is Second Life and Minecraft.

1.4. Social Media Research

The core concepts analyzed in social media studies have been investigated by many media and communication scholars (Van Osch and Coursaris, 2014; Khang, Ki and Ye, 2012 and Chong and Xie, 2011). However, the rapid spread social network site use and Web 2.0 technology have continued to make this new field an attractive area of study. Van Osch and Coursaris (2014) estimated to 2004 to be the year of this new domain of study’s birth. They claim that the publication of Donath and Boyd’s (2004) paper on social network sites represented the birth of this new field. In addition, they posit the following:

This initial momentum was supported by a string of popular books, endorsements by respected scholars, such as Joseph Walther (Michigan State University) and Caroline Haythornthwaite (University of British Columbia) as well as practitioner icons, such as Clay Shirky and James Surowiecki, and frequent media attention for big social media corporations such as Facebook, all of which helped place the social media phenomenon at the heart of academic and mundane debates alike. (Van Osch and Coursaris, 2014, p. 286)

It is clear that this new field has developed significantly in recent years. For example, as Figure 1 illustrates, the number of research papers that include terms such as social media, social network sites and online social networks increased considerably between 2005 and 2011. Another sign of social media studies’ rise, new master’s programs aiming to investigate social media and its effect on the society have been created. For instance, a master’s entitled “Social Media and Web Technologies” was recently endorsed by Linnaeus University in Sweden.

Nevertheless, although the number of social media research is growing very strongly, it is important to underline that this new area of study has not yet become a well-established and

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9 Donath and Boyd’s (2004) papers is the first research papers that had used the term social media to refer to Internet-based tools that are founded on the principles of Web 2.0. (Van Osch and Coursaris, 2014 ) Moreover, this paper has been cited more than 1200 times (https://scholar.google.com).

http://lnue.se/education/programmes/namt2?ec_vt=English&l=en
stand-alone academic field (see Van Osch and Coursaris, 2014; Chong and Xie 2011 and Khang, Ki and Ye, 2012). It is possible to illustrate that this new discipline does not possess the statues of a mature academic field. First of all, social media studies does not have its own place in the academic curricula and department structures (except in very few places, such as the abovementioned). Besides that, social media studies does not yet have a strong theoretical or practical impact on other disciplines (ibid).

1.5. The State of Social Media Research
In order to analyze research in the domain of social media, many scholars have conducted research and literature reviews on social media research. For example, Chong and Xie (2011) published a literature review on social media. The scholars analyzed the research conducted on this new technology until May, 2010. They searched for articles that include “Web 2.0” or “Social media” or “social networking” in author-supplied keywords. The authors conducted their research using two databases: Communication & Mass Media Complete and PsycINFO.

The results of this review showed that only 38.3% of the articles analyzed were empirical articles (in the sense that empirical data was used in those papers) and that 94.4% of the authors of those articles were affiliated with related social science departments, such as psychology, media and communication and sociology. Besides that, the scholars have found that the majority of the articles analyzed did not include theory-driven research. On the contrary, Chong and Xie (2011) have shown that only five articles were theory-driven research, in the sense that those articles included research that was conducted according to a clear theoretical framework that guided the process of data collection and the interpreting of the research results.

Khang, Ki and Ye (2012) published another research review analyzing social media research conducted in four different academic disciplines over fourteen years, 1997 to 2010. The scholars studied 436 research articles that were both related to social media and published in one of those four academic disciplines: advertising, communication, marketing and public relations. The results of the research showed that the most studied research topic was the usage of social media and the attitude of people toward it. The review also specified that the second most studied topic was social media as communication tool. This research confirmed Chong and Xie’s results about the lack of theory-driven research in the domain of social media. Only about 40% of the research reviewed mentioned an explicit theoretical

11 Author-supplied keywords refer to the keywords that the authors provide for their papers.
framework. The most frequently used theories in the sample were social information processing theory (for example, Ellison, Heino and Gibbs 2006), uses and gratification theory (for example, Debatin, Lovejoy, Horn and Hughes, 2009), relationship management theory (for example, Sweetser, 2010), agenda-setting or framing theory (for example, Ragas and Roberts, 2009) and diffusion or adoption of new technology theory (Chang, Lee and Kim, 2006). The review showed also that most of the research studied was conducted with quantitative research methods, namely surveys.

Coursaris and Van Osch (2014, 2014, 2015)\textsuperscript{12} conducted a comprehensive research review analyzing research articles related to social media published from 2004 until 2011. Differing from Chong and Xie (2011), Van Osch and Coursaris decided not use any specific journal or database to find articles related to social media. The scholars argued that, in order to study the entire body of knowledge in the interdisciplinary domain of social media research, it is necessary to use a “broad set of outlets rather than a narrow subset of communication and IT journals” (Van Osch and Coursaris, 2014, p.291). Therefore, the scholars analyzed 610 peer-reviewed articles published in academic journals or presented at scientific conferences. The scholars used the database ProQuest to search articles that include one of the following keywords: social medium, social media, social network site(s), social networking site(s), and online social network(s).

Probably Van Osch and Coursaris’s research review (2014) is the most comprehensive study that documents the development of the domain of social media studies. The results of this study show that 37\% of the papers analyzed were written by a single author, whereas 27.2\% were written by two authors, 19.4\% have three authors and 16.1\% have four authors or more. The scholars have argued that those results represent an indicator of the maturity of the domain of social media research. As Inzelt, Schubert and Schubert (2009) have argued, co-authorship is a sign of academic maturity because mature scientific domains show a trend toward co-authorship due to an increase of the competition for journals space and declining acceptance rate.

However, the scholars have found other evidence that contradict the hypotheses regarding the academic maturity of social media studies. For example, the lack of theory-driven research in this domain of study may reflect a lack of the maturity in this new field. The scholars found that nearly three quarters of the research analyzed did not refer to any theory (Van Osch and Coursaris, 2015). Furthermore, the review suggests that practitioners had a

\textsuperscript{12} The scholars have presented their review in three different research papers (Van Osch and Coursaris 2014; Coursaris and Van Osch 2014 and Van Osch and Coursaris 2015).
relatively high contribution in the research activity in social media domain. Although most of the articles analyzed were produce by academics, both practitioners and practitioner institutions had strong effect on social media research. For example, the review illustrated that the second-most influential scholars in the domain of social media studies were affiliated to Microsoft. The significant role of practitioners and practitioner institutions in the domain of social media research is another sign of the lack of maturity of this area of study.

In addition, the review has illustrated that only 56.2% of the articles were empirical articles, in the sense that they used some kind of data to support their knowledge claims. The majority of the empirical papers used a quantitative research methodology (51.3%). On the other hand, 44.3% used qualitative methods and only 4.4% of the papers used mixed research methods. Moreover, the research shows that the most-used research method was the survey (45.2%), followed by the case study.

Regarding the theory used in the analyzed research papers, Van Osch and Coursaris (2014) have identified 8 theoretical perspectives that scholars used in the examined articles: 1) cooperation theory (Axelrod and Hamilton, 1981); 2) network theory (Wasserman and Faust, 1994); 3) social exchange theory (Stafford, 2008); 4) social capital theory (Bourdieu, 1972; Putnam, 2000); 5) social identity (Tajfel and Turner, 1986), social conformity (Kelman, 1958), and social influence and social comparison theory (McLeod, 2013); 6) theory of planned behavior (TPB) (Ajzen, 1991) and the theory of reasoned action (Ajzen 1980); 7) technology acceptance model (TAM) (Davis, 1989); and 8) uses and gratifications theory (Katz, Blumler and Gurevitch, 1973). These results illustrated that the majority of the theory used in social media research has its origin in field of social psychology. As Van Osch and Coursaris (2015) argue, “despite the interdisciplinarity nature of the social media domain and its central research topics, the field displays an overreliance on a single reference domain, namely social psychology” (p.1673).

Moreover, other research reviews have been conducted to analyze the body of knowledge in the domain of social media. For example, Ngai, Teo, Karen and Moon (2015) have published a research review of social media research conducted from 2002 to 2011. However, in their research review, they used keywords that did not exactly represent social media. For example, they included articles that contain keywords such as online communities, virtual communities, and social computing. Moreover, they did not clearly define the inclusion criteria for their sample. It is not clear how they could obtain a very small sample of research papers (46 papers only) by searching research papers that contain the abovementioned keywords in “Five dominant business/management academic databases [...] including
1.6. The Relevance of This Study

The above analysis presents social media as a rapidly growing and immature, new area of study. However, arguably, this domain of study will soon become a well-established academic field. Van Osch and Coursaris (2014) have pointed out that, although social media is not an academic discipline yet, neither is it a scientific fad nor is it short-lived academic hype:

Social media’s unprecedented popularity and reach, combined with its repercussions on many socio-psychological phenomena of interest to the academic community—including interactions, dating, identity, and harassment—and public concerns over privacy and security, provided the perfect ingredients for a new field with a promising future. (p. 286)

Given the importance of this new domain of studies, many scholars have attempted to analyze its development. For example, based on bibliometrics and scientometrics literature (cf., Garfield, 2009; Leydesdorff, 1989; Leydesdorff and Besselaar, 1997; Serenko and Bontis, 2009) and on organizational identity theories (Sidorova, Evangelopoulos, Valacich, and Ramakrishnan, 2008), Van Osch and Coursaris (2014) have shown that it is important to established the identity of social media, as a field of study, rather than letting it evolve on its own. The scholars have argued that “an understanding of the identity, evolution, and dominant research practices of a particular scientific domain affects the subsequent behavior and decisions of scientists and practitioners operating in the same domain” (p. 286). In other words, the identity of the field of social media would influence the selection of research topics and the theoretical concepts and scientific methods used in it. Secondly, the scholars have shown that a clear identity is positively correlated with the image that outsiders and stockholders have about social media studies. The lack of a positive and clear image about this field would negatively influence funding, hiring and tenure decisions (Serenko and Bontis, 2004). Finally, Van Osch and Coursaris (2014) have shown that a clear understanding of social media identity may help decision makers in the field to “examine and reexamine the core practices and assumptions of the social media domain to ensure that it progresses in the most beneficial manner with respect to impact, overall viability, and future prospects” (p. 287). Many research reviews have been conducted to study the research development of
social media studies. However, as the above mentioned analysis has shown, all those reviews have used a descriptive approach. Scholars have documented research methods, theoretical concepts and research topics examined in social media studies. On the other hand, this thesis aims to analyze the research development of this new domain by using a different approach. In particular, this study aims to investigate the level of paradigm development in the domain of social media studies. However, before illustrating the goal of this study, the notion of paradigm should be investigated first. The next chapter will discuss the concept of paradigm and present the aim and the research question of this project.
Chapter 2
Theoretical Framework
Paradigm and Consensus in Science

2.1. Introduction
The concepts of paradigm and consensus in science were developed by Thomas Kuhn in 1962. The scholar showed that consensus represents the necessary basis for the progress of any scientific knowledge. He argued that the research activity is always governed by certain frameworks that serve to define what is scientifically relevant and what is not. Kuhn called those frameworks paradigms.

This chapter discusses the concept of paradigm and its application to the fields of social science. In particular, the chapter first presents Kuhn’s notion of the paradigm and consensus in science. Afterwards, the arguments and counterarguments regarding the application of the paradigm to social science are presented. Finally, this chapter examines a new definition of consensus developed by Ciomaga (2012) that takes into consideration the pluralistic nature of the social sciences.

2.2. The Notion of Paradigm
2.2.1. Introduction
The concept of the paradigm was developed by Kuhn in *The Structure of the Scientific Revolution* (1970), where he argued that scientific development passes through three main phases: a period of normal science, followed by a phase of crisis, which culminates in a scientific revolution. For Kuhn, normal science refers to the ordinary work that scientists conduct within a pre-established explanatory framework. In other words, “normal science means research firmly based upon one or more past scientific achievements, achievements that some particular scientific community acknowledges for a time as supplying the foundation for its further practice” (Kuhn 1970, p.10). Kuhn called those past scientific achievements paradigms.

However, not all research problems can be solved within the dominant paradigm, and when the number of these unsolved problems increases, the scientific community enters the crisis stage. In this stage, the scientific community realizes that the dominant paradigm is unable to effectively solve important research problems. Hence, this crisis stage leads to the final stage in Kuhn’s model, namely the revolutionary phase.
In the revolutionary phase the dominant paradigm is rejected, and a new one is developed, one with a better ability to solve the unsolved research problem encountered in the crisis stage. Kuhn underlines the importance of the process of paradigm shift arguing as follows:

Led by a new paradigm, scientists adopt new instruments and look in new places. Even more important, during revolutions scientists see new and different things when looking with familiar instruments in places they have looked before. It is rather as if the professional community had been suddenly transported to another planet where familiar objects are seen in a different light and are joined by unfamiliar ones as well (Kuhn 1970 p. 111).

In other words, the process of paradigm shift changes the way in which scientists understand the object of study and the research methods studied in a given academic field.

2.2.2. The Definition of Paradigm

One of the most common critiques of Kuhn’s model is its lack of a clear and shared definition of paradigm (Masterman, 1970). Kuhn himself admitted this limit, arguing that he used the notion of paradigm in two distinct senses:

On the one hand, it stands for the entire constellation of beliefs, values, techniques, and so on shared by the members of a given community. On the other, it denotes one sort of element in that constellation, the concrete puzzle-solutions which, employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzles of normal science. (Kuhn, 1970, p. 175)

Other scholars, such as Masterman (1970), have found that Kuhn used the notion of paradigm in twenty-one different ways. Nevertheless, Masterman has shown that all those usages fall into one of the following three categories:

- Metaphysical or metaparadigmatic definition: Describes a paradigm as the unquestioned presuppositions that are shared by all the members of certain scientific community. Kuhn did not overtly use such definition; however, Masterman found it in abundance in Kuhn’s work (Eckberg and Hill 1979).
- Sociological paradigm: Represents the first of Kuhn’s definitions mentioned above. Accordingly, a paradigm is the “entire constellation of beliefs, values, techniques, and so on shared by the members of a given community” (Kuhn, 1970, p. 175).
Artifact paradigm: This is the most concrete usage of this notion, which defines a paradigm as models or examples that lead the research activity in a given scientific community.

The vagueness of the notion of paradigm makes it difficult to use it empirically. Based on the level of generality used to define paradigm, a given discipline can be considered paradigmatic, pre-paradigmatic\textsuperscript{13} or multiple paradigmatic\textsuperscript{14}. For example, Effrat (1972) has argued that sociology is a pre-paradigmatic discipline since. According to him, sociology both does not have a dominant paradigm yet but also does have the appropriate preconditions for the eventual development of a dominant paradigm. On the other hand, Douglas (1971) has argued that sociology is a multiple paradigmatic discipline. As a result, later scholars have argued that it is impossible to have a single dominant paradigm in the field of sociology due to the complexity of its object of study.

It is thus clear that the notion of paradigm can be operationalized in many different ways. However, given that the aim of this project is to empirically study the level of paradigm development in the domain of social media research, the most concrete definition of paradigm will be used (artifact definition of paradigm). This project does not aim to study the constellation of beliefs or the unquestioned prepositions shared by the social media scholars, but rather to study the exemplars of theory and research methods that have shaped social media research in recent years. In other words, the goal of this study is to analyze the level of paradigm development of social media studies by analyzing the degree of consensus regarding methods, theories and topics studied in this field.

2.3. Paradigm Development and Consensus in Social Science

2.3.1. Development of Science and Consensus

Kuhn underlined the importance of paradigms for the development any scientific community, arguing that “in the absence of a paradigm or some candidate for paradigm, all the facts that could possibly pertain to the development of a given science are likely to seem equally relevant” (Kuhn 1970 p. 15). Paradigms play a crucial role in the development of any scientific knowledge since they represent the demarcation criteria to differentiate between

\textsuperscript{13} Pre-paradigmatic stage of the development of science refers to a stage where there are more than one dominant paradigms competing in certain scientific community. The pre-paradigmatic stage usually precedes the establishment of normal science, where only one dominant paradigm guides the research activity in a given scientific community (Kuhn 1970).

\textsuperscript{14} Multiple paradigmatic refers to a scientific community where there is more than one dominant paradigm that leads scientific activity (Kuhn 1970).
what is scientifically relevant and what is not. Kuhn underlines the importance of such demarcation criteria, illustrating that “no natural history can be interpreted in the absence of at least some implicit body of intertwined theoretical and methodological belief that permits selection, evaluation, and criticism” (Kuhn 1970, p. 16-17).

Besides that, many other scholars have underlined the importance of consensus for the development of the scientific knowledge (Cole, 1983, Pfeffe, 1993 and Webster and Starbuck 1988). For example Pfeffe (1993) has argued that it is impossible to produce any kind of scientific knowledge without having a minimal level of consensus about the research questions investigated and the scientific methods used to do so. Cole (1983) confirms Pfeffe’s position arguing that:

Accumulation of knowledge can occur only during periods of normal science which are characterized by the adherence of the scientific community to a paradigm. It is only when scientists are committed to a paradigm and take it as the starting point for additional research that progress can be made. Without agreement on fundamentals, scientists will not be able to build on the work of others and will spend all their time debating assumptions and first principles. ... Most new and contradictory ideas prove to be of little value. If scientists were too willing to accept every unorthodox theory, method, or technique, the established consensus would be destroyed, and the intellectual structure of science would become chaotic. Scientists would be faced with a multitude of conflicting and unorganized theories and would lack research guidelines and standards. (Cole 1983 p.134)

In other words, both the scholars have underlined the necessity of consensus for the development of science. Webster and Starbuck (1988) have adopted a similar line of reasoning, criticizing the absence of theoretical consensus in social science. The scholars have invited social scientists to identify a shared body of theories that represent guidelines for their research activity. They have argued that a set of shared theories can help social scientists to “project their findings into shared perceptual frameworks that reinforce the collective nature of research by facilitating communication and comparison and by defining what is important or irrelevant” (Webster and Starbuck 1988 p. 127).

Empirical studies have confirmed the advantage of the scientific fields that have high levels of paradigm development. For example, Lodahl and Gordon (1973b) have discussed the effect of level of paradigm development on the funding that a given academic field
possesses. The scholars have found that the discipline of physics obtains much more funding than social sciences. They have argued that this fact is not surprising, since policy makers and universities tend to invest in the more developed scientific disciplines, which can give them clear and certain results.

Furthermore, Pfeffer and Moore (1980b) have confirmed Lodahl and Gordon’s results, finding a positive relationship between paradigm development and resource allocation in two campuses at large US universities. Moreover, Lodahl and Gordon (1973a) have found a relationship between the level of paradigm development and the allocation of resources between departments. They have found that:

The more distinguished physical science departments enjoy three times the overall funding of lower-quality physical science departments, while the more distinguished social science departments have only one and one-half times the overall funding of their less-distinguished counterparts (Lodahl and Gordon 1973a p. 196).

Moreover, others scholars, such as Yoels (1974), have found that social ties play a more significant role in fields with low paradigm development. Yoels (1974) discovered that the selection of editors in social science journals is subject to more “particularistic” criteria than in the natural sciences and physics. This result was confirmed by Lindsey (1976), who has found that in a field with a higher level of paradigm development, more universalistic, objective and quality-based criteria are used for the selection of journals’ editorial boards. Moreover, Pfeffer and Moore (1980a) have illustrated that there is a relationship between the turnover of the heads of academic departments and the departments’ levels of paradigm development. Pfeffer has offered this argument:

Paradigm development is, after all, an indicator of consensus. The greater the consensus and the greater the certainty on the connections between actions and their consequences, the less the conflict, and the less the conflict, the less either voluntary or involuntary turnover in leadership positions there will be. (1993, p. 604-605)

Similarly, other research has shown a relationship between journals rejection rates and the level of paradigm development. For example, Hargens (1988) has shown that the number of rejected papers in highly paradigmatic field is lower than the rate of rejected papers in a field with less well-established paradigms. Additionally, Pfeffer and Langton (1993) have shown a relationship between the levels of paradigm development and the collaborations between
scientists. In a field with a higher level of paradigm development, the scholars could have a more developed pattern of collaboration. Beyer and Lodhl (1976) have confirmed Pfeffer and Langton’s results, arguing that “faculty members who have more consensuses can form stronger and more effective coalitions than those in fields rife with internal conflicts” (p. 114).

2.3.2. **Consensus in Social Science**

Is it possible to use the concept of paradigm development in the social sciences? Kuhn himself was skeptical about the existence of a dominant paradigm in the social sciences. As he argued:

> The final stage in the development of this essay began with an invitation to spend the year 1958-59 at the Center for Advanced Studies in the Behavioral Sciences. [...] [S]pending the year in a community composed predominantly of social scientists confronted me with unanticipated problems about the differences between such communities and those of the natural scientists among whom I had been trained. Particularly, I was struck by the number and extent of the overt disagreements between social scientists about the nature of legitimate scientific problems and methods. (1970, p. vii-viii)

The scholar underlined the difficulty of developing a high level of agreement in the social sciences. Other social scientists have criticized the application of the concept of a paradigm in the social sciences. For example, Flyvbjerg (2005) has resisted the idea:

> Kuhn’s concepts regarding paradigm change, that is, a new paradigm substituting for an older one after a scientific revolution, were developed to fit natural science, and they confuse rather than clarify when imported into social science. In my analysis, social science is non-paradigmatic and is neither relatively cumulative nor relatively stable. (p. 40)

It is clear that many scientists had have criticized the usage of the concept of paradigm in social science. In the next section, a mapping of the most relevant critiques of the concept of a paradigm as applied in the social sciences is presented. Afterwards, a new definition of consensus in the social sciences, developed by Ciomaga (2012), is explained.
2.3.3. **Counterarguments Supporting Consensus in Social Science**

**A) Complexity of the object of study of social science:**

Many scholars have argued that it is impossible to obtain any kind of consensus in the social sciences due to the complexity of its object of research. Differing from the natural sciences, the social sciences aim at analyzing a very sophisticated research object such as the human behavior (Denisoff, Callahan and Levine 1974). Indeed, it is simpler to analyze the molecular structures of a certain atom than to understand the ways in which human beings develop certain feelings or change given attitudes. Friedrichs (1970) has argued that the concept of the paradigm was originally created in studying the development of research in academic fields with a relatively simple object of study (such as natural science and physics). However, in academic fields like the social sciences, where the research object is highly sophisticated, it seems impossible to develop a high level of consensus that leads to a dominant research paradigm (see also Lehman and Young 1974; Astley 1984, 1985; and Becher 1989, 1994).

**B) Normative Implications**

The main point of this objection is that a single dominant paradigm in a given field of study will have negative implication on the diversity of the research activity in this field. In other words, the idea that all the members of a given scientific community should agree under one dominant paradigm will negatively affect the diversity of research and creativity in this field, as Maanen (1995) has argued:

> In simple moral terms, the idea that we should somehow look toward paradigmatic consensus for our salvation is wrong. Even if such a world were possible (which it is not), it would be a most uncomfortable place to reside. It would be a world with little emancipatory possibilities, a world with even tighter restrictions on who can be published, promoted, fired, celebrated, reviled than we have now. (p. 689)

In other words, the scholar has argued that it will be wrong and unmoral to aim of a paradigmatic consensus. According to him, a disciple with high level of paradigm development will exclude scholars with different opinions, therefore innovative scholarship runs the risk of being ignored and marginalized. (see also, Anderson, 1998).

**C) Subjective Knowledge**
This argument is based on the postmodernist definition of knowledge. Scholars who adopted this position refused the positivistic understanding of scientific knowledge as a reflection of an objective and independent study of the reality. On the contrary, they argue that the scientific knowledge is simply a socially constructed phenomenon influenced by power relationships and cultural backgrounds (Clegg and Ross-Smith 2003; Bauman, 1989; Lyotard, 1984; and Butler, 2003). Therefore, since it is impossible to define an objective and independent reality (but rather an infinite number of subjective and relative realities), it is impossible to achieve any kind of consensus in science. Scholars who adopt this position radically refuse the notion of consensus in both social and natural science (see, for example, Maanen, 1995).

2.3.4 A New, More Modest Idea of Consensus in Science

After discussing the three main arguments against the usage of the concept of paradigm in social science, it is still legitimate to ask whether it is possible to use this notion to study fields of social science. Many scholars have stressed the necessity of giving up the attempts to speak about consensus in the social sciences. Particularly, many postmodernist scholars have heavily criticized consensus in science, arguing that consensus will serve only to discriminate and marginalize scholars with different research interests (Maanen, 1995).

However, as Kuhn argued, it is impossible to develop any scientific knowledge “in the absence of at least some implicit body of intertwined theoretical and methodological belief that permits selection, evaluation, and criticism” (Kuhn 1970, p. 16-17). It is crucial to develop a certain level of consensus about research questions and both theoretical and methodological avenues taken in a given academic field. Otherwise, evaluating, selecting and criticizing any scientific work would be unattainable. It would be impossible to distinguish between what is scientifically relevant and what is not. Moreover, as the empirical evidence above showed, academic fields with high level of consensus are better organized, have less power conflicts and are perceived as more serious.

Nevertheless, the question remains open; how is it possible to get a high level of consensus in fields in highly pluralistic fields such as the social sciences? Ciomaga (2012) dealt with this issue in his modified notion of convergence in science. He abandons “the claim that science needs to strive for a single unifying paradigm and for consensus” (p. p.21). Ciomaga (2012) criticizes the monolithic idea of science that claims science can be governed by only one dominant paradigm. As many of the abovementioned critiques for consensus in
social science have illustrated, plurality is an essential element in social science. Ciomaga takes the plurality of social science into consideration in his new notion of consensus:

Consequently, the new, more modest, account of convergence I am proposing here no longer makes the connection between a strong science and paradigmatic unity, but rather allows for multiple areas of convergence (defined, following Kuhn, as areas of contributions similar in concepts, methods, and areas of interest), which can be very different in terms of fundamental theoretical and methodological commitments. In this new image of science, convergence exists within clusters of similar works, although not necessarily between them. (p.p. 22)

Ciomaga’s conception of convergence in science shows that, although it is impossible to have a high level of consensus across a given field of the social sciences, it is still possible to identify small areas of convergence within the same field that share a high level of consensus. The area of convergence can be defined as a cluster of scholarship that shares the usage of the same theoretical concepts, research methods and research topics. The argument is, in other words, that the level of consensus should not be measured across the whole discipline, but across clusters of similar work (area of convergence) within it. By applying this understanding of consensus to social science, it is possible to argue that the paradigms are not exemplars that guide the scientific activity across a given field of study, but, rather they are exemplars that lead the research activity in clusters of similar works within that field of study. Given the pluralistic nature of social science, it is arguable that Ciomaga (2012) notion is suitable to study the level of paradigm development in those fields of studies.

2.4. Research

As it was mentioned in Chapter 1 the aim of this project is to analyze the level of paradigm development in social media studies. Based on the work of Pfeffer (1993), Kuhn (1970) and Thompson and Tuden (1959), it is possible to define the level of paradigm development as the degree to which certain research topics, research methods and theoretical concepts are shared by the members of a given scientific community. In other words, a field with a high level of paradigm development would have high degree of consensus regarding the research topics, research questions and research methods studied in it. On the other hand, low level of paradigm development would be reflected in a low level of consensus in a given field of study.
However, Ciomaga (2012) he has argued that the consensus in social science is not established across a whole field of study, but rather within small areas of convergence in it. Each one of those areas of convergence contains clusters of scholarship that use similar theoretical concepts, research methods to study the same research topics. Therefore, applying those concepts to social media studies makes it possible to argue that this area of research would have a high level of paradigm development if it contained areas of convergence between research that share the usage of similar theoretical concepts, and research methods in order to study the same research topics.

However, it is important to underline the difficulty of analyzing the whole body of knowledge produced in social media studies. Social media is a highly interdisciplinary domain that includes researchers from many different fields who publish their studies in various academic journals. Adding further complication, this new domain of study has not yet developed a formal list of Peer-review outlets\textsuperscript{15} that collect the most relevant social media research.

Given this fact, many scholars have used different approaches to study the body of knowledge produced in social media studies. For example, Van Osch and Coursaris (2014) have used keywords, such as social media, social medium and social network, to identify social media research in a database named ProQuest. On the other hand, other scholars such as Khang, Ki and Ye, (2012) have analyzed research in social media published in journals related to specific academic fields (namely marketing, communication, advertising and public relations).

However, this thesis seeks to analyze the body of social media scholarship produced in the field of communication studies. The field of communication studies has been chosen for two reasons. First of all, a substantive number of social media research papers were published in communication-related journals (see Van Osch and Coursaris, 2015; and Chong and Xie, 2011). The abovementioned analyses showed that the field of study containing the highest number of social media studies was communication studies.

Secondly, Coursaris and Van Osch’s (2014) review states that from 2004 to 2011 the majority of the most relevant social media research was published in communication-related journals. For example, the scholars have illustrated that the most-cited social media research published from 2004 to 2011 appeared in communication-related journals (Coursaris and Van Osch 2014). Moreover, they have stated that, about half of the most-cited social media

\textsuperscript{15} There are some peer-review social media outlets, such as convergence and \textit{The Journal of Social Media in Society}; however, those journals are quite new and are not yet well-developed.
scholars in the same period were affiliated with a department of communication studies (ibid.).

Another crucial issue that this project had to address is the research sample analyzed. The above-mentioned research reviews used a different research sample. For example, Van Osch and Coursaris (2014) have analyzed social media research produced from 2004 to 2011, since according to them social media as an area of study arose in 2004. On the other hand, Chong and Xie (2011) and Khang, Ki1 and Ye (2012) have studied social media studies published as early as 1996.

Ideally, in order to better understand the development of social media studies, the best sampling plan for this study would include social media research that had been produced from end of the 1990s (since as Chong and Xei (2011) and Khang, Ki and Ye, (2012) have shown, few social media research papers were published in the 1996 and 1997) until now. Nevertheless, for given the limited time and recourses available for this project, this plan would be impossible to execute. This study will analyze social media research produced in the last five years. This period of time was chosen for three reasons. First of all, it will document the most recent research development in social media. Secondly, it will present an original contribution to the literature, since no study has yet investigated social media research produced in that period of time. Finally, a period of five years represents a broad sample of articles that would ensure the consistency and validity of the research results (Conti and Marella, 2012).

It is clear that this sampling plan has its limits. First of all, it excludes social media scholarship that has been published in other academic fields. Moreover studying research papers issued in the last five years would limit the explanatory power of this study (Schupbach and Sprenger, 2011). In other words, analyzing social media research that was produced only in the last five years will not capture the full process of paradigm development in this domain of study.

Nevertheless, the value of this project lies in producing a primary analysis of the structure, the level of consensus in the domain of social media research. The results of this study can be used as empirical evidence to guide more comprehensive and complete studies analyzing the development of this new domain of research.

In particular, this project aims at answering the following research question:

- What has the level of paradigm development of the domain of social media research been in the last five years?

In order to do so, five research sub-questions are addressed:
1. What are the research topics that have been studied in the domain of social media in the last five years?

2. What are the research methods that have been used to study the domain of social media in the last five years?

3. What are the theories that have been studied in the domain of social media in the last five years?

4. Is it possible to identify clusters of similar works that share the same theoretical framework, research methods and areas of interest in the field of social media studies?

5. If yes, what are those areas of convergence?
Chapter 3
Methods

3.1 Introduction
This thesis aims to examine the level of paradigm development in the domain of social media studies. In order to do that, the thesis analyzes a sample of social media research papers published in communication-related journals in the last five years. In this chapter, the sample and the research methods used in the study will be presented. Two research methodologies were used to analyze the articles: content analysis and cluster analysis. Content analysis was employed to investigate the content of the research sample. On the other hand, cluster analysis was utilized to analyze the level of consensus regarding methods, research topics and theoretical concepts studied in the articles. The chapter begins by presenting the sampling plan of this thesis; afterwards, the selected articles are presented, and finally the research methods are discussed.

3.2 Sample
3.2.1 Data
In order to analyze the body of knowledge in the domain of social media, a sample of research articles published in communication-related journals in the last five years was analyzed. Many scholars have used databases that cover the field of communication studies (such as “Communication & Mass Media Complete”) to find articles about social media. For example, in their research review about social media, Chong and Xei (2011) have used the datasets “Communication & Mass Media Complete” to identify research papers about social media. However, in using this approach the scholars did not consider the quality of the papers analyzed. In other words, they studied all the papers that contained a specific keyword such as “social media” or “Facebook” without considering the quality and the impact of the articles analyzed. Any article that contains those keywords would be included in the sample; even if it was procured by an eminent media scholar or by a new and inexperienced researcher. Given the aim of this study, it was decided to analyze articles that had a strong impact on social media studies. Analyzing articles that had shaped this new field, will give a better representation of the recent development of social media studies and it may present also useful insights about the future development of this field of studies. Hence, in order to that, only research articles issued in one of the top ten journals of communication studies was
studied. Journal Citation Reports (JCR) was used to identify the top ten journals in the field of communication studies. It is possible to define JCR as a report that does the following:

Offers a systematic, objective means to critically evaluate the world's leading journals, with quantifiable, statistical information based on citation data. By compiling articles' cited references, JCR helps to measure research influence and impact at the journal and category levels, and shows the relationship between citing and cited journals.\(^\text{16}\)

However, the “Article Influence Score” (AIS) was used to rank communication journals included in JCR. This score was used, since it would rank the journals according to the impact and the quality of the articles published in it. In particular, AIS is an index that uses the Eigenfactor Score to analyze the impact of different academic journals. Eigenfactor Score is:

\[
\text{Based on the number of times articles from the journal published in the past five years have been cited in the JCR year, but it also considers which journals have contributed these citations so that highly cited journals will influence the network more than lesser cited journals. References from one article in a journal to another article from the same journal are removed, so that Eigenfactor Scores are not influenced by journal self-citation.}\(^\text{17}\)
\]

AIS uses the Eigenfactor to determinate the influence of a given academic journal over a period of five years. In particular, AIS is determined by “Dividing a journal’s Eigenfactor Score by the number of articles in the journal, normalized as a fraction of all articles in all publications.”\(^\text{18}\) This measure is similar to the 5-Year Journal Impact Factor used widely to analyze the impact of a given scientific articles or certain academic journal.\(^\text{19}\)

The mean of Eigenfactor Score is 1.00. A score higher than 1 indicates that each article in that journal has a higher impact that the average. On the other hand, a score less than 1 indicates that each article has below-average influence.\(^\text{20}\)


\(^{17}\) ibid.

\(^{18}\) ibid.

\(^{19}\) ibid.

\(^{20}\) ibid.
Table 1 shows the list of the top ten academic journals in the field of communication research according JCR (2013). The journals have been ranked according their AIS. As it was mentioned before, AIS reflects the impacts of certain group of articles on a given academic field. In other words, this index ranks the journals based on the impact that their articles had on a certain field of study. Therefore it is arguable that, this approach will allow the identification of the most relevant social media articles published in communication related journals in the last five years. Studying this sample of articles would increase the possibility of studying some of the most influential articles in social media studies.

Nevertheless, it is important to underline that this approach have several limitations. First of all, studying only social media research that has been published in the top ten journals of communication will give a bias representation of social media research. It is possible that only specific kinds of articles are accepted in those journals (for example, articles that had high level of originality or articles that used certain research methodology). Moreover it maybe that, some types of scholarships would be underrepresented in those journals (such as critical and the feminism studies). However, as it was mentioned before, this study does not claim to conduct a comprehensive research about the state of social media research, neither it claims to give an exact picture about the knowledge produced in this new area of study (which it is impossible in any case). Nevertheless, it is arguable that, studying social media research articles that has been published in a group of elite journals would give useful insights about the development and the future research trends in this domain of study (see Garfield, 2006).

Table 1. List of the top ten journals in the field of communication research according JCR (2013).

<table>
<thead>
<tr>
<th>Rank</th>
<th>Journal name</th>
<th>Article Influence Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Public Opinion Quarterly</td>
<td>2.603</td>
</tr>
<tr>
<td>2</td>
<td>Research on Language and Social Interaction</td>
<td>1.873</td>
</tr>
<tr>
<td>3</td>
<td>Journal of Computer-Mediated Communication</td>
<td>1.802</td>
</tr>
<tr>
<td>4</td>
<td>Communication Monographs</td>
<td>1.737</td>
</tr>
<tr>
<td>5</td>
<td>Political Communications</td>
<td>1.697</td>
</tr>
<tr>
<td>6</td>
<td>Journal of Communication</td>
<td>1.567</td>
</tr>
<tr>
<td>7</td>
<td>Communication Research</td>
<td>1.451</td>
</tr>
<tr>
<td>8</td>
<td>Human Communication Research</td>
<td>1.327</td>
</tr>
<tr>
<td>9</td>
<td>The International Journal of Press/Politics</td>
<td>1.254</td>
</tr>
<tr>
<td>10</td>
<td>New Media &amp; Society</td>
<td>1.093</td>
</tr>
</tbody>
</table>
As it is clear from Table 1, all the journals have an article influence score that is more than one, which means that each article in those journals has a higher-than-average influence.

3.2.2. Article Selection Criteria

In order to find a research article about social media published in those journals, a two-stage sampling plan was used. First of all, all the research articles that have been issued in those journals from January 2010 until December 2014 have been downloaded using the reference management software Zotero. In total, 1400 research articles were downloaded and formed the initial database. Afterwards, all the research articles that contained in their abstracts keywords related to social media were selected. The number of the articles found that contain those keywords was 227. However, based on the content found in those articles, it was possible to eliminate 30 articles as irrelevant. The remaining 197 articles formed the final sample of this research.

3.3.2. Keywords

In the previous literature reviews from other authors, keywords such as social media and social network sites have been used to find research papers about social media. For example, Van Osch and Coursaris (2014) have searched articles that contain these keywords: social media, social medium, social networking site(s) and online social network(s). However, as Kaplan and Haenlein (2009) have noted, social media can be classified into six different categories: blogs, social network sites, virtual social worlds, virtual game worlds, collaborative projects (e.g. Wikipedia) and content communities (e.g. YouTube).

Therefore, based on Kaplan and Haenlein’s (2009) definition of social media, a more general approach was adopted to find research about social media. In particular, the following keywords were used: social media, social medium, social networking site(s), social network site(s), online social network(s), Facebook, Twitter, YouTube, You Tube, blog, Wiki, Wikipedia and virtual world. Through this list keywords, it was possible to find research articles that had studied all six kinds of social media specified by Kaplan and Haenlein (2009). The final sample of the thesis was formed of 197 research articles, all published in English and containing in their abstracts one of the keywords mentioned above.
3.3. Methods
In order to answer the research questions, two different research methods were used: content analysis and cluster analysis.

3.3.1 Content Analysis
Content analyses can be defined as “a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (Krippendorff, 2004, p.18). Content analysis methodology was used to analyze the sample of the research articles. Given the aim of this study, the following information was coded for in the research sample:

- General information about the articles;
- Content of the articles;
- Theory used in the articles;
- Research methods used in the research;
- Development of the research agenda according to Wimmer and Dominick’s (2010) model.

A. General Information about the Articles
This section aimed at identifying essential background information about the articles:

- The year of publication of the journals;
- The name of the journal;
- The number of the authors for each article;
- Article type: Two types of articles were codified:
  1. Empirical Article: defined as
     Studies collecting, analyzing, and presenting empirical data to support the research questions, theoretical framework, or arguments made in the paper. Findings are based on knowledge of direct or indirect observation, analysis, or experience For example, the paper uses data from a survey (numbers/statistics) or excerpts from interviews or other texts to support arguments and further describes how these surveys/interviews were designed and distributed. (Van Osch and Coursaris, 2014, p. 306)
  2. Conceptual articles: defined as “Studies that do not collect, analyze, or present empirical data in support of research questions, theoretical
framework, or arguments made in the paper. Findings are based on logic or theory” (ibid.).

B. Content of the Articles

This section aimed to analyze the main content of the articles, the following in particular:

- Research topics: the primary research object(s) stated in the articles;
- Social media type: the type of social media application analyzed in the articles.

C. Theory Used in the Article

This section analyzed the usage of theories in the research sample, particularly the following:

- Usage of theory: this variable was to identify whether the research was theory driven or not. According to Chong and Xei (2011), theory-driven research should have the following attributes:
  - use a theory to guide study design, data collection, and then use the data to determine if the data match well with the theory to determine whether the data are valid or whether the theory needs to be revised based on the data. (p.9)
- Name of theory: this variable was to identify the theories used in the analyzed research papers.

D. Research Methods

This section had the goal of examining:

- Research methods: this variable was to identify the research methods used in research (for example, interview, survey, case study, etc.)
- Hypothesis: this variable was to analyze whether a clear hypothesis was given in the research or not.

E. Development of the Research Agenda in Social Media Research

Wimmer and Dominick (2000) have proposed a four-phase evolutionary model to study the research development regarding any new medium of communication. In the first phase, the new medium of communication is still unknown to the researchers, so research is mainly focused on the medium itself and its characteristics. Scholars ask questions such as, “what is this new medium of communication?” and “how does it work?”
In the second phase, the scholars become more familiar with the new medium, so they start asking questions about its usage and user: for example, “how do people use this medium?” and “who are the users of this medium?” In the third phase, the researchers study the effect of the new medium of communication. They investigate research questions such as, “how does the new medium affect people, organizations and society?” and “what are the harmful effects of this new medium?” Finally, in the fourth phase, scholars study the development of the new medium of communication, and questions are asked about how it is possible to improve the structure or the content of the new medium.

This model was used to study the development of research concerning new mediums of communication. For example, Kim and Weaver (2002) have used this model to analyze academic research about the internet. In addition, Khang, Ki and Ye (2012) have used it to evaluate the development of social media research in the fields of advertising, marketing, public relations and communication. Given the aim of the present study, it was decided that this model would be used to analyze social media research, and in particular the analyzed papers were classified in one of the following categories:

- Research about social media itself (Phase 1): What is social media? How does it work? What are its technical and social features?
- Research about uses and users of social media (Phase 2): Who uses social media? How do people and organizations use it? How does the user perceive and understand social media?
- Research about the effect of social media (Phase 3): How has social media influenced people, organizations and communities? How has social media affected politics, economics and social relationships?
- Research about how social media can be improved (Phase 4): How can certain technological features of social media be improved?

### 3.3.2 Cluster Analysis

Cluster analysis can be defined as follows:

An exploratory data analysis tool for organizing observed data (e.g. people, things, events, brands, companies) into meaningful taxonomies, groups, or clusters, based on combinations of IV’s (individual values), which maximizes the similarity of cases within each cluster while maximizing the dissimilarity between groups that are initially unknown. (Burns and Burns, 2009)
In other words, this method of analysis categorizes a given group of data into different clusters, such that each cluster should contain items similar to each other and dissimilar to the items in the other clusters. Figure 2 shows a visual illustration of the clustering technique.

![Figure 1. Visual Illustration of the Cluster Analyses Technique](image)

<table>
<thead>
<tr>
<th>Objects</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>15</td>
<td>16</td>
<td>14</td>
<td>25</td>
<td>27</td>
<td>26</td>
</tr>
<tr>
<td>Clusters</td>
<td>Cluster 1</td>
<td>Cluster 2</td>
<td>Cluster 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As is clear from this illustration, objects with a similar score are grouped in the same cluster. For example, objects A, B and C have similar scores; therefore they are grouped together in the first cluster, and the same pattern can be noted regarding clusters 2 and 3.

Cluster analysis was used in order to investigate the level of consensus in the articles by identifying clusters of research that share use of the same theoretical concepts, research methods and research topics. A more detailed explanation of this research technique is presented in Chapter 5.

### 3.4 Data Collection and Analysis

All the articles were collected though the reference management software Zotero Standalone 4.0 *for windows*. Furthermore, the software *SPSS version 21.0* (Statistical Package for Social Science) was used for the analysis of the data.21

### 3.5. Research Design

As it was above mentioned this study aim at answering the following research question:

- What is the level of paradigm development in the domain of social media studies in the last five years?

In order to do that, five research sub-questions are addressed:

1. What are the research topics that have been studied in the domain of social media in the last five years?
2. What are the research methods that have been used to study the domain of social media in the last five years?

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21 A complete list of the articles analyzed is found in Appendix I
3. What are the theories that have been studied in the domain of social media in the last five years?

4. Is it possible to identify clusters of similar works that share the same theoretical framework, research methods and areas of interest in the field of social media studies?

5. If yes, what are those areas of convergence?

In order to answer the research questions a sample of social media research articles that has been published in the top ten journals of communication studies in the last five years was analyzed. In particular, the methodology of content analysis was used in order to answer the first three research sub-questions. In other words, content analysis was used to investigate the theories, methods and topics studied in the sample of social media research papers. Afterwards, the methodology of cluster analysis was utilized to answer the last two research questions. As it was mentioned before, social media studies would have a high level of paradigm development if it contains clusters of similar works the share the usage of similar theories, methods and topics (Kuhn, 1970 and Ciomaga, 2012). In order to identify those clusters of similar works, the methodology of cluster analysis was used.\textsuperscript{22} Using three clustering variable (research methods, research topics and usage of theories)\textsuperscript{23} it was possible to identify the clusters of similar works introduced by Ciomaga (2012) and Kuhn. By analyzing those clusters, it was possible to study the level of paradigm development in social media studies.

\textsuperscript{22} More detailed explanation of the procedure of cluster analysis is given in chapter 5.

\textsuperscript{23} Those three variables have been identified through the analysis of the sample of the articles studied in this project.
Chapter 4
Analysis of the Research Articles Selected

4.1. Introduction
The aim of Chapters 4 and 5 is to present the results of this project. Chapter 4 analyzes the sample of the research articles selected. The goal of this analysis is to answer the research questions related to the research topics, scientific methods and theoretical concepts used in social media studies in the last five years. The findings of this chapter will be used in Chapter 5 to study the level of paradigm development in social media studies. First, however, Chapter 4 begins by presenting the main results obtained from the analysis, specifically some background information about the selected articles and an illustration of the research topics, the scientific methods and the main theoretical concepts utilized in the articles. Finally, a discussion about the present state of social media studies is presented.

4.2. Results
4.2.1 Journals
As Table 2 shows, only eight of the ten top journals in communication studies contained research articles about social media. The journals Public Opinion Inquiry and Research on Language & Social Interaction did not include any social media research articles. On the other hand, it was clear that the majority of the articles analyzed were published in one of the following three journals: New Media & Society (44.7%), Computer-Mediated Communication (26.4%) and the Journal of Communication (16.2%). Debatably, those three academic journals represent the arena where social media research is presented among the elite journals of communication research.
Table 2. The distribution of the analyzed articles per journal

<table>
<thead>
<tr>
<th>Journal Name</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Research</td>
<td>13</td>
<td>6.6</td>
</tr>
<tr>
<td>Computer-Mediated Communication</td>
<td>52</td>
<td>26.4</td>
</tr>
<tr>
<td>Journal of Communication</td>
<td>32</td>
<td>16.2</td>
</tr>
<tr>
<td>New Media and Society</td>
<td>88</td>
<td>44.7</td>
</tr>
<tr>
<td>Communication Monographs</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>Human Communication Research</td>
<td>1</td>
<td>0.5</td>
</tr>
<tr>
<td>Political Communications</td>
<td>2</td>
<td>1.0</td>
</tr>
<tr>
<td>The International Journal of Press/Politics</td>
<td>7</td>
<td>3.6</td>
</tr>
<tr>
<td>Public Opinion Inquiry</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Research on Language &amp; Social Interaction</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>197</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

It is possible that the scientific aims and editorial policy of *New Media & Society* and *Computer-Mediated Communication* encourage social media researchers to present their articles. For example, *New Media & Society* has been described as a new academic journal that “engages in critical discussions of the key issues arising from the scale and speed of new media development, drawing on a wide range of disciplinary perspectives and on both theoretical and empirical research.”24 The same feature can be observed for *Computer-Mediated Communication*, since it has been defined as “one of the oldest web-based Internet studies journals.”25 It is clear that both of these journals aim at investigating the usage and effect of the new media and internet. Moreover, it is possible that the editors of those journals are experts in social media. For example, Steve Jones, the editor of *New Media and Society*, is an eminent scholar of new media and internet studies; he is a co-founder of the Association of Internet Researchers (AIS) and a specialist in social media research.26 Moreover, Shyam Sundar, the editor of *Computer-Mediated Communication* has defined himself as an expert in social media research trends.27

Nevertheless, the data show that the *Journal of Communication* also represents an important outlet for social media research. However, differing from *New Media and Society*

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and Computer-Mediated Communication, the Journal of Communication is one of the oldest journals in communication studies. It was founded in 1951 with the goal of focusing on “communication research, practice, policy, and theory, bringing to its readers the latest, broadest, and most important findings in the field of communication studies.” It is not clear why the Journal of Communication attracted social media scholars and other traditional journals in communication studies, such as Communication Research or Human Communication Research, did not. However, the data show that New Media and Society, Computer-Mediated Communication and the Journal of Communication represent the arena in which social media research is presented among the elite journals of communication research.

4.2.2. Year of Publication

Table 3 and Figure 2 show a dramatic increase in the amount of social media research published in the last five years. Research about social media in the top ten journals in communication studies saw a more than 100% increase from 2010 to 2011 and a more than 80% increase from 2011 to 2012. This finding confirms Van Osch and Coursaris’ (2014) own finding about the rapid development of the research in the domain of social media.

Figure 2. The Distribution of Articles per Year from 2010 to 2014

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4.2.3. **Number of Authors**

Table 4 confirms Van Osch and Coursaris’ (2014, 4015) findings about the present state of social media research. Of the articles analyzed, 70% were multi-authored papers, and only 30% had a single author. The high percentage of co-authorship represents an indicator of academic maturity in a given scientific field; as Inzelt, Schubert, and Schubert, (2009) and Serenko et al., (2010) have argued that due to an increase competition for journal space and declining acceptance rates, matured scientific fields show a trend toward co-authorship rather than single authorship. However, it is important to consider the specialty of the sample analyzed before drawing any general conclusion about the state of social media research. This study had included research papers that were issued in the top journals of communication studies. This fact may explain the high percentage of co-authorship in the sample. In other words, the high level of competition for publishing in the top ten journals of communication studies may be responsible for the high level of co-authorship found in the analysis. However, Van Osch and Coursaris (2014) have documented similar results using a completely different sampling plan. The scholars have studied all social media research papers that were found in the databases proQuest. They have found that more than 60% of the papers analyzed had more than one author. Therefore it is arguable that, the high level of co-authorship documented in this study is not caused only by the fact that the sample contained articles issued in a group of elite journals.

<table>
<thead>
<tr>
<th>Year</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>16</td>
<td>8.1</td>
</tr>
<tr>
<td>2011</td>
<td>28</td>
<td>14.2</td>
</tr>
<tr>
<td>2012</td>
<td>53</td>
<td>26.9</td>
</tr>
<tr>
<td>2013</td>
<td>48</td>
<td>24.4</td>
</tr>
<tr>
<td>2014</td>
<td>52</td>
<td>26.4</td>
</tr>
<tr>
<td>Total</td>
<td>197</td>
<td>100.0</td>
</tr>
</tbody>
</table>
4.2.4. Article Type
Although conceptual articles play a crucial role in the development of any scientific discipline (Yadav, 2010), Table 5 shows that the sample analyzed contained a very limited number of this kind of articles. About 91% of the articles analyzed were empirical papers, and only 9% were conceptual.

Table 5. Types of the articles in papers analyzed

<table>
<thead>
<tr>
<th>Article Type</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conceptual</td>
<td>18</td>
<td>9.1</td>
</tr>
<tr>
<td>Empirical</td>
<td>179</td>
<td>90.9</td>
</tr>
<tr>
<td>Total</td>
<td>197</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2.5. Research Topics
As Table 6 shows, 11 research topics were inductively identified by analyzing the research sample. The most-studied topic was social media and politics (22%). The second-most studied research subject was the usage of social media; about 9% of the articles studied had analyzed the usage or users of social media. The third-most investigated area of study was journalism and social media (8%). However, other research topics, such as social media and activism, impression management of the online identity and the organization’s use of social media, have been also identified.
Table 6. Research topic studied in the articles analyzed

<table>
<thead>
<tr>
<th>Research topic</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activism</td>
<td>13</td>
<td>7.3</td>
</tr>
<tr>
<td>Politics</td>
<td>38</td>
<td>21.2</td>
</tr>
<tr>
<td>Journalism</td>
<td>15</td>
<td>8.4</td>
</tr>
<tr>
<td>Organization</td>
<td>7</td>
<td>3.9</td>
</tr>
<tr>
<td>Usage of social media</td>
<td>16</td>
<td>8.9</td>
</tr>
<tr>
<td>Privacy</td>
<td>4</td>
<td>2.2</td>
</tr>
<tr>
<td>User-Generated Content</td>
<td>8</td>
<td>4.5</td>
</tr>
<tr>
<td>Impression Management</td>
<td>14</td>
<td>7.8</td>
</tr>
<tr>
<td>Social relations</td>
<td>22</td>
<td>10.1</td>
</tr>
<tr>
<td>Others</td>
<td>41</td>
<td>22.9</td>
</tr>
<tr>
<td>Total</td>
<td>179</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2.6. **Type of Social Media Analyzed**

Table 7 shows that the most studied application of social media was social network sites. About 66% of the research papers studied had investigated one of the social network sites, such as Twitter, Facebook or MySpace. The second-most studied social media application was blogs. About 15% of the research analyzed had studied blogs. On the other hand, YouTube was not widely studied; only about 10% of the papers analyzed had studied it. Finally, the data shows that wikis and virtual worlds were very scarcely studied. Only 3% of the papers had analyzed wikis, and about 5% had analyzed virtual worlds.

Table 7. Social media type studied in the articles analyzed

<table>
<thead>
<tr>
<th>Social Media Type</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>YouTube</td>
<td>19</td>
<td>9.6</td>
</tr>
<tr>
<td>Social Network Sites</td>
<td>130</td>
<td>66</td>
</tr>
<tr>
<td>Blog</td>
<td>30</td>
<td>15.2</td>
</tr>
<tr>
<td>Virtual World</td>
<td>9</td>
<td>4.6</td>
</tr>
<tr>
<td>Wiki</td>
<td>6</td>
<td>3.0</td>
</tr>
<tr>
<td>Social Media in General</td>
<td>3</td>
<td>1.5</td>
</tr>
<tr>
<td>Total</td>
<td>197</td>
<td>100.0</td>
</tr>
</tbody>
</table>
4.2.7. Usage of theory

As Table 8 shows, the majority of the articles analyzed were not theory-driven studies. Chong and Xei (2011) definition of theory-driven research was used in order to identify the theoretical articles in the sample. According to it a theoretical article:

*Use(s) a theory to guide study design, data collection, and then use the data to determine if the data match well with the theory to determine whether the data are valid or whether the theory needs to be revised based on the data.* (p.9)

Therefore, it is arguable that about 56% of the articles did not use a specific theoretical framework to guide the process of data collection and the interpretation of the research results.

<table>
<thead>
<tr>
<th>Type of Article</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Theory-Driven Articles</td>
<td>101</td>
<td>56.4</td>
</tr>
<tr>
<td>Theory-Driven Articles</td>
<td>78</td>
<td>43.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>179</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

4.2.8. Theories

Table 9 illustrates the most-used theory in the research sample (any theory that has been used more than once is included in the table).

<table>
<thead>
<tr>
<th>Theory Name</th>
<th>Frequency of Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agenda Setting (McCombs, 2004)</td>
<td>2</td>
</tr>
<tr>
<td>Communication Privacy Management (Petronio, 2000)</td>
<td>3</td>
</tr>
<tr>
<td>Frames Theory (Snow &amp; Benford, 1992; Entman, 1993)</td>
<td>4</td>
</tr>
<tr>
<td>Gatekeeping Theory (Shoemaker, 1997)</td>
<td>2</td>
</tr>
<tr>
<td>Social capital (Bourdieu, 1986)</td>
<td>11</td>
</tr>
<tr>
<td>Third-Person Effect (Gunther, 1991; Perloff, 1999)</td>
<td>3</td>
</tr>
<tr>
<td>Identity Warranting (Walther, 2007)</td>
<td>2</td>
</tr>
<tr>
<td>Social Presence (Lee, 2004)</td>
<td>2</td>
</tr>
</tbody>
</table>

4.2.9. Research Methods

Table 10 shows that the large majority of the empirical papers analyzed used a quantitative methodology. About 67% of the research had utilized quantitative research methods, in
comparison to 25% of the papers that had used qualitative methods, and only 7.8% that had used mixed methodology.

Additionally, Table 11 illustrates that the most-used research method was survey; more that 31% of the empirical articles studied had used a survey. The second most-used research method was content analysis (16%), and the third was the interview (13%). However, it is important to mention that the experiment methodology has been also wieldy used; about 12% of the papers analyzed had utilized this research methodology.

Table 11 Research method used the article analyzed (micro level)

<table>
<thead>
<tr>
<th>Type of Research Methods</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire</td>
<td>56</td>
<td>25.8</td>
</tr>
<tr>
<td>Interview</td>
<td>28</td>
<td>12.9</td>
</tr>
<tr>
<td>Network Analyses</td>
<td>8</td>
<td>3.6</td>
</tr>
<tr>
<td>Experiment</td>
<td>21</td>
<td>9.7</td>
</tr>
<tr>
<td>Participant Observation</td>
<td>5</td>
<td>2.3</td>
</tr>
<tr>
<td>Ethnography</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Content Analysis</td>
<td>35</td>
<td>16.1</td>
</tr>
<tr>
<td>Case Study</td>
<td>6</td>
<td>2.7</td>
</tr>
<tr>
<td>Ground Theory</td>
<td>4</td>
<td>1.8</td>
</tr>
<tr>
<td>Others</td>
<td>50</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>217</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

4.2.10. **Hypothesis**

As Table 12 shows, the majority of the empirical research papers did not mention a clear and specific hypothesis. Only 45% of the empirical articles stated a hypothesis in the beginning of the paper.
Table 12. The usage of hypothesis in the articles analyzed

<table>
<thead>
<tr>
<th>Type of Article</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles without Hypothesis</td>
<td>99</td>
<td>55.3</td>
</tr>
<tr>
<td>Articles with Hypothesis</td>
<td>80</td>
<td>44.7</td>
</tr>
<tr>
<td>Total</td>
<td>179</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.2.11. Development of the Research Agenda in Social Media Studies

As Table 13 shows, the majority of the research studied investigated the usage of social media. About 76% of the empirical papers analyzed were about how social media is used. The second-most studied issue was the effect of social media. About 20% of the empirical articles had studies the effect of social media on individuals, organizations and society. Finally, it is notable that only about 4% of the articles had analyzed the features of social media.

Table 13. Phases of social-media-related research

<table>
<thead>
<tr>
<th>Phase</th>
<th>Frequency</th>
<th>Valid Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean of Communication</td>
<td>7</td>
<td>3.9</td>
</tr>
<tr>
<td>Use</td>
<td>136</td>
<td>76.0</td>
</tr>
<tr>
<td>Effect</td>
<td>36</td>
<td>20.1</td>
</tr>
<tr>
<td>Total</td>
<td>179</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4.3. Analysis and Discussion

The above results suggest that social media research represented a key element in the research agenda of communication studies. The data illustrate that about 15% of the research papers published in the top ten journals of communication studies in the last five years studied social media. This result confirms Khang, Ki1, and Ye’s (2012) findings about the strong presence of social media research in communication-related journals. The scholars found that between 1997 and 2010, 335 research articles related to social media were published in communication-related journals. However, it is notable that the number of social media research papers issued in this field increased significantly and become firmly established in top ranking communication related journals. The number of social media
research articles published in communication-related journals jumped from 335 articles over 13 years to about 200 in the last five years.

Moreover, as Table 3 shows, the journals New Media and Society and Computer-Mediated Communication contained the vast majority of the research articles analyzed. About 70% of the papers studied were published in those two outlets. However, although those two journals were included among the top ten journals of communication studies, it is plausible that New Media and Society and Computer-Mediated Communication can be considered as two of the few peer-reviewed outlets in the domain of social media studies. Both of the journals were founded in the late 1990s with the aim of analyzing the new media and its effect on the society. For example, Livingstone introduced the journal of New Media and Society by saying, “Not only a key resource for keeping up to date in this fast-moving field, this journal is proving a vital resource for wide-ranging, insightful analyses of the social contexts and consequences of new information and communication technologies.” Similarly, the journal of Computer-Mediated Communication was presented as a “web-based, peer-reviewed scholarly journal. Its focus is social science research on communicating with computer-based media technologies”.

It is clear that over the time many academic journals were founded with the aim of analyzing this new technology (for instance, Convergence, First Monday and Journal of New Media & Culture). However, the fact that two of those journals obtained a high status among the top journals of communication studies represents an indicator of the importance and the rapid growth of this new domain of studies.

Additionally, the high level of co-authorship patterns in the articles analyzed is another indicator of the academic maturity of this domain of study. Inzelt, Schubert and Schubert (2009) have illustrated that well-established scientific fields show trends toward co-authorship as opposed to single authorship. A mature academic field presents a high level of

http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1083-6101

http://www.uk.sagepub.com/journalsProdDesc.nav?prodId=Journal200834&ct_p=title&crossRegion=eur

http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1083-6101

http://con.sagepub.com/

http://firstmonday.org/index

http://www.ibiblio.org/nmediac/
competition for journal space and declining acceptance rates for scientific articles. These factors increase the number of multi-authored papers and decrease the number of research published by a single author. The data show that social media studies is moving toward a mature academic status, since more than 70% of the articles analyzed had more than one author. This findings confirms Osch and Coursaris’s (2014) findings about the pattern of co-authorship in the domain of social media research.

Nevertheless, other results of this study contradicted the hypothesis of social media studies’ academic maturity. This contradiction was reflected by many of the thesis’s findings. First of all, it was clear that social media studies lacks the distinctive body of theoretical knowledge that characterizes the well-established scientific fields (ibid.). The majority of the articles analyzed were a-theoretical research papers. In other words, those articles did not include a clear theoretical framework that guided the process of data collection and the interpretation of the research results. Furthermore, the data may suggest a lack of consensus regarding the theoretical concepts used in this domain of study. The only theory that has been wieldy utilized in the sample studied was the theory of social capital (Bourdieu, 1986). Arguably, social media scholars have not yet developed a well established body of theoretical knowledge that can be used to understand social media and its effects. Osch and Coursaris (2014) came to the same conclusion in their research review of the state social media research over the previous 15 years: “The proliferation of conceptual articles suggests a lack of academic maturity of this research domain indicative of overreliance on personal opinion and ‘armchair hypotheses’ that has resulted in the atheoretical nature of social media research to date” (2014 p.301).

Moreover, the data may indicate that social media studies have not yet developed the stable body of methodological knowledge that characterizes the well-established academic fields. Given the novelty of the object of study in social media studies, many scholars have questioned the validity of using traditional research methods to study this new technology?. For example, Jones (1999) was skeptical about the ability of the conventional methodology in analyzing the large data presented in social media. Moreover, Herring (2010) and Karlsson (2012) have argued that it will be problematic to use only traditional methodology such as content analysis to study this new technology. Both the scholars have illustrated that the features of social media (such as the hyperlinks in web sites and the comments in the social networks and blogs) require the development of new research methods. However, the analysis shows that social media researchers had preferred to use the traditional research methods rather than utilize new ones. This finding is reflected in the low number of research
articles using “new research methods,” such as netnography or network analysis. This study’s results confirm Van Osch and Coursaris’ (2014), Chong and Xie’s (2011), and Khang, Ki and Ye’s (2012) findings about the methods used in social media.

Finally, the results show that the majority of the research analyzed was categorized the second phase of Wimmer and Dominick’s model (2000). Wimmer and Dominick (2000) have developed a model to explain research development for a given new medium of communication. As mentioned in Chapter 3, the model uses a continuum of four research phases to document the scholarship development of any new means of communication. The first phase starts when a new communication medium is introduced, and in this stage the medium is still new, so research focuses on analyzing its feature and characteristics. The second stage starts, however, when the researchers become familiar with the medium and shift their focus to study its usage and users. The third phase of research starts when the scientific community has already gotten some information about the new medium and it usage and, as such, shift their attention to analyze its effects and influences on the individual, institutions and the society. Finally, the last stage presents research about the development of the new medium.

The data show that the vast majority of the articles analyzed were categorized in the second phase of Wimmer and Dominick’s model. In other words, the majority of the research analyzed had studied the usage and users of social media. It is arguable that, social media researchers are still trying to understand social media usage in various fields. For example, much of the research analyzed studied the use of social media in different fields, such as politics, marketing, education and organizations. Moreover, the analysis showed also that social media scholars were interested in understanding how different social groups use social media. Many studies documented how groups such as teenagers, people with handicaps and old people use social media. This result confirms Khang, Ki, and Ye’s (2012) findings about social media research published from 1997 to 2010 in advertising, communication, marketing, and public relations. The scholars found that the majority of that research had analyzed the usage or users of social media. The research showed that about 66% of the analyzed articles had studied the usage or users of social media, and only about 20% had studied its effect.

However, it is arguable that with the development of social media studies, the focus of the research agenda will shift from studying the usage of social media to analyzing its effect. Wellman (2004) noticed a similar pattern in internet studies and documented three phases for the research development in this new field. The first stage was defined as an attempt to
understand the features of the internet. The second stage of the research was represented by more systematic and standardized studies on the internet. However, Wellman argued that this stage was characterized by research devoted to documenting the use of the internet rather than analyzing its effect. Finally, the third stage was considered to start when the “real analysis begins with more focused, theoretically-driven projects” (Wellman, 2004, p. 127). In this stage, research on the internet moved from documenting this new technology to studying its effect on individuals, organizations and society.

Given the results outlined above, it is arguable that social media research is right now in the second stage of research introduced by Wellman. However, given social media’s rapid development, it is debatable that the third phase of research, ‘in which the focus will be on social media’s effects will start soon.'
5.1. Introduction
The aim of this chapter is to answer the main research question of this project: what is the level of paradigm development of the domain of social media studies in the last five years? In order to furnish an answer, the method of cluster analysis was used. In particular, this research method was to analyze the level of consensus regarding methods, concepts and topics studied in social media studies. This chapter begins with a brief discussion of cluster analysis; afterwards, the results of the analysis are presented, and finally a discussion of the level of paradigm development in the domain of social media studies is given.

5.2. Using Cluster Analysis to Study the Level of Paradigm development
5.2.1 Introduction
Based on the work of Kuhn (1970), Lodahl and Gorden (1972) and Pfeffer (1993), it is possible to define the level of paradigm development as the level of consensus regarding the usage of certain research methods, research topics and theoretical concepts in a given field of study. However, many scholars, such as Young (1974), Denisoff et al. (1974), Astley (1984, 1985) and Becher (1989, 1994) have criticized using the concepts of the paradigm and consensus in science for fields with a highly sophisticated object of study, such as the social sciences.

Nevertheless, this critique is addressed by Ciomaga (2012) with his new and more modest account for the convergence in science. The scholar has acknowledged the difficulty of developing consensus in social sciences; however, he also refused the postmodernist approach of abandoning any attempt to find agreement in science. Based on the work of Kuhn (1970) and Pfeffer (1993), Ciomaga has argued that consensus should not be sought across a given social scientific field, but rather, within small clusters of similar work (defined, following Kuhn, as areas of contributions similar in concepts, methods, and area of interest Ciomaga 2012, P12) Within it.

Therefore, based on the work of Ciomaga (2012), Kuhn (1970) and Pfeffer (1993), it is possible to argue that a field of study with a high level of paradigm development would contain several areas of convergence that share a high level of agreement regarding research topics, theoretical concepts and research methods.
This thesis uses this concept to study the level of paradigm development in the domain of social media studies. Following Ciomaga, Pfeffer and Kuhn, it is possible to argue that social media study would have a high level of paradigm development if it contains areas of convergence that share a high level of consensus regarding theoretical concepts, research methods and research topics studied in it.

In order to examine this possibility, a group of social media research papers were analyzed. In particular, research methods, research topics and theoretical concepts studied in those articles were investigated (see Chapter 4). In the following sections those data are utilized to identify the level of paradigm development in this new domain of study. To this end, the cluster analysis is used, and it can be defined as a research technique that is as follows:

Concerned with exploring data sets to assess whether or not they can be summarized meaningfully in terms of a relatively small number of groups or clusters of objects or individuals which resemble each other and which are different in some respects from individuals in other clusters. (Everitt et al. 2011 p.13)

In other words, this method is employed to categorize a given set of data into different groups (or clusters) so that each cluster would contain items that are similar to each other and dissimilar to the items in the different clusters. Clusters analysis is used in order to investigate the level of consensus in the domain of social media studies. As Ciomaga (2012) has shown a field with a high level of paradigm development would include clusters of works that share high level of consensus regarding topics, methods and theories. Applying this technique would allow the identification of clusters of scholarship that study the same research topic and use similar theoretical concepts and research methods.

The first step in the analysis will permit to identify a number of clusters of similar work. In order to do that, two step clusters model35 and three clustering variables36 will be used. The second step of the analysis will consistent in investigating the clusters found. The level of homogeneity of those groups would reflect the degree to which the research topics, methods and theory were shared within those cluster. In other words, if a high number of articles in a given cluster studied the same research topic using the same research methods and theoretical concepts, it would be plausible that this cluster benefits from a high level of consensus (which reflects a high level of paradigm development for the field of social media studies).

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35 The two step cluster model will be explained in detailed in the next section
36 The clustering variable used will be explained in detailed in the next section
On the other hand, if the cluster contained research papers that studied different topics using different methods, it would be plausible that the level of consensus in this cluster would be quite low.

5.2.2. Procedure for Conducting Cluster Analysis

Mooi and Sarstedt (2011) have illustrated four steps to conducted cluster analyses. As Figure 3 shows, the first step aims to identify the clustering variables. Clustering variables are used to classify the objects of the dataset into the different clusters. In the Figure 1 for example, it is clear that the variable score was the clustering variable, since it was the variable used to divide the objects into different clusters (see figure 1 in chapter 3).

The second step is to decide the clustering procedure that will be used in the analysis. Three models can be utilized: hierarchical methods, partitioning methods and two step clustering. The choice of the model should be determined according to the aim of the research and the type of the variable used in the study (categorical, ordinal or numerical variables) (ibid.). In the third stage, the scholar determines the number of clusters to be obtained from the analysis. Finally, in the fourth step, the analysis is interpreted.

In the following section, Mooi and Sarstedt’s procedure is used in order to conduct the cluster analysis for the present study.

Figure 3. Steps to conduct cluster analysis (Mooi and Sarstedt, 2011)
The aim of this step is to identify the variables that will be used to assign the objects (in this case the research articles) into different clusters. Based on the work of Ciomaga (2012), Kuhn (1970) and Pfeffer (1993), three clustering variables were chosen: research topic, research methods and theory usage.

The variable research topics were indicated by the research topics studied in articles of the sample. Different research topics were inductively identified during the coding process, particularly activism, politics, journalism, organization, usage of social media, user-generated content, impression management and social relations (see Chapter 4).

The variable research methods were determined from study of the research methods implied in the research papers. The variable theory usage was indicated by whether or not theory was been used to direct the research articles studied.

B. Step 2 Decide on the clustering procedure

Three clustering models can be used to conduct cluster analysis, namely hierarchical methods, partitioning methods and two-step clustering. However, it was decided to use the two step clustering model in this research. In particular, his technique was used for two reasons. First of all, because it is the only model that allows the usage of nominal variables (Mooi and Sarstedt, 2011), and all the three clustering variables used in this analysis are nominal variables. Moreover, two-step clustering is the only procedure that does not require a predetermined number of clusters. SPSS uses a special logarithm that identifies the number of clusters that can best fit the data (ibid.).

C. Step 3: Decide on the number of clusters

Given the aims of this study, it was impossible to establish a predetermined number of clusters before the analysis. Therefore, the two-step cluster procedure was used and SPSS had automatically identified the number of the clusters.

D. Step 4: Interpretation of the data

By applying cluster analysis using the abovementioned clustering variables, it was possible to find seven different clusters of research articles. Table 15 shows the values of the index of measures-of-fit according to Akaike’s Information Criterion (AIC). AIC is a measure of goodness of fit used by SPSS to compare the different solutions within a different number of clusters (Mooi and Sarstedt, 2011). Table 14 shows the different values of AIC obtained by

37 Nominal variables can be defined as “data that is just the assignment to named classes, such as Red, Blue, Green or Utah, Nevada, New York...An attribute is nominal if it successfully distinguishes between groups, but without any implied ranking or potential for arithmetic” (de Smith, 2014, p. 4).
classifying the data into different numbers of clusters (up to 15 clusters; the maximum number of clusters established by SPSS). SPSS chooses the number of clusters with the minimum value of AIC and the maximum value of the Ratio of Distance Measures\(^\text{38}\) (ibid.). Therefore the solution with seven clusters was chosen by SPSS.

Table 14. SPSS two-step auto-clustering results

<table>
<thead>
<tr>
<th>Number of Clusters</th>
<th>AIC Information Criterion (AIC)</th>
<th>AIC Change(^a)</th>
<th>Ratio of AIC Changes(^b)</th>
<th>Ratio of Distance Measures(^c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>926.074</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>795.693</td>
<td>-130.381</td>
<td>1.000</td>
<td>1.421</td>
</tr>
<tr>
<td>3</td>
<td>712.861</td>
<td>-82.832</td>
<td>.635</td>
<td>1.609</td>
</tr>
<tr>
<td>4</td>
<td>672.757</td>
<td>-40.104</td>
<td>.308</td>
<td>1.102</td>
</tr>
<tr>
<td>5</td>
<td>639.136</td>
<td>-33.621</td>
<td>.258</td>
<td>1.195</td>
</tr>
<tr>
<td>6</td>
<td>615.885</td>
<td>-23.251</td>
<td>.178</td>
<td>1.052</td>
</tr>
<tr>
<td>7</td>
<td><strong>595.284</strong></td>
<td><strong>-20.601</strong></td>
<td><strong>.158</strong></td>
<td><strong>1.449</strong></td>
</tr>
<tr>
<td>8</td>
<td>590.362</td>
<td>-4.922</td>
<td>.038</td>
<td>1.162</td>
</tr>
<tr>
<td>9</td>
<td>590.298</td>
<td>-.065</td>
<td>.000</td>
<td>1.024</td>
</tr>
<tr>
<td>10</td>
<td>590.929</td>
<td>.631</td>
<td>-.005</td>
<td>1.177</td>
</tr>
<tr>
<td>11</td>
<td>595.976</td>
<td>5.047</td>
<td>-.039</td>
<td>1.134</td>
</tr>
<tr>
<td>12</td>
<td>603.977</td>
<td>8.001</td>
<td>-.061</td>
<td>1.079</td>
</tr>
<tr>
<td>13</td>
<td>613.593</td>
<td>9.616</td>
<td>-.074</td>
<td>1.081</td>
</tr>
<tr>
<td>14</td>
<td>624.734</td>
<td>11.141</td>
<td>-.085</td>
<td>1.157</td>
</tr>
<tr>
<td>15</td>
<td>638.433</td>
<td>13.699</td>
<td>-.105</td>
<td>1.211</td>
</tr>
</tbody>
</table>

a. The changes are from the previous number of clusters in the table.
b. The ratios of changes are relative to the change for the two-cluster solution.
c. The ratios of distance measures are based on the current number of clusters against the previous number of clusters.

As it is clear in Figure 4, the silhouette coefficient has a positive value (almost 0.30). Silhouette coefficient is the measure of the cohesion and the separation in the clusters. Noru (2012 p. 397) has shown Silhouette coefficient is obtained by calculating:

The difference between the smallest average between cluster distance and the average within cluster distance, divided by the larger of the two distances. In a good solution, the within-cluster distances are small and the between cluster distances are large, resulting in a silhouette measure close to the maximum value of 1. If the silhouette measure is negative, the average

\[^{38}\text{The ratio of distance measures is based on the current number of clusters in relation to the previous number of clusters.}\]
distance of a case to members of its own cluster is larger than the average distance to cases in other clusters, an undesirable feature.

So given the fact that the silhouette coefficient has a positive value, the solution of seven clusters was accepted (see Noru, 2012).

Figure 4. Cluster analysis model Summary

<table>
<thead>
<tr>
<th>Algorithm</th>
<th>TwoStep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs</td>
<td>3</td>
</tr>
<tr>
<td>Clusters</td>
<td>7</td>
</tr>
</tbody>
</table>

Cluster Quality

![Silhouette measure of cohesion and separation](image)

Figure 5 illustrates the seven clusters identified by SPSS.

Figure 5. Distribution of cases in the clusters
5.3. Results

5.3.1. Cluster 1

The analysis showed that all the articles in cluster 1 had studied research topics related to social media and politics (see Figure 6).\(^{39}\) Furthermore, the data illustrated that the most-used research method in this group was the survey.\(^{40}\) About half of the papers grouped in Cluster 1 had used the questionnaire as a research method. However, it is also important to mention that, all the articles included in this cluster were a-theoretical research papers.\(^{41}\) In other words, those articles did not contain a clear theoretical framework to guide the process of data collection and the interpretation of the research results (Chong and Xie, 2011).

However, by analyzing this cluster more deeply, it was also noted that the articles of cluster one had mainly studied one application of social media, namely, social network sites. The data showed that more than 70% of the articles in this cluster had studied social network sites, and only 28% had studied other social media applications.\(^{42}\)

This cluster was quite a homogenous group. All the articles in it were a-theoretical research papers that had studied one research topic, namely research related to social media and politics. Moreover, the data show that a vast number the papers had used the same research methods, the survey. Therefore, Cluster 1 represented an area of convergence in social media studies that contained a group of scholarship which had used the questionnaire to investigate research topics related to social network sites and politics.

\(^{39}\) See table 1 in the Appendix II
\(^{40}\) See table 2 in the Appendix II
\(^{41}\) See table 3 in the Appendix II
\(^{42}\) See table 4 in the Appendix II
Figure 6. Distribution of cases in cluster 1

Cluster Comparison

<table>
<thead>
<tr>
<th>Area_of_interest</th>
<th>activism</th>
<th>Politics</th>
<th>Journalism</th>
<th>organization</th>
<th>usage</th>
<th>UGC</th>
<th>Impression</th>
<th>Management</th>
<th>Social Relation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research_Methods</th>
<th>Questionnaire</th>
<th>Ground Theory</th>
<th>Network Analyses</th>
<th>Nethnography</th>
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</thead>
<tbody>
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</table>

5.3.2. Cluster 2

The data illustrated that cluster two contained research articles that had studied two different research topics: the usage of social media (60%) and activism (40%). Moreover, as Figure 7 shows, the most-used research methodology in this cluster was the survey. Furthermore, the analysis illustrated that the majority of the articles in this group had contained a-theoretical studies. Finally, it is important to underline that 90% of the research papers in this cluster had analyzed a specific social media application, social network sites.

The data indicated that the level of consensus in Cluster 2 was not very high. It was clear that the articles grouped in this cluster had studied two different research topics: the usage of social media and activism.

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43 See table 5 in the Appendix II
44 See table 6 in the Appendix II
45 See table 7 in the Appendix II
46 See table 8 in the Appendix II
5.3.3. **Cluster 3**

Figure 8 shows that a relatively high number of the articles grouped in cluster three had research topics related to social relation and social media.\(^{47}\) For example, research about the effect of social media on romantic relationships and the relation between social media and social capital were included in this group. Moreover, the data showed that almost all of the articles in this group used the questionnaire as a research method.\(^{48}\)

However, a difference of the first two clusters, the vast majority of the articles included in cluster 3 were theory-driven papers.\(^{49}\) Notably, the most-used theory in the cluster was the social capital theory (Bourdieu, 1986). Five out of fifteen articles included in this group used this theory as a theoretical framework. This result may reflect the importance of the theory of social capital in the domain of social media studies. The analysis presented in Chapter 4 confirms the significance of this theory, since social capital was the most-used theory in the sample of articles analyzed.

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47 See table 9 in the Appendix II  
48 See table 10 in the Appendix II  
49 See table 11 in the Appendix II
Moreover, the data show that the vast majority of the research in this cluster analyzed social network sites. About 89% of the articles belonging to Cluster 3 studied social network sites, and only 11% of the articles investigated other social media applications.50

As such, articles in Cluster 3 seemed to share a relatively high level of consensus concerning research topics, methods and theory. The data showed that a relatively large amount of social media research included in this cluster had studied social media and social relations. In addition, it was clear that the vast majority of the articles in Cluster 3 had the same research method, namely the questionnaire. Finally, it is important to mention that the theory of social capital was widely used in this cluster. Therefore, cluster three appears to represent an area of convergence in social media studies where scholarship had in common the use of the survey and social capital theory in order to study research topics related to social media and social relations.

Figure 8. Distribution of cases in Cluster 3

Cluster Comparison

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<table>
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<table>
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<tr>
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</thead>
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<tr>
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<td></td>
</tr>
<tr>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>

50 See table 12 in the Appendix II
5.3.4. **Cluster 4**

It is clear that the research topics related to social media and social relations were very popular in the articles analyzed. As with Cluster 3, Cluster 4 contained a high number of research articles related to these research topics. The data show that the majority of articles in Cluster 4 studied social media and social relations. However, it was notable that the most-used research method in Cluster 4 was the interview. The data also indicated that half of those articles were theory-driven research. Theories such as collective action frames (Gerhards & Rucht’s, 1992) and collective identity (Polletta & Jasper, 2001) were used. Finally, it is important to underline that, as with Cluster 3, the research in Cluster 4 analyzed mainly social network sites.

The data indicate a relatively high level of consensus in Cluster 4. The data show that the articles in this group mainly studied research topics related to social media and social relations. It was also clear that all the research papers in the cluster used the interview as a research method. Moreover, theoretical frameworks such as collective action frame (Gerhards & Rucht’s, 1992) and collective identity (Polletta & Jasper, 2001) were used. Therefore, Cluster 4 may represent an area of convergence that includes a group of scholarship using the interview and theories such as collective action frames and collective identity to study research topics related to social media and social relations.

Figure 9. Distribution of cases in Cluster 4

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51 See table 12 in the Appendix II
52 See table 13 in the Appendix II
53 See table 14 in the Appendix II
54 See table 15 in the Appendix II
5.3.5. **Cluster 5**

Figure 10 shows that, Cluster 5 is the most heterogeneous group in the analysis. Research papers in this cluster studied three different research topics: journalism, politics and UGC.\(^{55}\) Furthermore, two different research methods were used. In particular, 60% of the research papers had used the experiment method, and 40% of the papers had used content analysis.\(^{56}\) However, all the articles in this cluster were theory-driven research.\(^{57}\) The most-used theories in those articles were frames (Kahneman & Tversky, 1979; Entman, 1993; Levin et al., 1998), gatekeeping (Shoemaker, 1997) and third-person effect (Gunther 1991). By looking closer at Cluster 5, it was possible to confirm its heterogeneity. The data showed that about 40% of the articles in this group analyzed social network sites, and about 40% studied YouTube, while the remaining 20% analyzed blogs.\(^{58}\)

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Figure 10. Distribution of Cases in Cluster 5

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\(^{55}\) See table 16 in the Appendix II  
\(^{56}\) See table 17 in the Appendix II  
\(^{57}\) See table 18 in the Appendix II  
\(^{58}\) See table 19 in the Appendix II
5.3.6. **Cluster 6**

As with Cluster 5, Cluster 6 was also a very heterogeneous group. The analysis shows that cluster six contained articles that studied three different research topics: journalism (42%), UGC (25%) and social relations (17%).\(^{59}\) However, the data illustrate that the most-used research methodology in this cluster was content analysis.\(^ {60}\) Additionally, this cluster did not contain any theory-driven articles.\(^ {61}\) However, Cluster 6 differed from the other clusters in that the majority of the research in Cluster 6 did not focus on social network sites but rather on blogs and YouTube.\(^ {62}\)

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\(^{59}\) See table 20 in the Appendix II

\(^{60}\) See table 21 in the Appendix II

\(^{61}\) See table 22 in the Appendix II

\(^{62}\) See table 23 in the Appendix II
5.3.7. **Cluster 7**

The data showed that Cluster 7 is one of the most homogeneous clusters in the analysis. All the articles in this group studied one research topic, namely impression management (see Figure 16 and table .. in the appendix)\(^{63}\). Moreover, the data illustrated that the vast majority of the research was theory-driven (82%).\(^{64}\) In particular, the most-used theory in this cluster was communication privacy management (Petronio, 2000). However, other theories related to online self-presentation were also used, such as online communication attitude (Ledbetter, 2009b), self-disclosure (Derlega, Metts, Petronio & Margulis ST., 1993) and warranting theory (Walther & Parks, 2002). The data also showed that two quantitative research methods were used, namely survey and experiment.\(^{65}\) The vast majority of the articles belonging to this cluster analyzed social network sites.\(^{66}\) Of the articles, 90% included in Cluster 7 studied social network sites.

In conclusion, cluster 7 reflected a high level of homogeneity. According to the data, this cluster was one of the most cohesive groups found in this study. As such, Cluster 7 represented an area of convergence that used two quantitative research methods, namely questionnaire and experiment, along with theories such as communication privacy management and self-disclosure to study research topics related to online impression management.

**Figure 12. Distribution of cases in Cluster 7**

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\(^{63}\) See table 24 in the Appendix II  
\(^{64}\) See table 25 in the Appendix II  
\(^{65}\) See table 26 in the Appendix II  
\(^{66}\) See table 27 in the Appendix II
5.4. Analysis

5.4.1 Area of Convergence in Social Media Studies

The data showed that the articles were grouped in seven different clusters. The silhouette coefficient was 0.3, which indicated a moderate level of cohesion within the clusters and a moderate level of separation between them. Therefore, this solution was accepted. By analyzing the various clusters, it was possible to note that Clusters 1 and 7 were the most homogeneous groups. Cluster 1 represents studies that used a questionnaire in order to investigate research topics related to social media and politics. However, the fact that this cluster had included only a-theoretical studies might reflect a lack of well developed theoretical research about social media and politics. Following Wellman (2004), it is debatable that, this area of study did not reach yet a high level academic maturity where systematic and theoretical research about social media and politics are conducted. It may be that social media scholars aim right now at documenting social media’s usage for political purposes rather than at conducting a systematic and theoretical research about it. Nevertheless, it is important to consider the specialty of the research sample before drawing any general conclusion. This research studied research papers published in communication-related journals only. So, it is possible that theoretical research about social media and polices was issued elsewhere (in political science related journals for example).

The second most homogeneous group found in the analysis is Cluster 7. Research in this group had used survey and experiment to study research topics related to online impression management. However, differing from Cluster 1, the vast majority of the research in Cluster 7 were theory driven studies. Theories such as communication privacy management (Petronio, 2000), self-disclosure (Derlega et al. 1993), and online communication attitude (Ledbetter, 2009) were used. It is debatable that, impression managed is one of the most developed areas of study in social media research. The usage of theories can be considered as an important indicator of academic maturity. Pettigrew and McKechnie (2001) have argued that if a given scientific field “are to delineate their disciplinary boundaries and build a central body of knowledge, then they require their own theoretical bases for framing research problems, building arguments, and interpreting empirical results” (p.62). Therefore, it is possible to conclude that Cluster 7 represents a highly developed area of convergence in social media studies that use the above mentioned theories and a survey to study research topics related to online impression management.

On the other hand, Clusters 3 and 4 presented a moderate level of cohesion. Research in these clusters had used interview and survey to study research topic related to social network
sites and social relations. The majority of research in this area of convergence were theory driven studies. Theories such as: social capital, collective action frames (Gerhards and Rucht’s, 1992) and collective identity (Polletta and Jasper, 2001) were used in it. The data suggest that Clusters 3 and 4 may reflect another area of convergence in social media studies where the abovementioned theory were used to study research related to social media and social relations. However, it is important to notice that those two clusters have a modest level of homogeneity which indicates a moderate level of consensus.

Furthermore, it was clear that cluster 2, cluster 5 and cluster 6 were very heterogeneous. It is quite difficult to find a signal area of study that articles in those groups commonly analyzed. Cluster 5, for example, grouped research studying politics, social relations, journalism, and activism. On the other hand, cluster 6 contained studies analyzing journalism, organization, impression management and social relation. Therefore, it is possible to conclude that those three clusters did not reflect any area of convergence in the domain of social media studies.

In conclusion, it was noted that this result suggests three main areas of convergence in the domain of social media studies. The first area is related to research about social network sites and politics. This area of convergence included data-driven research using questionnaires as a research method. The second area is related to the impression management of the online identity of social network sites’ users. This area of contribution included theory-driven papers that utilized the experiment and the questionnaire as research methods. Finally, the last area is related to social media and social relations. This area of study grouped theory-driven research that studied social media and social relations. The survey and the interview were the research methodologies used in this area of study.

**5.4.2. The level of Paradigm Development of Social Media Studies**

Based on the works of Kuhn (1970), Pfeffer (1993), and Ciomaga (2012), it is arguable that, the level of paradigm development is reflected by the degree of consensus found in clusters of similar works within a given discipline of study. In particular, a field with a high level of paradigm development would contain numbers areas of convergence include group of scholarship that share high level of agreement regarding theories, methods and research topics. In order to identify those areas of scholarship in the domain of social media studies, a group of social media research papers had been studied. By conducting a cluster analysis it was possible to identify 7 clusters of articles that represents the areas of convergence introduced by Ciomaga (2012).
However, the results of this study indicate a low level of paradigm development in the domain of social media research. The data show that, the level of agreement regarding topics, methods and theories used in social media research articles published in the top journal of communication studies in the last five years is quite low. Only two of seven clusters present a relatively high level of consensus. Clusters 1 and 7 are the only two groups that contain research papers that share a high degree of agreement regarding research topics and methods. However, it is important to underline that, both of those clusters show low level of consensus regarding the theoretical concepts used. Cluster 1 did not include any theoretical paper. Research articles that studied social media and politics in that group were all atheoretical articles. Furthermore, many different theoretical frameworks such as: communication privacy management (Petronio, 2000), self-disclosure (Derlega, Metts, Petronio & Margulis, 1993), and online communication attitude (Ledbetter, 2009b) were implied to study online impression management in Cluster 7.

On the other hand, Clusters 3 and 4 had presented a moderate level of consensus regarding methods and research topic and a high level of disagreement concerning the theoretical framework used to in them. Different theories such as: social capital (Bourdieu 1986), collective action frames (Gerhards and Rucht’s, 1992) and collective identity (Polletta and Jasper, 2001) were used in those two groups to study social media and social relations. The high level of theoretical disagreement in those two clusters indicates a low level of paradigm development of social media studies (Ciomaga, 2012 and Pfeffer, 1993).

Finally, the remaining clusters have presented a fairly high level of heterogeneity that reflects a low level paradigm development in this new domain of studies. The level of consensus in those cluster were very low. It was clear that those clusters were highly heterogeneous, since they include research papers that had studied different research topic using different methods.

Therefore, it is possible to conclude that, social media studies is far away from being a field with a high level of paradigm development. This new domain of study does not possess the shared body of theoretical and methodological knowledge that characterizes the fields with high level of paradigm development (Pfeffer, 1993). However, it is important to consider the specialty of the sample analyzed in this project, before drawing any general conclusion about social media studies. As it was mentioned before, this study included only research papers that were issued in communication related journals. Although, it is arguable that this study gives a representative analysis of the state of social media studies (see chapter 2), it is important to stress that, this project does not claim to present an inclusive study about
the domain of social media research or to give general conclusions about the state of research of this new area of study.

The results of this study confirm the empirical evidence about the lack of consensus in social science. For example, Ciomaga (2012) has found a low level of paradigm development in the field of sport management. In a co-citation analysis of three of the main sport management journals, the scholar documented a low level of agreement regarding: theories, methods and topics studied in that field. Moreover, Denisof et al. (1974), Effrat (1972) and Pfeffer (1993) had underlined the lack of agreement and paradigm development in the fields of sociology and organizations studies.

The above mentioned findings reflect the difficulty of developing a high level of consensus in social science. However, some fields in social science have higher level of paradigm development than other. For example, Pfeffer (1993) has shown that psychology and economics benefit of a higher level of agreement than organizational studies and sociology. Besides that, other scholars such as: Denisof et al. (1974) and Effrat (1972) and Ciomaga (2012) have recognized the possibility of developing a relatively high level of consensus in social science. Therefore, it is imperative to ask why social media studies had presented low level of paradigm development. In light of the above presented analysis, it is possible to suggest two answers to this question.

First of all, the lack academic maturity of social media studies may explain its low level of paradigm development (see Van Osch and Coursaris, 2014). As Kuhn (1970) has shown, the lack of academic maturity may negatively affect the development of the level of consensus in a given field of study. It is impossible to obtain a high level of paradigm development without having first developed a shared understanding of the object of study, theories and methods used in a certain academic field.

The second factor is the lack of theoretical articles in social media studies. Many scholars have stressed the a-theoretical nature of this area of study (see also chapter 4). For example, Van Osch and Coursaris (2015) have found that the majority of social media studies published between 2004 and 2011 were a-theoretical studies. Other scholars such as: Chong and Xie (2011) and Khang, Ki and Ye (2012) have confirmed the lack of theory driven articles in social media studies. The fact that, theories were used very scarcely in social media studies in the last years may represent a strong reason for the lack of consensus in this domain of study. As Baumgartner et al. (2002) have shown a theory provides “a framework for explaining phenomena and may serve as the basis for further research as well as practice application” (p.18). In other words, theories represent the lens through which scientists see
and study the world. Therefore, it is debatable that, more scientists used shared theories, more they would be able to develop a common understanding about the scientific inquiries and research methods used in a given field of study.

Van Osch and Coursaris (2014) have argued that social media studies will become a standalone academic discipline with well-established theoretical and methodological knowledge. Many empirical evidences have confirmed this hypothesis. For example, it was clear that the number of social media research has increased dramatically in the last years (see chapter 4 and Van Osch and Coursaris 2015). Moreover, it is noted that, social media studies is gaining more importance in the academic arena. For example, as it was above mentioned, a Master entitled “Social Media and Web Technologies” was recently endorsed by Linnaeus University. Besides that, several Masters in social science include subjects related to social media. For instance, a subject named Social Media and Society is thought in a Master of social science in Uppsala University. Therefore, it is debatable that social media will be a well-established field of study with its own theoretical and methodological knowledge in the next years. Then, it will be relevant to see if a high level of theoretical and academic maturity would lead to higher level of paradigm development in social media studies, or if this new field of study will suffer from a lack of consensus as many other fields in social science (see Ciomaga 2012 and Pfeffer 1993).
Chapter 6

Conclusion

The aim of this project was to study the level of paradigm development of the domain of social media studies. Based on the work of Kuhn (1970), Lodahl and Gorden (1972), Pfeffer (1993) and Ciomaga (2012), the level of paradigm development is measured by studying the degree of consensus regarding the research methods, theoretical concepts and research topics studied in a given field of study. The data show that the level of paradigm development in the domain of social media is quite low. This fact can be explained by the lack of academic maturity of this new domain of study.

It is possible to compare social media research now with what Wellman (2004) has called the second age of the development of internet research. However, following Wellman’s (2004) analysis of research development in the field of internet studies, it can be expected that a new stage of social media research will soon begin (if it has not already). In this new stage, social media scholars will focus on studying social media effects on the individual, organization and society. Wimmer (2003) has shown a similar pattern in his model of the development of communication research regarding any new medium of communication. According to him, scholars aim first at studying the feature of a given new medium of communication, afterwards they study its usage, then they analyze its effect, and finally they investigate its improvement. The data of the thesis suggest that social media research is moving toward the third phase of Wimmer’s model (in which the effect of social media will be studied).

However, with the establishment of this new domain of study, it will be imperative to obtain a high level of paradigm development. Since, as Pfeffer (1993) has argued:

The level of paradigm development-technical certainty and consensus- characterizing a field of study has numerous consequences for the social organization and operation of that field. These consequences, ranging from the ability to obtain resources to the ease of working collaboratively on research, have an impact on the subsequent development of the field (p. 599).

The level of paradigm development in a given scientific field of study influences the availability of external and internal funding (Lodahl & Gordon, 1973a, 1973b), positively effects patterns of research collaboration (Pfeffer & Langton, 1993) and negatively effects journal rejection rates (Hargens, 1988).
However, developing a high level of consensus in social science is a very challenging task, especially with the growing tendency to use the postmodernist epistemology in social science. As Steuer has argued, “There are deep divisions in social science between those who support postmodernism, poststructuralism and related ideas, and those who regard these schools of thought as being unworthy of any place on a university course.”

The postmodernist epistemology has strongly challenged modernism’s positivist certainty about the possibility of obtaining epistemic privilege (Johnson and Duberley, 2000). Positivism places the authority of science within its grasp to access a privileged and uncontaminated knowledge. However, postmodernism rejects exactly that. As Johnson and Duberley (2000) explain, “Postmodernist epistemology dismisses the positivist’s rational certainty in the attainability of epistemic privilege and replaces it with a relativist view of science and knowledge” (p.93). From a postmodernist perspective, science is understood as social construct narrative with an equal value to any other social narrative (see, Bauman, 1989; Lyotard, 1984).

Another aspect of the postmodern tradition is epistemological pluralism. Pluralism can be defined as the tendency “to rejects the notion of a single reference system in which we can establish truth” (Spender, 1996, p.235). Summarizing the above points, Sokal and Bricmont (1998) have critically defined postmodernism:

An intellectual current characterized by the more-or-less explicit rejection of the rationalist tradition of the Enlightenment, by theoretical discourses disconnected from any empirical test, and by a cognitive and cultural relativism that regards science as nothing more than a “narration”, a “myth” or a social construction among many others (p.1).

However, this kind of epistemic pluralism can have some problematic effects on the development of the scientific activity. One of those problematic implications is the trivialization of the concept of consensus. The postmodernist epistemology adopts a relativistic view regarding the scientific enterprise (Johnson and Duberley 2000). This attitude is clearly reflected in the writing of the philosopher of science, Feyerabend. In his book, Against Method, he argues that “The idea that science can, and should, be run

Scholars who adopt this radical position refuse any kind of consensus. They consider consensus as a form of control that serves to the power of the elite (Maanen, 1995). However, as the first chapter of this thesis outlines, it is impossible to conduct science without any form of consensus. It is vital to have certain rules that can be used to differentiate between what is scientifically valid and what is not.

One might think the most challenging task that the domain of social media studies faces right now is to cultivate an acceptable level of paradigm development. If social media studies wants to be considered an established new field of study (especially by outsiders), it is important to develop a certain level of paradigm development that states in a more or less clear way what the object of study of this discipline is, along with the main theoretical concepts and research methods used in it.

6.1. Future Research

As mentioned before, the most challenging task in this thesis was to find a representative sample of the articles to reflect the present research in domain of social media studies. It is important to mention that that the sampling plan used in this project had its limits. Therefore in the presence of more time and resources, it would be advisable to use a bottom up approach that would allow for a more accurate understanding of the domain of social media studies. following Hine (2005) and Knorr-Cetina, (1999), a new valuable project about the knowledge development in social media studies can be proposed. It will be valuable to analyze the development of the epistemic culture in this new domain of study. It will be relevant to document and analyze how negotiations about methodological adequacy and theoretical inquiries are conducted in the early days of social media research. A number of interviews can be conducted with some social media doctoral candidates (since, according to Hine (2005), they are likely to be most sharply aware of these issues) about:

- Their methodological choices; the literatures that they chose to justify their decisions; any difficulties that they experienced in identifying relevant literatures, convincing peers, supervisors and examiners, and ethical committees; how they selected their publication venues and conferences; and what their understanding is of external pressures on their research and funding possibilities (Hine 2005, p. 246).
This project will allow the understanding of knowledge development in the domain of social media studies and to document how various methodological and theoretical issue are negotiated in the early developed of this new area of study.
Reference


Ciomaga, Bogdan. 2012. “In Search of Convergence: A Co-Citation Analysis of Three Sport Management Journals,”


Johnson, Phil, and Joanne Duberley. 2000. Understanding Management Research: An Introduction to Epistemology. SAGE.


Kuhn, Thomas S. 1962. The Structure of Scientific Revolutions Vol. The University of
Chicago Press.


McQuail, Denis. 2002. McQuail’s Reader in Mass Communication Theory. SAGE.


Appendix 1: List of the Articles analyzed


Antony, Mary Grace, and Ryan J. Thomas. 2010. “‘This Is Citizen Journalism at Its Finest’: YouTube and the Public Sphere in the Oscar Grant Shooting Incident.” *New Media & Society*, June. doi:10.1177/1461444810362492.


Choi, Sujin, and Han Woo Park. 2013. “An Exploratory Approach to a Twitter-Based Community Centered on a Political Goal in South Korea: Who Organized It, What
They Shared, and How They Acted.” *New Media & Society*, June, 1461444813487956. doi:10.1177/1461444813487956.


Khondker, Habibul Haque. "Role of the New Media in the Arab Spring." Globalizations: 675-79.


Seo, Hyunjin, J. Brian Houston, Leigh Anne Taylor Knight, Emily J. Kennedy, and


### Appendix 2: The clusters found in the analysis

Table 1. Research topics studied in Cluster 1

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<thead>
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<th>Frequency</th>
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<th>Valid Percent</th>
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a. TwoStep Cluster Number = 1

Table 2. Research methods used in Cluster 1

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<th>Valid Percent</th>
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<td>Nethnography</td>
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<td></td>
<td>content analysis</td>
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<td>Total</td>
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a. TwoStep Cluster Number = 1

Table 3. Number of theory driven articles in Cluster 1

<table>
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<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<td>Valid</td>
<td>A-theoretical article</td>
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<td>100.0</td>
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a. TwoStep Cluster Number = 1

Table 4. Types of Social media application studied in Cluster 1

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<th>Valid Percent</th>
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a. TwoStep Cluster Number = 1
Table 5. Research topics studied in Cluster 2

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a. TwoStep Cluster Number = 2

Table 6. Research methods used in Cluster 2

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a. TwoStep Cluster Number = 2

Table 7. Number of theory driven articles in Cluster 2

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a. TwoStep Cluster Number = 2

Table 8. Social media applications studied in Cluster 2

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<td>Blog</td>
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<td>5.0</td>
<td>5.0</td>
<td>95.0</td>
</tr>
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<td>Social Media</td>
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a. TwoStep Cluster Number = 2
Table 9. Research topics studied in Cluster 3

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<td>Journalism</td>
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<td>16.7</td>
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<td>Social relation</td>
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a. TwoStep Cluster Number = 3

Table 10. Research methods used in Cluster 3

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a. TwoStep Cluster Number = 3

Table 11. Number of theory driven articles in Cluster 3

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a. TwoStep Cluster Number = 3

Table 12. Type of Social Media Application studied in Cluster 3

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</thead>
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<tr>
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<td>88.9</td>
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<td>Blog</td>
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<td>5.6</td>
<td>94.4</td>
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<td>Virtual world</td>
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a. TwoStep Cluster Number = 3
Table 13. Research topics studied in Cluster 4

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<td>UGC</td>
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a. TwoStep Cluster Number = 4

Table 14. Research methods used in Cluster 4

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a. TwoStep Cluster Number = 4

Table 15. Number of theory driven articles in Cluster 4

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a. TwoStep Cluster Number = 4

Table 16. Types of social media applications studied in Cluster 4

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a. TwoStep Cluster Number = 4
Table 17. Research topics studied in Cluster 5

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<th>Journalism</th>
<th>UGC</th>
<th>Social Relation</th>
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<td>4</td>
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Total 16 100.0 100.0

a. TwoStep Cluster Number = 5

Table 18. Research methods used in Cluster 5

<table>
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<td>37.5</td>
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Total 16 100.0 100.0

a. TwoStep Cluster Number = 5

Table 19. Number of theory driven articles in Cluster 5

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a. TwoStep Cluster Number = 5

Table 20. Types of Social media application studied in Cluster 5

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Total 16 100.0 100.0

a. TwoStep Cluster Number = 5
### Table 21. Research topics studied in Cluster 6

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<td>UGC</td>
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<td>8.3</td>
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a. TwoStep Cluster Number = 6

### Table 22. Research methods used in Cluster 6

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<td>83.3</td>
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<td>Case study</td>
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a. TwoStep Cluster Number = 6

### Table 23. Number of theory driven articles in Cluster 6

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a. TwoStep Cluster Number = 6

### Table 24. Types of social media application studied in Cluster 6

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<td></td>
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<td>25.0</td>
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</table>

a. TwoStep Cluster Number = 6
Table 25. Research topics studied in Cluster 7

<table>
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<th>Cumulative Percent</th>
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*a. TwoStep Cluster Number = 7*

Table 26. Number of theory driven articles in Cluster 7

<table>
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<th>Frequency</th>
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<th>Cumulative Percent</th>
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<td>Theoretical articles</td>
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*a. TwoStep Cluster Number = 7*

Table 27. Research methods studied in Cluster 7

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*a. TwoStep Cluster Number = 7*

Table 28. Types of Social media application studied in Cluster 7

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*a. TwoStep Cluster Number = 7*