

# What's Trending in IS Social Media Research

Cathal DOYLE<sup>1</sup>, Karen NEVILLE, and Dave SAMMON  
*Business Information Systems, University College Cork, Ireland*

**Abstract.** Due to the popularity of social media amongst individuals and organisations, it has become an emerging phenomena for academic research, evidenced by the volume of papers published in ICIS, AMCIS, and ECIS. This paper gives a snapshot of this research, highlighting the trends across the following categorisations: paper type (empirical vs. non empirical), research design, theories used and theory type, and theoretical strength. This provides an understanding of the emerging field of social media, with the results indicating that it remains consistent with the IS discipline. Empirical research is much more published than non-empirical, as well as case studies and surveys being the dominant research designs. It is also evident that there is tentative agreement on what the underpinning characteristics of social media are, so these are extracted and explained from the literature.

**Keywords.** Social Media, Literature Review, Social Media Characteristics

## Introduction

Social media is often deemed to be a new phenomena but according to Standage [1] it dates back 2000 years, to when the Romans had scribes write their thoughts on papyrus rolls and used messengers to deliver them to their counterparts. These messages were often copied and sent to more people in the network, and had comments added to them for others to see. Similar practices continued throughout history until the shift towards mass media (newspaper, radio, and television) but with the development of the Internet and the World Wide Web, and the transformation from Web 1.0 to Web 2.0, social media use has grown exponentially, to overtake mass media as the channel for disseminating information. The platforms that social media enable has made it easier, cheaper, and faster for individuals to create and share content with family and friends within their social networks, as well as allowing interactions with individuals outside their networks. This explosion of social media use amongst individuals has inevitably attracted the attention of the business community. Organisations are currently utilizing the platforms both internally and externally, to interact with current and potential customers, allowing employees to collaborate with each other, and as knowledge management systems to create knowledge bases. This ever growing use from individuals and organisations has garnered interest from the information systems (IS) academic community, with many calls for research to explore the phenomena [2, 3, 4, 5].

---

<sup>1</sup> Corresponding Author. Cathal Doyle, 2.110, O'Rahilly Building, University College Cork, Co. Cork, Ireland; E-mail: cathaldoyler@gmail.com, Twitter: @Cathal\_Doyle

However it's not just the IS community that is interested in social media, as it is a phenomena that reaches across multiple other disciplines including psychology, computer science, sociology, management, and marketing. This has resulted in a large amount of research being published, across a multitude of topics including user behaviour, organisational and individual use, educational use, and why users continue to use the platforms. The literature published by the IS community has focused on many of these topics, so it is this paper's objective to highlight the key trends observed in IS social media research, and to extract the core characteristics inherent of social media. First though, Stenmark [6] noted that there was no clear definition of social media, and it was observed from this review that this is still the case. This is due to the term social media meaning many things to many people but examples from the literature include "we define social media to be the set of connectivity-enabled applications that facilitate interaction and the co-creation, exchange, and publication of information among firms and their networked communities of customers" [4]; "Social Media is an umbrella term for a variety of applications, tools and services on the internet that allow individuals to interact with one another" [7]; and "Social media is defined as a group of internet-based applications which builds on the ideological and technological foundations of Web 2.0 and allows the creation and exchange of User-Generated Content (UGC)" [8]. This paper offers a definition based on the core characteristics of social media, which have been identified (and are explained further down) from the 93 reviewed papers: "Social media are a collection of platforms that allow participants to interact through online conversations, where relationships are formed by collaborating and sharing content, which is disseminated from the bottom up."

To help a phenomena become more paradigmatically developed, Schwarz et al. [9] suggest a consensus on research efforts needs to be achieved, where review articles can serve an important role for this development. These review articles have been published by IS scholars such as Chen and Hirschheim [10], Mingers [11], Orlikowski and Baroudi [12] and Backlund [13], where a review of published papers is undertaken, and from their findings a reflection of the state of IS research is offered. Furthermore, while Sammon et al. [14] call for researchers to be more engaged in developing such review articles as a priority, there remains a lack of publication outlets for it [9]. This literature review has focused on the AIS conferences: Americas Conference on Information Systems (AMCIS), the International Conference on Information Systems (ICIS), and the affiliated AIS conference: the European Conference on Information Systems (ECIS) as its pool of research articles. These conferences were chosen as it is still a relatively young field, with much of the research appearing in them rather than journals. For example, from the first round of the key word search conducted in this literature review, 214 papers were identified in the three conferences, with 77 articles identified in the AIS senior scholar basket of eight journals. So while it is evident that articles are starting to appear more frequently in the top IS journals, with special issues arising in 2010, 2011, 2012, and 2013, the larger pool of the conferences provides more accurate trends.

The following section introduces the methodology of the paper, where an explanation of the framework for how the literature was gathered is explained, and then the categories on which the data was gathered and analysed are presented. The findings and discussion show the trends of IS social media research, under the categories of paper type, research design, theory used and theory type, and theoretical strength, where the key trends are stated. Then the emergent social media characteristics are

presented and explained. A discussion of these findings is presented, explaining the implications, which is followed by a conclusion.

## 1. Methodology

To pursue the objective of this paper, a concept-centric approach suggested by Webster and Watson [15] was undertaken to ensure a high quality literature review. This involves identifying concepts from papers focused on a specific topic in the IS literature, and extracting the content that is related to any of the concepts. A research framework was also developed and applied in congruence with the concept matrix, and this is presented next.

### 1.1. Approach to Literature Selection

The cornerstone of a good literature review should apply a research framework that helps to focus it [16]. Bandara et al. [17] offer such a framework, which was adapted for this review and is presented in Table 1. To begin with, a number of key terms were identified which initially consisted of “*Social Media*” and “*Web 2.0*”, with an organic approach to build the terms being adopted, where new terms from the reviewed literature were introduced such as “*Social Technologies*”, and “*Collaborative Technologies*”. This resulted in 214 social media related papers being identified. Iteration 2 involved understanding the context of the identified papers, and whether they were appropriate for the study. For example, a paper with the title “*Social Communities*” made it through the first iteration, but may not have any significance to social media in and of itself, so was removed in this iteration. This resulted in 142 social media related papers being identified. Finally, the third iteration involved reading the papers and extracting the information that was specific to the concepts, resulting in 93 social media papers being used. The categorisations that were identified for this review are presented next.

**Table 1.** Literature Review Framework

Phase	Steps
1. Selecting the Sources	Specify the topic of interest Identify relevant sources for selected topic
2. Coding Schemes	Determine what is going to be captured from the pool of papers
3. Search Strategy	Identify key search terms <b>Iteration 1:</b> Search each source, from their inception, identifying papers that contain any of the key search terms in their “title”, “abstract” or “keywords” section. Add any new terms to the key terms list. <b>Iteration 2:</b> Conduct a detailed review of the abstract and keywords of the initial pool of papers to understand the context of the paper. <b>Iteration 3:</b> Read the gathered pool of papers, capturing the data related to the concepts in the concept matrix.
4. Analysis and Write Up	Analyse the gathered data, and report findings

## 1.2. Categorisations

The data analysis focused on four categories: paper type, research design, theory used and theory type, and theoretical strength of papers. The operational definitions of these categories are presented in the following sub-sections.

### *Paper Type (Empirical vs. Non-Empirical)*

When reviewing the papers, the first task was to judge the paper type. However, as stated by Mingers [11], this is not such an easy task due to the degree of fuzziness that can occur when deciding if a paper contains empirical research, or is purely theoretical or methodological. For this reason, Mingers [11] definition of empirical work was used to judge empirical papers: “A paper is empirical if it reports on new data (of any kind) that has been generated by the underlying research (but possibly described in a related paper) and has the resultant analysis is a substantive part (but not necessarily all) of the papers contribution”. Further, non-empirical papers can be judged by research that helps to “develop concepts and build theory” [10]. Therefore, the criterion on which papers were judged was whether they obtain real data and observations, or if they are purely developing concepts and theory. As such three types of papers were highlighted: empirical, conceptual, and panel papers.

### *Research Designs*

Orlikowski and Baroudi [12] offer eight types of research design that is used in IS research. This is further broken down by Chen and Hirschheim [10] to six types. For this review, as shown in Table 2, the research design types of Chen and Hirschheim [10] were used, but instead of separating the types of experiments, they were under one heading of “Experiments”.

**Table 2.** Major IS Research Designs [10]

Research Design	Explanation
Survey	Studies that fall into this category gather data by means of questionnaires.
Case Study	Studies that are involved with a single site or a few sites over a certain period of time are located in this category.
Experiment	Studies that take place within a designed, controlled environment, or in a real-world setting, where special treatments are used to study two or more groups.
Action Research	Often embodied in a case study, action research distinguishes itself in that the researchers are an integral part of the phenomenon under study.
Not Applicable (N/A)	These are papers that are non-empirical.

### *Theory Used and Theory Type*

Gregor [18] offers five types of theory that are developed in IS research, which are presented in Table 3. When reviewing the type of theory that is being developed in social media research, these theory types were used. This consisted of reading the paper, and identifying what theory components were evident, and then matching it to a type of theory. This is an important classification as it brings an understanding to social media researchers the types of theory being developed, and not being developed.

**Table 3.** Theory Types [18]

<b>Theory Type</b>	<b>Explanation</b>
1. Analysis	Says what is. The theory does not extend beyond analysis and description. No causal relationships among phenomena are specified and no predictions are made.
2. Explanation	Says what is, how, why, when, and where. The theory provides explanations but does not aim to predict with any precision. There are no testable propositions.
3. Prediction	Says what is and what will be. The theory provides predictions and has testable propositions but does not have well-developed justificatory causal explanations.
4. Explanation and Predication	Says what is, how, why, when, where, and what will be. Provides predictions and has both testable propositions and causal explanations.
5. Design and Action	Says how to do something. The theory gives explicit prescriptions (e.g. methods, techniques, principles, of form and function) for constructing an artefact.

### *Theoretical Strength*

To help researchers better understand the theoretical contributions of papers, Sammon, Nagle et al. [14] have developed an artefact to help assess the theoretical strength of papers. By marking a 1 or a 0 depending on the presence or absence of the common features presented in Table 4, and adding the aggregate, the theoretical strength score is achieved. By applying this artefact to the current selection of papers, it was possible to assess the theoretical strength of social media research.

**Table 4.** The Common Features of Theory

<b>Common Features</b>	<b>Explanation</b>
Factors/Constructs/Concepts	A definition of the factors/constructs/concepts that are used.
Relationships	Outline of how the factors/constructs/concepts interact and are related.
Graphical Representation/Model	A graphical representation of the factors/constructs/concepts and their relationships.
Scope/Boundary/Domain	State the conditions in which the theory is most and least likely to hold true.
Theoretical Underpinning/Assumptions	Description of the logical argument underpinning theoretical output.
Falsifiability – Causal Explanations	Statements of relationships among phenomena that show causal reasoning [18]
Falsifiability – Testable Propositions	Propositions to test falsifiability of the proposed theory are explicitly stated.
Falsifiability – Prescriptive Statements	Statements of how to apply the theory in practice are offered (e.g. construct an artefact).

The following section presents the empirical findings of this review paper. Further to this, a number of key trends are given. Then the social media characteristics that have emerged from the reviewed literature are presented. Finally, a discussion and a conclusion are presented.

## **2. Findings**

This analysis comprises of papers from AMCIS, ECIS, and ICIS that conduct research on social media. In total, there were 93 papers analysed across the three conferences.

ECIS provided the most papers with 43.0% (40 papers). This is closely followed by ICIS with 37.6% (35 papers), while AMCIS provided 19.4% (18 papers). Each paper has been classified by the paper type, the research design, the theory used, the theory type, the theoretical strength of the paper, and the social media characteristics that were emerging. The following sections focus on the trends that have been observed.

### 2.1. The Trends in IS Social Media Research

#### Paper Type (Empirical vs. Non-Empirical)

A comparison of the paper types being published shows some interesting trends. From Figure 1 we see that the amount of papers being published is increasing, with a year on year rise for empirical and conceptual papers. This would support [5] belief that social media is a 'hot topic' for academic researchers. It is also evident that the number of empirical papers exceeds non-empirical papers, and this gap has progressively widened over the years. This would be consistent with [10] who show empirical papers have been dominant in IS research and is a trend that continues with social media research. Also, some recurring topics of research have been user's intentions to continue using social media, and organisations use of social media.

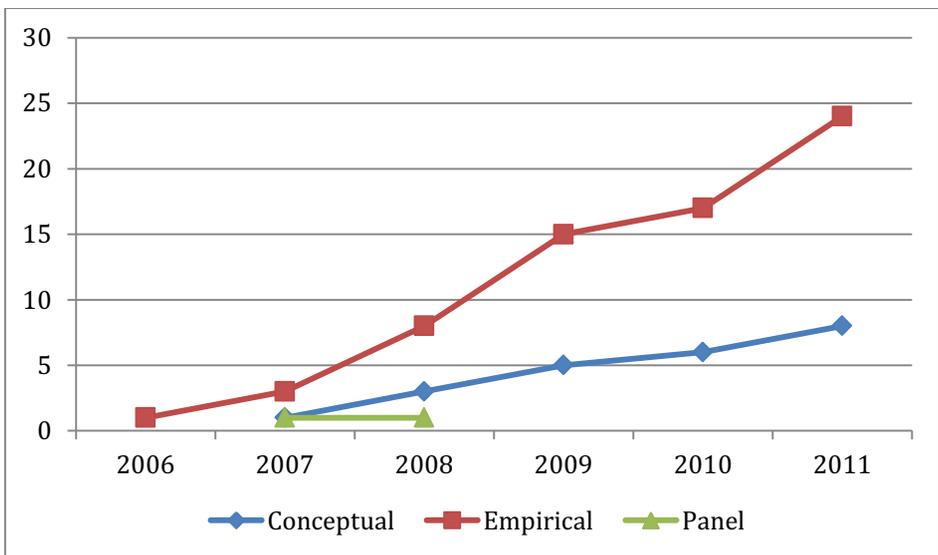


Figure 1. Trend of Paper Types Published.

#### Key Trends

- *Social media research papers have seen a year on year growth since 2006, making it a 'hot' topic.*
- *Empirical paper publications have exceeded non-empirical paper publications since 2006.*

#### Research Design

Figure 2 shows the patterns of the research designs used in empirical papers. Case studies have been the dominant research design accounting for 40% of empirical papers, where the majority have been single cases. However, while surveys account for 26%,

experiments only appear in 6% of empirical papers reviewed. This highlights that social media research is following the trends of other IS research as noted by [10], where case studies and surveys are dominant, while action research and experiments have remained underutilised. It can be argued that the case study research design dominance may be due to the richer data that can be gathered [10], especially where it can be exploratory in an emerging topic like social media.

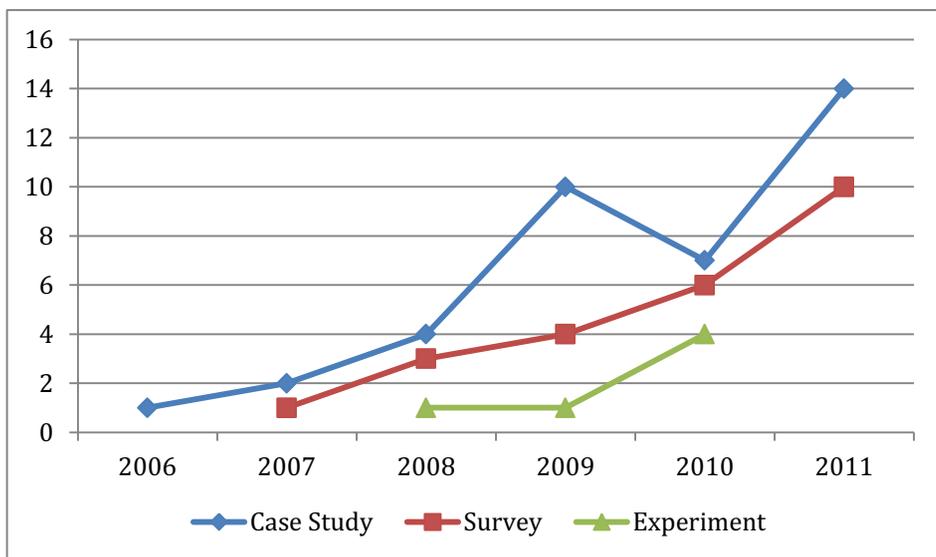


Figure 2. Trend of Research Designs Used in IS Research on Social Media.

### Key Trends

- Case studies and surveys are the dominant research designs.
- The majority of the case study research has been single case studies.

### Theory Used and Theory Type

Currently there is no dominant theory being used to study social media, with the majority being used a single time. The most used is TAM, which appears in 5 papers, with diffusion of innovations the second highest in 4 papers. Then the types of theory being developed are largely explanation, accounting for 65% of the papers, followed by analysis, which accounts for 34%. Only a single paper developed a design and action theory.

### Key Trends

- There is no single theory dominantly being used to study social media.
- The majority of theories being developed are analysis, followed by explanation

### Theoretical Strength

Figure 3 represents the theoretical strength of the papers reviewed. Explicitly stated explanations of factors/concepts/constructs appear in 65 of the papers. But a worrying trend is the lack of relationships being explicitly stated between these factors/constructs/concepts, with only 33 of the papers doing so. The absence of such

explicitly stated relationships might suggest that researchers are studying factors/constructs/concepts in isolation, and they may not be examining the relationship between these factors/constructs/concepts. This is in line with other areas of IS research [19]. However, based on this analysis of theoretical strength, from the researchers perspective, it appeared the strongest theoretical papers came from ECIS and ICIS, such as Barnes [20], Hu and Kettinger [21], and Thadani and Cheung [22].

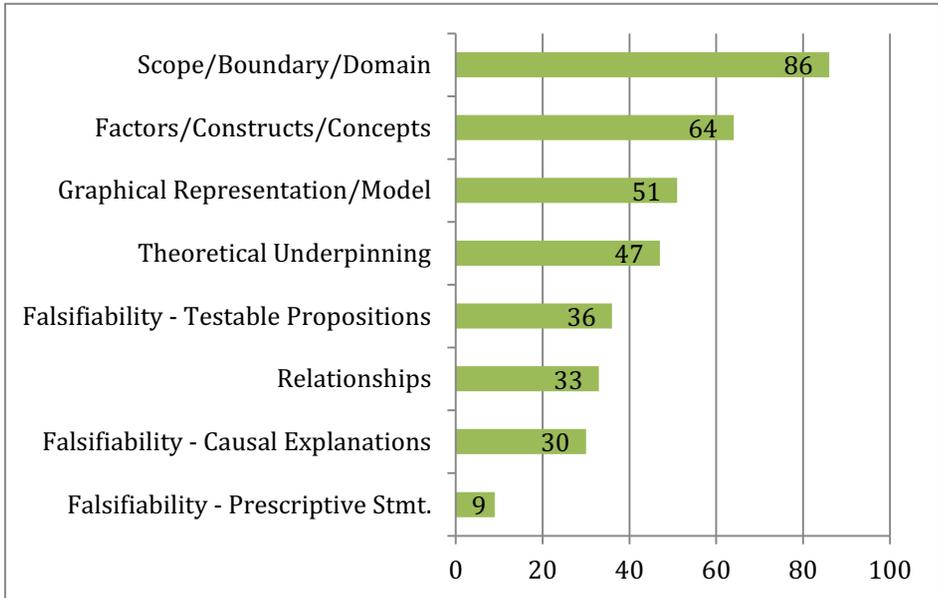


Figure 3. Common Features of Theory Total Counts.

### Key Trends

- *There is a large absence of explicitly stated relationships between factors/constructs/concepts.*
- *ICIS offers the most papers with the highest theoretical scores, with a total of three receiving the perfect score of 7.*

### The Emergent Social Media Characteristics

Stenmark [6] indicates that for IS researchers to properly be able to study and understand social media, the characteristics underpinning it need to be identified. While some researchers have attempted to do this, [23, 24], there is still a tentative agreement on what these characteristics are [4]. However, a trend of the most used concepts in social media research were tracked when conducting the analysis, and are offered in Figure 4. This represents the characteristics of social media, where social interaction is the most dominant. From 2007 onwards all the characteristics have been trending in the literature, with most increasing in the papers. The trend of these characteristics being used is generally upwards.

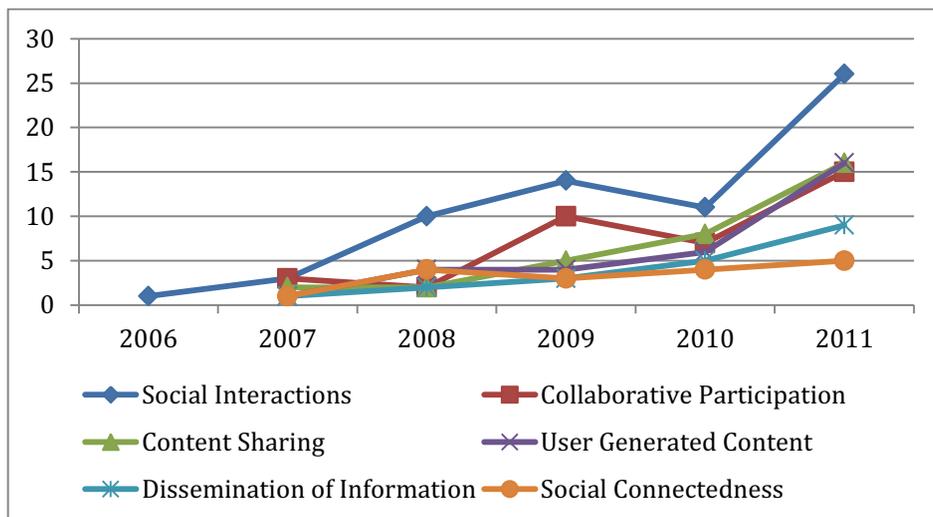


Figure 4. Emerging Social Media Characteristics.

Table 5 presents the characteristics, and the frequency of their use in the literature. It is evident that social interaction is prevalent among the papers, while characteristics such as dissemination of information and social connectedness are less represented. Further to this is a breakdown of the most used social media platforms in these studies. Facebook, a social networking site, has been the most used in four of the six characteristics. Second Life, a virtual world, is the most used for collaborative participation. Twitter, which is a form of microblogging, is the most used for information sharing. The characteristics introduced in Table 5 are extrapolated next to give an understanding of what they imply.

Table 5. Frequency of Social Media Characteristics

Characteristic	Frequency	Platform Used
Social Interactions	32.2% (66 papers)	Facebook (12 papers)
Collaborative Participation	18.0% (37 papers)	Second Life (4 papers)
Content Sharing	16.6% (34 papers)	Twitter (3 papers)
User Generated Content	15.1% (31 papers)	Facebook (4 papers)
Dissemination of Information	9.8% (20 papers)	Facebook (2 papers)
Social Connectedness	8.3% (17 papers)	Facebook (3 papers)

### Social Interactions

Social interactions are communications between users, which can occur in multi-directional flows, and are not restricted by time or space. These interactive communications occur in many forms such as posting content, viewing other’s content, responding to other’s content, and communicating directly with others. Examples include friend relationships that occur on Facebook, comments that are left on Blogger, and the response to tweets on Twitter.

### Collaborative Participation

Collaborative participation is when users generate, edit, or share content together. There can be various levels of participation by users, and as they interact and collaborate more, the community evolves. And as these communities evolve, a knowledge repository is built up, allowing social media to become information exchange platforms, which relies on the collaborative participation of individual

contributors. Examples include co-creation of content on Wikipedia, tagging used on Facebook photos, and comments on Blogger.

### **Content Sharing**

Content sharing can occur when social interactions happen between users and their social ties. Users can share content, or seek content, but successful content sharing is not guaranteed unless the users in the community are willing to participate. However, users will continue to interact with each other as long as these interactions result in relational and informational value. Examples include status updates on Facebook, videos on YouTube, and the editing of content on Wikipedia.

### **User Generated Content**

User generated content consists of the creation and consumption of content. Social media users become active content producers, and information relayers instead of just content consumers. These can be categorised into four types: content creators who are proactive in content creation, content consumers where users more consume content, content commentator, where users comment on content instead of creating it, and finally content collectors, who collect content by saving it in various forms. Examples include videos that are uploaded to YouTube, images uploaded to Imgur, and articles that are added to Wikipedia.

### **Dissemination of Information**

With the sender – receiver relationship that was initially available on the web, senders spent time carefully editing what they were saying before sending it out on the web. Social media has altered this relationship, where control has shifted to the users, creating a more democratic approach to content sharing. This shift means content is no longer filtered from the top, but instead a bottom-up approach to how information is disseminated is preferred. This content is not filtered, and can be edited or commented on by other users. Examples include Facebook, YouTube, and Reddit.

### **Social Connectedness**

Social connectedness is the quality and number of social ties made from social interactions. Not all connections are equal – and this is seen as the strength of a tie. Three types exist: strong ties, weak ties, and latent ties. The first two refer to the strength of a relationship between two users, but the third refers to a connection which is technically available, but has yet to be activated by some form of interaction. While strong ties amongst users allow for useful information to be transferred, weak and latent ties can also be rich sources of information. Then as users interact more, connections are not only built, but they are strengthened. Examples include friends on Facebook, followers on Twitter, and subscribers on YouTube.

## **3. Discussion**

The trends from this analysis indicate that IS social media research remains consistent with the general IS research domain – from the types of papers being published, to the types of research designs being used, to TAM still appearing as the most dominant theory being applied, researchers appear to have varied little. This has a number of implications for researchers with respect to future research.

The majority of papers being published on social media have been of an empirical nature. This can be an issue, as little agreement on the conceptual underpinnings of a topic may lead to conflicting findings across the field. This would indicate that more conceptual papers are needed as failing to engage in this conceptual clarification may lead to research on social media being treated as a black box, which will even further exasperate these conflicting consequences. One such example is the underpinning characteristics of social media, which needed to be discovered, explained, and understood as there is a tentative agreement in the IS literature on what they are. This paper extracted and explained these characteristics from the literature, across 93 papers, providing a conclusive list.

This also impacts the field from a theoretical perspective. While it would be expected that an emerging field would still be developing theoretically, a lack of conceptual papers towards this will result in weaker research, and thus has the potential to impact future research, and practitioners who apply this created knowledge. Also, design science has seen a rise in popularity in recent years in the IS discipline but only one single paper out of the 93 reviewed has applied it. This would indicate there is a clear gap for more design research to be conducted.

The research methods applied when conducting research on social media agrees with Chen and Hirschheim [10], where case studies, surveys, and experiments are the dominant ones applied, with case studies and surveys most often used to conduct research. Interestingly, case studies have been the most used method, and the majority of times it has been single cases – indicating there is an opportunity for contributions across multiple cases. Furthermore this also indicates there is an opportunity for more experimental methods to be used, providing different perspectives and new findings.

Finally, social media enables many different types of platforms: social networking sites, blogs, microblogs, content communities, collaborative projects, and virtual worlds [25]. These are already impacting organisations, both in terms of decision making and decision support. For example, some organisations are empowering their employees to interact through microblogs internally as a support tool. What is necessary is to understand how the characteristics that have been identified in this paper, which are inherent in each of these platforms, impacts decision making and decision support.

#### **4. Conclusion**

Social media is currently a hot topic in the IS academic community, with year on year growth in research being published since 2006. This paper shows a reflection of this research by reviewing the literature, and highlighting the trends across them. It shows how the field is remaining consistent with other fields in the IS discipline through the continued use of the same research designs: case studies and surveys. Further to this, empirical papers are being published much more than non-empirical papers, and there is a lack of any dominant theory so far. This paper has also observed the tentative agreement among researchers on the characteristics of social media, and extracted them from the literature, thus helping towards the conceptual underpinnings of social media. This is an effort that other researchers need to get involved in to be able to ensure the research conducted in the field is built on solid foundations.

## 5. Acknowledgment

The data set that was used in this review is available upon request to the lead author.

## References

- [1] T. Standage, *Writing on the Wall - Social Media: The First 2000 Years*, Bloomsbury Publishing, 2013.
- [2] S. Aral, C. Dellarocas, and D. Godes, Social Media and Business Transformation: A Framework for Research, *Information Systems Research* **24**(1) (2013), 3-13.
- [3] K. Choi, et al., The Effects of Micro-Blogging, Personality, and Culture on Group Decision-Making, in *ICIS 2010 Proceedings*.
- [4] K. Larson and R. Watson, The Value Of Social Media: Toward Measuring Social Media Strategies, in *ICIS 2011 Proceedings*.
- [5] B. Light, K. McGrath, and M. Griffiths, More Than Just Friends? Facebook, Disclosive Ethics and the Morality of Technology, in *ICIS 2008 Proceedings*.
- [6] D. Stenmark, Web 2.0 in the Business Environment: The New Intranet or a Passing Hype?, in *ECIS 2008 Proceedings*.
- [7] D. Richter and S. Schäfermeyer, Social Media Marketing On Multiple Services – The Case Of The Student Run Organisation Aiesec, in *ECIS 2011 Proceedings*.
- [8] O. Mansour, M. Abusalah, and L. Askenäs, Wiki Collaboration In Organizations: An Exploratory Study, in *ECIS 2011 Proceedings*.
- [9] A. Schwarz, et al., Understanding Frameworks and Reviews: A Commentary to Assist Us In Moving Our Field Forward by Analyzing the Past, *DATABASE* **38**(3) (2007), 29-50.
- [10] W. Chen and R. Hirschheim, A Paradigmatic and Methodological Examination of Information Systems Research from 1991 to 2001, *Information Systems Journal* **14**(3) (2004), 197-235.
- [11] J. Mingers, The Paucity of Multimethod Research: A Review of Information Systems Literature, *Information Systems Journal* **13**(3) (2003), 233-249.
- [12] W. Orlikowski and J. Baroudi, Studying Information Technology in Organisations: Research Approaches and Assumptions, *Information Systems Research* **2**(1) (1991), 1-28.
- [13] P. Backlund, On the Research Approaches Employed at Recent European Conferences on Information Systems (ECIS 2002 - ECIS 2004), in *ECIS 2005 Proceedings*.
- [14] D. Sammon et al., Design of a Pedagogical Artefact for Doctoral Researchers to Assess Theoretical Strength, in *ECIS 2011 Proceedings*.
- [15] J. Webster and R.T. Watson, Analyzing the Past to Prepare for the Future: Writing a Literature Review. *MIS Quarterly* **26**(2) (2002), XIII-XXIII.
- [16] M. Siponen and R. Willison, A Critical Assessment of IS Security Research Between 1990-2004, in *ICIS 2007 Proceedings*.
- [17] W. Bandara, S. Miskon, and E. Fiel, A Systematic, Tool-Supported Method for Conducting Literature Reviews in Information Systems, in *ECIS 2011 Proceedings*.
- [18] S. Gregor, The Nature of Theory in Information System., *MIS Quarterly* **30**(3) (2006), 611-642.
- [19] H. Akkermans and K. Van Helden, Vicious and Virtuous Circles in ERP Implementation: A Case Study of Interrelations Between Critical Success Factors, *European Journal of Information Systems* **11**(1) (2002), 35-46.
- [20] S. Barnes, Continuance Usage Intention In Microblogging Services: The Case Of Twitter, in *ECIS 2009 Proceedings*.
- [21] T. Hu and W. Kettinger, Why People Continue to Use Social Networking Services: Developing a Comprehensive Model, in *ICIS 2008 Proceedings*.
- [22] D. Thadani and C. Cheung, Exploring The Role Of Online Social Network Dependency In Habit Formation, in *ICIS 2011 Proceedings*.
- [23] H. Ali-Hassan and D. Nevo, Identifying Social Computing Dimensions: A Multidimensional Scaling Study, in *ICIS 2009 Proceedings*.
- [24] M. Soliman and A. Beaudry, Understanding Individual Adoption And Use Of Social Computing: A User-System Fit Model And Empirical Study, in *ICIS 2010 Proceedings*.
- [25] A. Kaplan and M. Haenlein, Users of the World, Unite! The Challenges and Opportunities of Social Media, *Business Horizons* **53**(1) (2010) 59-68.