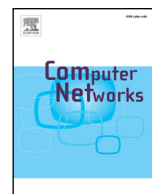




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## Enterprise social networks: A literature review and research agenda

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## ABSTRACT

Enterprise Social Networks (ESNs) have been receiving increasingly more attention in academia and practice over the past years. ESNs are implemented to improve collaboration among employees and to foster knowledge management by capturing tacit knowledge, among other reasons. However, ESNs do not always fulfill the companies' expectations and consequently companies question their investment. Due to the growing popularity of ESNs in practice and the still unanswered questions of how to ultimately achieve ESN success, a growing number of researchers have started to analyze the ESN phenomenon, leading to a steadily growing number of publications in a variety of outlets. However, research groups are not in accordance yet on what terminology to use for the given phenomenon. This shows that the young research field of ESNs is still in development. To support future research and practice, we perform a literature review to answer three research questions: first, we analyze which terms for the phenomenon of ESNs were used and which term tends to be accepted by the community recently. Second, we analyze ESN publications regarding the addressed topics to provide a state-of-the-art in regard to ESN research. We elaborate a framework using the dimensions ESN implementation status and focus of investigation to structure the publications and to provide a comprehensive overview of the research topics. Third, we identify areas of future research on the basis of the current publications and trending topics.

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## 1. Introduction

With affordable and reliable internet service for everyone and information technology evolving quickly, the first digital natives, also referred to as 'Generation Y', have been exposed to technology and the internet from early childhood. As a result, they are technologically savvy and are used to applying technology, especially for communication [1]. The resulting communication needs were fostered by the emergence of Social Media at the turn of the millennium [2]. By entering the workforce, Generation Y started to transfer their communication habits and their demand for Social Media into the workplace [3] and are expecting their employers to provide technology to fit their 'social needs'. As a result, large corporations have started to implement Enterprise Social Media in their portfolio of IT applications, e.g., Henkel, one of Germany's largest companies in the chemical industry, introduced the Enterprise Social Network 'Yammer' at the end of 2015. According to Henkel's CEO Kasper Rorsted, Yammer's introduction at Henkel was a result of the rising expectations of Generation Y employees. They are socially connected via Snapchat, Facebook, or Instagram in private

life and also expect this in their professional life [4]. As Generation Y is now slowly taking over the responsibility of making strategic business decisions as newly promoted managers [5], they will define the future use of Social Media in the business world in the upcoming decades.

Enterprises introduce Social Media for various reasons, e.g., to improve innovation management [6] or to provide social collaboration [7]. Examples of well-known Social Media platforms are Online Social Networks (OSN) like Facebook or Google+, Microblogging platforms like Twitter, or video sharing platforms like YouTube. However, companies also use Social Media platforms specifically designed and implemented for their internal use. An example for a class of internal applications are Enterprise Social Networks (ESNs), which represent the in-business counterpart to OSN. ESNs support companies by providing new use cases for their workforce as they expect benefits from ESNs by supporting collaboration, strengthening social connection, fostering situation awareness, and facilitating knowledge management [8]. ESNs also pave the way for companies to extend their efforts regarding "crowd-sourcing, open innovation, or the inclusion of external experts in internal processes" ([9], p. 151).

ESN adoption in enterprises has accelerated over the past years as customer-driven social technologies like OSN cannot provide necessary enterprise collaboration capabilities (e.g., document storage, knowledge search, integration with existing communication

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systems) [7]. Market research has been showing a significant rise in ESN investment recently. For example, IDC's February 2013 Social Business Survey mentions an ESN adoption rate of 79% among all respondents. Between 2014 and 2019, the worldwide revenue of ESN software is expected to more than double [10]. However, ESNs do not always fulfill the companies' expectations as usage often dwindles after an initial spike and companies question their investment [11].

Due to the growing popularity of ESNs in practice and the still unanswered questions of how to ultimately achieve ESN success, a growing number of researchers have started to analyze the ESN phenomenon. Multiple research groups have evolved over the last years contributing to this topic. These groups have mostly been focusing on their own ideas and definitions. Thus, to get the state-of-the-art about literature on ESNs, a literature review including a detailed topic analysis is necessary. Further, to structure articles in regard to ESNs, we develop a general framework to classify all literature dealing with ESNs containing the two dimensions *focus of investigation* and *ESN implementation status*. Both the detailed topic analysis and the framework are the basis to identify gaps and redundancies in current research, which enable us to define a profound research agenda. As a result of the problem statement, our paper addresses the following three research questions:

*RQ1: Which terms and definitions referring to ESNs does the IS community apply?*

*RQ2: What topics are currently addressed in IS research on ESNs? How can these topics be classified in a framework?*

*RQ3: What are the main topics for future research on ESNs and what would a research agenda look like?*

We address these three research questions by conducting a systematic literature review applying the well-established method of Webster and Watson [12]. It is followed by a qualitative analysis of all identified literature according to Mayring [13]. This leads us to a universal framework for ESN research, ultimately resulting in a proposed research agenda for the field of ESNs.

The paper is structured as follows: Section 2 introduces definitions, our research methodology, related work and a new framework for structuring ESN research. Section 3 presents the results of our literature review and highlights the most interesting findings concerning current research topics. In Section 4, we analyze and discuss further research questions raised by literature. The paper closes with a conclusion in Section 5.

## 2. Research method and application

### 2.1. Terms and definitions

Social Media can be classified 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“ ([14], p. 61). These internet-based applications incorporate blogs, social networking sites, collaborative projects, content communities, virtual social worlds as well as virtual game worlds [14]. The term Social Media is strongly associated with platforms for private use. However, Social Media has also gained increasing attention in the business world recently. Social Media applied by an enterprise is referred to as Enterprise Social Media (ESM) (cf. [15]). ESNs platforms typically combine multiple social technologies with the goal to support collaboration among business users and can thus be defined as “web-based platforms that allow workers to (1) communicate messages with specific coworkers or broadcast messages to everyone in the organization; (2) explicitly indicate or implicitly reveal particular coworkers as communication partners; (3) post, edit, and sort text and files linked to themselves or others; and (4) view the messages, connections, text, and files communicated,

posted, edited and sorted by anyone else in the organization at any time of their choosing” ([16], p. 2).

According to Turban et al. [17], there are five general approaches of how companies can apply ESM: (1) using publicly available Online Social Networks (OSN), (2) introducing internal Enterprise Social Networks (ESNs), (3) creating enterprise-owned, publicly accessible social networks, (4) enhancing existing communication technologies (e.g., e-mail) with social functionalities, or (5) developing tools that include capabilities to support social networking applications. Consequently, the term ESM is twofold: On the one hand, ESM entails the use of any of the publicly available Social Media platforms for the purpose of marketing, recruiting, and the like (cf. [15,18]). However, while customer-facing Social Media platforms (e.g., Facebook, Twitter, LinkedIn, Pinterest, Snapchat) aim at keeping users engaged to gather more and more of their personal data, the goal of a company when applying ESM is to increase efficiency and effectivity in accomplishing its business objectives [15]. On the other hand, ESM platforms for internal company use (e.g., ESN) typically combine multiple social technologies, e.g. microblogging and social networking, with the goal to support collaboration among business users. From a technical perspective, ESNs can be defined as “a web-based technology that supports users' contributions of persistent objects to a shared pool and that enables company-wide responses to these objects” ([19], p. 3). For clarification, Fig. 1 depicts the definition of ESM in the context of Social Media (highlighted horizontally by a dotted line).

Topics regarding research on ESNs include its impact on employees' collaboration and communication, its contribution to flatter hierarchies, or its success factors [20]. As research in the area of ESNs has only started recently and is still evolving, many different terms and definitions have been developed and used interchangeably to describe the same phenomenon. This is mainly caused by different terms introduced by different research groups and the ongoing evolution of the underlying technology of ESNs and corresponding tools. We will address this issue with Research Question 1. Examples of terms used in literature include but are not limited to: Enterprise Social Software [19,21]; Corporate Social Software [22]; Corporate Social Network [23]; Enterprise Social Networking Sites [24,25]; Enterprise 2.0 [26]. While these terms are not real substitutes for each other, their general understanding refers to the same phenomenon and differs mainly by either the time the terms were introduced or by their initial scope. As we strive towards clarification of terms (see RQ1), we will use the expression ESN in this paper if not stated otherwise.

### 2.2. Related work

Despite the fact that demand for ESN implementation has been steadily increasing over the past years [27], research regarding Social Media Networks has mainly focused on OSNs so far (cf. [20]). However, many IS researchers have been focusing on OSNs without considering the organizational context of Social Media [16]. Nevertheless, research on the use of Social Media in organizations has been continually evolving and expanding over the last five to ten years and has gained some popularity in IS research. Thus, we needed to check whether any of our research questions have already been answered by other publications recently. We therefore searched for publications that provided – in the context of Social Media – one of the following three goals: an overview of the state-of-the-art, a research agenda, or a framework to classify literature.

We first searched for publications addressing similar research questions in the context of Social Media [20,28,29] and Enterprise 2.0, i.e., elaborating the evolution of enterprises using Web 2.0 technologies (e.g., [26,30,31]). We identified the following publications:

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