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**S.O.C.I.A.L. - Emergent Enterprise Social Networking Use Cases:
A Multi Case Study Comparison**

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S.O.C.I.A.L. - Emergent Enterprise Social Networking Use Cases: A Multi Case Study Comparison

Abstract

Enterprise Social Networking (ESN) is a relatively new phenomenon. It refers to the application of Internet platforms for relationship building and short message exchanges in the context of workplace communication. While a number of case studies have provided evidence of its usefulness, a more comprehensive and structured overview of ESN is needed. In this study we carry out a cross-case comparison of five in-depth ESN case studies that have elicited use practices using genre analysis. A comparison of these case results allows us to derive a comprehensive catalogue of ESN use cases that demonstrates the versatility of ESN. Our study has two main contributions. Firstly, we present a use case catalogue in a structured and accessible form, which we term the S.O.C.I.A.L. framework. The framework provides an overview of ESN that is useful for decision-makers who want to guide the rollout and adoption in their organisation. Secondly, in part to caution against the use of the framework as a blueprint or recipe, we demonstrate the contextual nature of ESN by way of different contextual profiles of ESN in teams, projects and large enterprises. Our study provides a stepping-stone for future ESN research, since the S.O.C.I.A.L. framework provides a more refined understanding of ESN as both a broad and contextual phenomenon.

Keywords: Enterprise Social Networking, ESN, Use Cases, Social Media, Framework, Case Studies

Introduction

Enterprise Social Networking (ESN) is the result of applying technologies that emerged on the public Internet within organisations as a way of facilitating workplace communication and collaboration. Not surprisingly, ESN platforms such as Yammer, Tibbr or Jive replicate many of the features that are well known from Facebook or Twitter. Given the strong uptake in recent years, ESN and the associated phenomenon of social business have featured prominently in the public media and management literature alike.

At the same time however, we are still at the beginning of a learning process in understanding what the place and role of ESN in business is. Unlike many other software systems that serve a dedicated purpose and can thus be described as tools, ESN are open and flexible technologies that do not lend themselves to immediate forms of usage determined or prescribed by their features (Riemer and Richter 2010, Riemer et al. 2009; Stocker et al. 2012a). They are best understood as (social) infrastructures (Tilson et al. 2010). This implies that it is hard to predict how and in what form ESN will be put to use when rolled out to a particular organisational context. Rather, ESN adoption needs to rely on experimentation and sense-making by its users, a process that takes time and is open-ended, in that the potential of ESN only manifests when people make sense of and incorporate them into their day-to-day work practices. Conversely, ESN can only be understood for what they are through such emerging use cases in context.

To this end, in this paper we set out to provide an overview of emerging use cases across a range of organisational contexts. In doing so, we consolidate three years of case study research into ESN adoption and use. Our study is based on a comparison of the results of a number of studies that have all applied the same analysis technique to catalogue emerging use practices in various case context; these studies have been published elsewhere (see table 1 for details).

We derive a number of contributions from this comparison. Firstly, we present a consolidated catalogue of eleven ESN use cases with detailed descriptions and exemplary quotes from the cases. Secondly, we group these use cases into a framework, which we term the S.O.C.I.A.L. Thirdly, we provide a structured overview of the varying nature of ESN in different organizational contexts, such as teams, projects and large enterprises. Finally, we use short case vignettes to illustrate ESN in different contexts.

Our study is the first of its kind to provide a structured and cross-case overview of emerging ESN use cases, grounded in data. The use case catalogue provides a better understanding of the ESN phenomenon as the basis for future research into the phenomenon. It shows that much like these case contexts are very different in nature, so are the emerging ESN practices as a reflection of their use contexts. Our findings further underline the openness and interpretive flexibility of ESN as a social infrastructure.

Our study has important practical implications. The use case catalogue and case comparison provide useful profiles that outline which use cases are important in different contexts. We are confident that it will create a better understanding of ESN and its benefits for organisational practices and help to provide a better picture of the manifold possibilities of ESN in supporting communication, collaboration and knowledge work. The S.O.C.I.A.L. framework can further serve as a starting point for organisational sense-making on the application of ESN. At the same time however, decision-makers should not see the framework as a blueprint or recipe, as incorporating these platforms into the day-to-day work routines is an emergent process that should not be restricted by management through setting limiting expectations.

We begin by providing a necessarily brief overview of the existing literature followed by the research studies that served as the basis for this comparative study. In the main section we will present the use case catalogue, derive the S.O.C.I.A.L. framework and present a case comparison. We discuss implications of our results and end with conclusions regarding the significance of our findings.

Research Background

In the wake of what has been termed the Web 2.0, a new kind of Internet platform has emerged: social platforms such as Twitter and Facebook provide a set of easy-to-use features that encourage participation, social networking and the exchange of short messages. Numerous examples have pointed out the power of these services in mobilizing and spontaneously organizing people for a common cause, for example during the 2011 Arab spring movement (Starbird and Palen 2012), the 2010 Haiti earthquake (Starbird and Palen 2011) and the 2010 Yushu earthquake in China (Qu et al. 2011). In these cases the microblogging services Twitter and Sino-Weibo were inter alia used as a means to support self-organisation of the crowd (Vieweg et al. 2010) and for broadcasting immediate needs (Qu et al. 2011).

Given the widespread use in the public domain social platforms have made fast inroads into organisations. It is widely assumed that they will improve information sharing, communication and group work within a company. Consequently, early research in the field has investigated the potential of these platforms focusing on specific tools like weblogs (e.g. Ip and Wagner 2008), wikis (e.g. Stocker et al. 2012), social networking services (e.g. Richter and Riemer 2009), microblogging (e.g. Zhao et al. 2009, Zhang et al. 2010) and the various features associated with these. Many of these studies explore particular aspects, including the type and volume of contributions, and the relationship between consuming content and contributing, user motivation (DiMicco et al. 2008), the benefits for the individual and the organization (Richter et al. 2011) or the perceived barriers or rules of use (Grace 2009; Holtzblatt et al. 2011).

The focus of this study is on the phenomenon of Enterprise Microblogging (EMB), which is increasingly discussed in the literature (e.g. Riemer and Scifleet 2012) and marketed by platform providers under the more general term Enterprise Social Networking (ESN). In essence, microblogging is said to enable new forms of lightweight communication, where users share and broadcast small chunks of information about themselves, their thoughts, or anything else of interest (Stocker et al. 2012b). Basically, microblog messages may be public or private (using the ‘DM’ command), republished by anybody (with the ‘RT’ command), directed to one or more users (using the ‘@’ symbol), dedicated to one or more topics (by providing ‘hash-tags’, the ‘#’ symbol), and may include shortened URLs linking to other resources (Riemer et al. 2010). Examples of corresponding services are Yammer, Communote, Tibbr or Socialcast, all of which show tendencies to evolve into more fully-featured ESN platforms integrating short messaging with wikis, document management and typical social networking features such as user profiles.

While ESN services can certainly be described as a set of features, such descriptions are not very useful for understanding the potential and role of such services for the adopting organisations. The reason for this is that these services are digital infrastructures (Tilson et al. 2010) that will only become defined through their use in context. We have previously referred to this characteristic as “Nutzungsoffenheit”, “a form of openness, whereby the technology and its set of features do not precipitate its forms of usage (...). Nutzungsoffenheit means that the true nature and potential of such technologies does only manifest when people make sense of and incorporate them in their day-to-day work routines.” (Riemer et al. 2009 p.186). We have further argued that such technologies need to be appropriated by their users in a particular context, thereby becoming part of different practices when compared across contexts (Riemer and Richter 2010, Riemer et al. 2012a). Users need to explore, experiment with and thus figure out how to “place” these services within their local work practices (Riemer and Johnston 2012).

As the potential and likely effects of ESN in practice cannot be deduced from a decontextualised analysis of its features, case studies are needed to expose the nature of ESN in facilitating different use practices across different contexts. In a number of recent research studies we have made progress in this direction (see table 1). However, as yet no comprehensive study exists that would compare ESN across cases to provide a structured overview with a view to inform both future research and ESN adoption in practice. The present study presents such a comparative overview.

Study Design: Cross-Case Analysis

In this study we compare and contrast findings from five in-depth case studies on ESN usage practices that we have conducted over the past three years together with various co-authors (see table 1 for an overview). All of these studies applied the same general research design and analysis methods, which allows comparing the findings. In each case study we conducted initial face-to-face interviews to gain familiarity with the case context. We then applied genre analysis as our main method to analyse a sample of the actual communication exchanged on the ESN platforms. The resulting genre repertoires are thus a reflection of the ESN use practices in these various cases. In the following, we provide an overview of the genre analysis method and data analysis procedures, before we provide a brief overview of the data sampling in each of the cases.

Genre Analysis: Identification of ESN Use Practices

Communication genres are “socially recognized types of communicative actions [...] that are habitually enacted by members of a community to realize particular social purposes.” (Yates et al. 1999, 84) Genres develop over time as a response to recurring communication situations and in turn function as socially agreed upon templates on which group members routinely draw when they communicate with each other (Orlikowski and Yates 1994). Consequently, genres are useful to describe the communication practices of social groups and hence the way they normally engage with each other. Communication practices in turn can generally be defined as a “routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, things and their use, a background knowledge in the form of understanding, know how, states of emotion and motivational knowledge” (Reckwitz 2002, 249).

A practice understanding further directs researchers’ attention to the technology-in-use, that is the ways in which different people use technology in particular times and places (Orlikowski and Iacono 2000). As we have argued, communication technologies are appropriated over time and become embedded in emerging and situated communication practices, which are in turn reflected in the communication genres that structure this communication. Regarding ESN-based interaction we are thus able to show how ESN has been appropriated into a social practice and thus what roles it serves in a particular context.

In order to identify communication genres, we need to specify how a genre can be recognized (Kwasnik and Crowston 2005). What can be observed in context are the traces of communication events people engage in during their daily routines, such as a post (a written utterance) in a microblogging stream. Conceptually, a genre represents a class of communicative events; communication events in turn are instantiations of a genre (Swales 1990). What “turns a collection of communicative events into a genre is some shared set of communicative purpose” (Swales 1990, 46). Thus, purpose is the primary criterion by which to identify communication genres (Askehave and Swales 2001). The actual genre analysis can then be carried out using several techniques, e.g., document/text analysis, interviews, group discussions, ethnography (observation) and contextual inquiry (Beyer and Holtzblatt 1998).

Data Collection and Analysis Methods

Data analysis was performed using the same analysis techniques in each of the cases. In all cases we had access to the actual communication data exported from the ESN platform. This data was accessible to the research team in either rich text file format (in Communardo and Ireko) and then loaded into and coded with atlas.ti or in MS Excel format (in Capgemini, Deloitte AU and NAB). ESN messages are generally identifiable by a set of meta data, such as message number, reply ID (if the message was in reply to another message) date stamp and the ID of the user who sent the message. Please note that all data sets were de-identified prior to analysis, with user names and personal information removed.

	Communardo	IREKO	Capgemini	Deloitte AU	NAB
Published:	Riemer and Richter 2010	Riemer et al. 2011b	Riemer et al. 2011a, 2011c	Riemer et al. 2012b	Forthcoming.
Case description	German software development company with 180 employees. Work revolves around projects; heavy on team work. Developed the Communote platform.	Cross-disciplinary team of researchers at a German University in business and engineering. Umbrella project of individual initiatives.	World-wide consultancy business with 106,000 employees in 35 countries. Work revolves around client projects with a focus on IT consulting projects.	Deloitte Australia has 6000 employees spread across the country. Work revolves around client projects with a range of service lines, such as auditing, tax and IT consulting.	Major Australian Bank with more than 20,000 employees of which the large majority is active on the Yammer platform.
Data sample	Communication streams of one of the three software development teams (across multiple blog streams)	Two months of communication within the IREKO blog stream	2 weeks of communication from the mature, company-wide stream (and groups)	2 weeks of communication from the mature, company-wide stream (and groups)	2 weeks of communication from the mature, company-wide stream (no groups)
Messages analysed	648	883	1,196	1,809	2,901
Genre codes assigned	912	1,190	1,419	2,166	3,468
Genre codes per post	1.41	1.35	1.19	1.20	1.20
Platform (key elements)	<p><i>Communote</i> is a browser-based, intranet-hosted platform that revolves around the concept of multiple blog streams (groups) to which users can be added on a case-by-case basis. A user's start page shows a synthesis of postings from the user's blog streams. For example, in order to read the messages associated with a project, users can simply select the respective blog and read through the emerging stream of messages.</p>		<p><i>Yammer</i> is a browser-based internet-hosted platform, organised around the concept of networks, with one network typically representing one company. Users can join by registering with their corporate email address, which serves as their identifier. Yammer utilises both a network-wide stream and contextual blog streams organised into groups created by network members. Like Twitter, Yammer is based on the "follower"-principle, i.e., users can select users and are then constantly informed about their platform activities as they happen. Whenever new users join a company network they initially subscribe to the message streams of all users within the network.</p>		

Table 1: Overview of cases analysed in this study

The analysis of each data set was carried out by one researcher with a second experienced researcher acting as a discussant. This analysis works as follows: After an initial phase of familiarisation with the data set through reading long passages of conversations, data coding is carried out in a bottom-up fashion. Starting with a small set of messages, each message is interpreted in the context of its conversation thread by assigning genres codes that label various purposes for posting a particular message into the ESN space. The genre codes emerge through constant iteration. An initial set of genres is first discussed and agreed upon and further messages successively coded. Whenever a new genre candidate emerges it is compared to the existing genres. If it does not match these genre codes we create a new genre code. Consequently, all previously coded messages are reviewed and recoded with the new set of genres. Frequently genre codes are merged or split. The result of this genre analysis is then a set of genres that are further grouped into top-level genres. This genre repertoire is a reflection of how ESN has been appropriated and the role

it serves for the social group active on the platform. In other words this genre repertoire represents the use cases that emerged in a particular case.

Because we derive these use cases through data interpretation bottom-up the (sub) genres that emerge in each of the cases are often slightly different and do not immediately match when compared across cases. However, a match exists between the top-level genres. Also, since we had access to all data sets we were able to slightly amend the presentation of findings in order to ensure comparability; for example regarding whether or not non-work related messages are included in the genre set and percentage calculations. The genre repertoires of the five cases and the corresponding percentages can be found in table 3.

Data Sampling and ESN Platforms in the five Case Studies

Table 1 shows that our analysis is based on a heterogeneous data set. Whereas the IREKO case consists of a team of only about 20 people in one project, in three cases the platforms have several thousand users. With thousands of posts per month in these cases, we suitably analysed samples of two weeks of communication. For Communardo and IREKO we extended the unit of analysis to two months or entire projects respectively.

Finally, it needs to be pointed out that two different platforms were used across the five cases: Communote and Yammer. While similar and grounded in the same short messaging principles there are also differences, most notably regarding the role of groups. Whereas Yammer features an ‘All Network’ stream of messages where groups are used to create ‘break-out’ areas for teams and project, in Communote groups (called blogs) feature more prominently. In Communote any communication is structured by membership in such groups. However, usage in both Communote cases was quite similar to Yammer. In Communardo an equivalent of an ‘All Network’ stream existed alongside specialized group blogs, while all communication in IREKO happened in one stream. This means that the findings are comparable across all cases.

Findings: Enterprise Social Networking Use Case Catalogue

In this section we firstly list and discuss with examples the eleven top-level genres we identified from our cross case analysis and secondly show how these genres proliferated in the five cases listed above. Since the cases cover a range of different use contexts we are confident that the following list is a good, comprehensive representation of the nature of communicative activity in ESN. As such these genres not only represent emergent use cases of ESN in general, but also provide some conceptual guidance for organisations and their managers as to the variety of possible uses that ESN affords. After discussing the genres in detail in this section, we will provide a more structured overview in the form of a framework and demonstrate the differing nature of ESN in use contexts such as teams, projects, and large enterprises.

Emergent Enterprise Social Networking Use Cases

The following list represents the complete list of top-level genres found in our analyses of the single case studies. As such they represents a list of emergent affordances or use cases of ESN, but do not characterise the phenomenon of ESN per se. It is noteworthy that none of our cases exhibits all of these genres at the same time. The list is presented in no particular order.

Problem-solving

Users frequently draw on the ESN to ask others for help such as by outlining a specific problem or by asking others to find a resource necessary to solve a problem. In turn, other ESN members provide a solution, ask for more background information, discuss the problem, provide access to a resource (such as a document), offer their experiences, best practices, or the contact details of experts.

By doing so an immediate work-related problem is often solved quickly, which saves time and leads to better work outcomes. This use case represents a form of what is commonly known as crowdsourcing (Stewart et al. 2010). The following are typical messages in this category:

- *“Here applies the following rule: ...” (IREKO)*
- *“What can I do with RAD-Studio what I can’t do with Visual Studio?” (Communardo)*
- *“it is worth us looking into how that occurred and what we can do to assist the customer and their patients.” (NAB)*

Idea generation

ESN is further used to ask others for their input and ideas regarding a project, product of work process (such as in product development, organisational development, project organisation). For doing so, typically a user sends a call for ideas and multiple other users provide input, possibly accompanied by a brief discussion. In that way the crowd is turned to for sourcing a wide range of different ideas and opinions, which often enhances the original scope of the project. Sometimes users post ideas without solicitation by others. Typical messages in this category are:

- *“Curious to know how we can make the [...] Yammer group more useful for those who have joined?” (Deloitte)*
- *“@tls Idea: The barrier could be placed after entering the email address. Like it is already with [...]” (Communardo)*
- *“Adaptive change requires conflict. How are you engaging opponents of change in the system?” (NAB)*

Input generation

Similarly to typical Twitter usage, the ESNs in our cases are frequently used to share various forms of external input with the wider group, such as URLs to information someone found on the Internet, newspaper articles, research studies or various files. When doing this, users want to share a discovery they made or provide others with interesting information, because they are aware of what others are working on and want to provide input or they want to raise awareness for certain topics (in the form of agenda setting). Typical messages in this category are:

- *“For a first view on Confluence 3.0: <http://confluence.atlassian.com/dashboard.action>” (Communardo)*
- *“#Cloudcomputing The Digital Magazine reports <http://...>” (IREKO)*
- *“Which country works the longest hours? <http://...>” (NAB)*

Information storage

In project settings the ESN is used to store information for future reference for oneself or for others (such as URLs, logins, meeting minutes, links to internal documents). In that way the stream is used as a storage medium, knowing that one can retrieve the information with the search feature in the future. Typical messages in this category are:

- *“Presentation of team goals (Checklist for Quality assurance) * conception: o Add UseCases ...” (Communardo)*
- *“The address for your new b&w printer is...” (IREKO)*

Work coordination

In team contexts the ESN affords providing updates on tasks a user has finished or asking others for updates on their work status. In the same vein users delegate tasks to others, post requests for interest on tasks that need to be staffed, or ask for task assignments and offer their own services. This is typically done by one user posting a short update or delegation post, or asking specific others for updates on their tasks. Moreover users assign task to one or a few others and asks the group if they want to be assigned a task. The reason to do this is the aim to coordinate the day-to-day workflow, to create awareness of how the group's work progresses and to make task assignments transparent for the group.

- *"Finished available here:..." (Communardo)*
- *"@stu Can you please give Jon access to the (KDF). Thanks!" (Communardo)*
- *"Further proceeding with the tool?" (IREKO)*

Meeting organisation

The ESN is also sometimes used to organise meetings by negotiating dates and collecting agenda items from the meeting participants. In order to make meeting organisation inclusive and transparent an interactive discussion of meeting dates and collecting agenda items is taking place by posting into the stream tagged messages (e.g. #agenda). Typical messages in this category are:

- *"This appointment is inconvenient. I would prefer 01.10. 3pm" (IREKO)*
- *"Topics #jourfixe: coordination of..." (Communardo)*
- *"#workshop our next topic will be..." (IREKO)*

Status updates

Social networks on the public web are often used to report what someone is currently doing. In the same way the ESNs in our study are used to notify others of what is going on in their work environment regarding projects and initiatives they are involved in or events and meetings they participated in. This is in order to create awareness in others for what is going on and to present oneself within the larger crowd. To this end a user sends a simple status update message into the stream:

- *"I have configured a test installation on the #com252 and actualised the #searchindex. Besides I try to document the proceeding in the wiki. /Wiki-URL" (Communardo)*
- *"[I am] In my daily update meeting with my partner in Waldorf" (Capgemini)*
- *"Leaving for the ITS Conference today." (Deloitte)*

Event notifications

In some cases the ESN is used to send information on upcoming events (workshops, webinars etc) that might be of interest to others. These messages typically contain a URL pointing to further information. The idea behind this is that users want to promote their own events, interest others in joining events or simply share information on events that they think are of interest to others. Typical messages in this category are:

- *"Tomorrow, Mendeley offers a Webinar." (IREKO)*
- *"On 8th September 2010 Capgemini organizes another Cloud Computing Conference [...]" (Capgemini)*

- *“Looking forward to the Connecting Women Great Debate Tuesday 4th in the auditorium in Docklands starting at 12” (NAB)*

Discussion and opinion

Users also discuss general corporate matters, current affairs, politics, industry-related news, etc. in the ESN. In fact, in larger enterprise networks this genre is the most common one. People voice their opinions, agree and disagree, ask for clarification and provide facts to further the discussion. This is done in order to learn about others, learn about what is important to others in the company, to position oneself in the group, and in general to build social relationships with others. Topics can be quite random:

- *“Wow - elections are expensive, inefficient and environmentally unfriendly. The 2007 federal election cost \$163 billion” (Deloitte)*
- *"Invited by my employer to fill in 28 pages long (20 questions each) survey on 'New Way of Working'. That does not sound very new way to me.” (Capgemini)*
- *“As long as they offer a better service or better quality in general price isn't really an issue” (Capgemini)*

Informal talk

The ESN also makes it possible to engage in informal, non-work related conversations (e.g. about sports events, hobbies and other general interests) or to post jokes and funny utterances. This is sometimes done in single posts, but more often in conversations that can be quite engaging at times. In doing so, users socialise with others and build relationships outside of work-related conversations. In large networks such conversations tend to take place in dedicated groups, e.g. around cycling, different sport codes, or music interests. Typical messages in this category are:

- *“Congratulations on your baby. Wish you all the best!” (IREKO)*
- *“THE PIES!!!” (Deloitte)*

Social praise

In order to share success stories or make the achievements of people known to the wider group, users also use the ESN to thank others for doing something (e.g. providing information, or finishing a project successfully). This is done by referring to other users by name (or CC) through providing a short positive acknowledgment. Sometimes, other users concur with the statement via reply posts. Typical messages in this category are:

- *“Thank you for an interesting mindmap and for sharing your experience with us.” (Capgemini)*
- *“Good work!!!! Just saw the video on the intranet and thought: "hang on a minute, I know that face from yammer" ;)” (NAB)*
- *“well done to Tran, Michel and Luy in putting something excellent together and thanks for investing a lot of their own time” (Deloitte)*

The following table provides a summary of the eleven identified use cases. It outlines what the purpose of each use case is, how conversations typically unfold around such message types and who is involved, and finally why this use case occurs.

Use Case	What?	Who and how?	Why?
Problem-Solving	Asking for help, describing a problem, searching for a resource necessary to solve a problem, providing a solution or access to a resource (e.g. a document), offering experiences or contact details of experts.	One person asks a question, multiple others reply.	To solve immediate work-related problems by sourcing a solution from the user crowd.
Idea Generation	Crowd sourcing for ideas (e.g. in product development, organizational development, project organisation).	A call for ideas is followed by multiple users providing input, possibly accompanied by a brief discussion	To receive a wide range of different ideas and opinions.
Input Generation	Sharing external input (like URLs to newspaper articles or studies) with a wider group.	A short message with a link or file is posted into the stream.	To share a discovery, possibly in awareness of what others are working on.
Information Storage	Storing information for future reference (such as IPs, logins, meeting minutes, links to internal documents).	Tagged information is posted into the stream with no particular recipient in mind.	To store and later retrieve the information with the platform's search feature.
Work Coordination	Updating others on task progress of completion, delegating tasks, requesting information on distributed tasks; offering one's services.	A short update or task delegation, requests for updates on tasks.	To coordinate the day-to-day workflow, to visibly document the work progress; to make task assignments transparent; to find people for open tasks.
Meeting Organisation	Organising meetings by negotiating dates and collecting agenda items from the meeting participants.	Interactive, discussion of meeting dates and collecting agenda items.	To make meeting organisation inclusive and transparent.
Status Updates	Notifying others of what is going on (projects or initiatives, events and meetings).	User sends a simple status update messages into the stream.	To create awareness in others for what is going on; to present oneself within the larger crowd.
Event Notifications	Information on upcoming events (workshops, webinars etc) that might be of interest to others.	One user sends short message typically with a URL pointing to further information.	To promote own events, interest others in joining events or simply share information on events that might of interest to others.
Discussion & Opinion	Discussing general corporate matters, current affairs, politics, industry-related news, etc. Providing news, voicing opinions, agree and disagree, ask for clarification and provide facts to further the discussion.	A conversation, often containing many questions and answers.	To learn about others, learn about what is important to others in the company, to position oneself in the group, to build relationships.
Informal Talk	Informal, non-work related conversations about sports events, general interests, or making jokes.	Sometimes single posts, often in interactive conversations that can be engaging at times.	To socialize with others and build relationships outside of work-related conversations.
Social Praise	Thanking someone for doing something (e.g. providing information) or to praise others for their achievements (e.g. in finishing a project successfully).	Users refer to others by name (or CC) to provide a short positive acknowledgment. Sometimes other users concur with reply posts.	To share success stories or acknowledge people in front of the wider group.

Table 2: Use case catalogue derived from the cross-case analysis

Genre Distribution in the five Case Studies

Having provided and illustrated a complete list of all communication genres we identified, the following table gives an overview of the distribution of those genres in each of the five cases we analysed. We will discuss the significance of these results in the next section.

Genres:	Communardo	IREKO	Capgemini	Deloitte	NAB
DISCUSSION & OPINION	2.74%	17.73%	39.96%	41.32%	38.25%
STATUS UPDATE	12.83%	11.51%	13.88%	4.99%	2.97%
EVENT NOTIFICATIONS	3.29%	4.29%	0.42%	8.49%	1.72%
PROBLEM SOLVING	18.53%	4.12%	16.91%	10.94%	11.96%
IDEA GENERATION	0.44%	3.11%	0.00%	5.77%	11.55%
PROVIDE INPUT	7.89%	7.82%	10.36%	13.53%	13.24%
WORK COORDINATION	46.27%	21.76%	1.55%	2.22%	0.16%
MEETING COORDINATION	0	17.98%	0	0	1.14%
INFORMATION STORAGE	2.85%	5.29%	0	0	0
SOCIAL PRAISE	5.15%	4.12%	6.55%	7.94%	13.30%
INFORMAL TALK	0	2.27%	9.87%	4.39%	5.71%
OTHER	0	0	0.49%	0.42%	0
	100.00%	100.00%	100.00%	100.00%	100.00%

Table 3: Distribution of genre instances in the five cases.¹

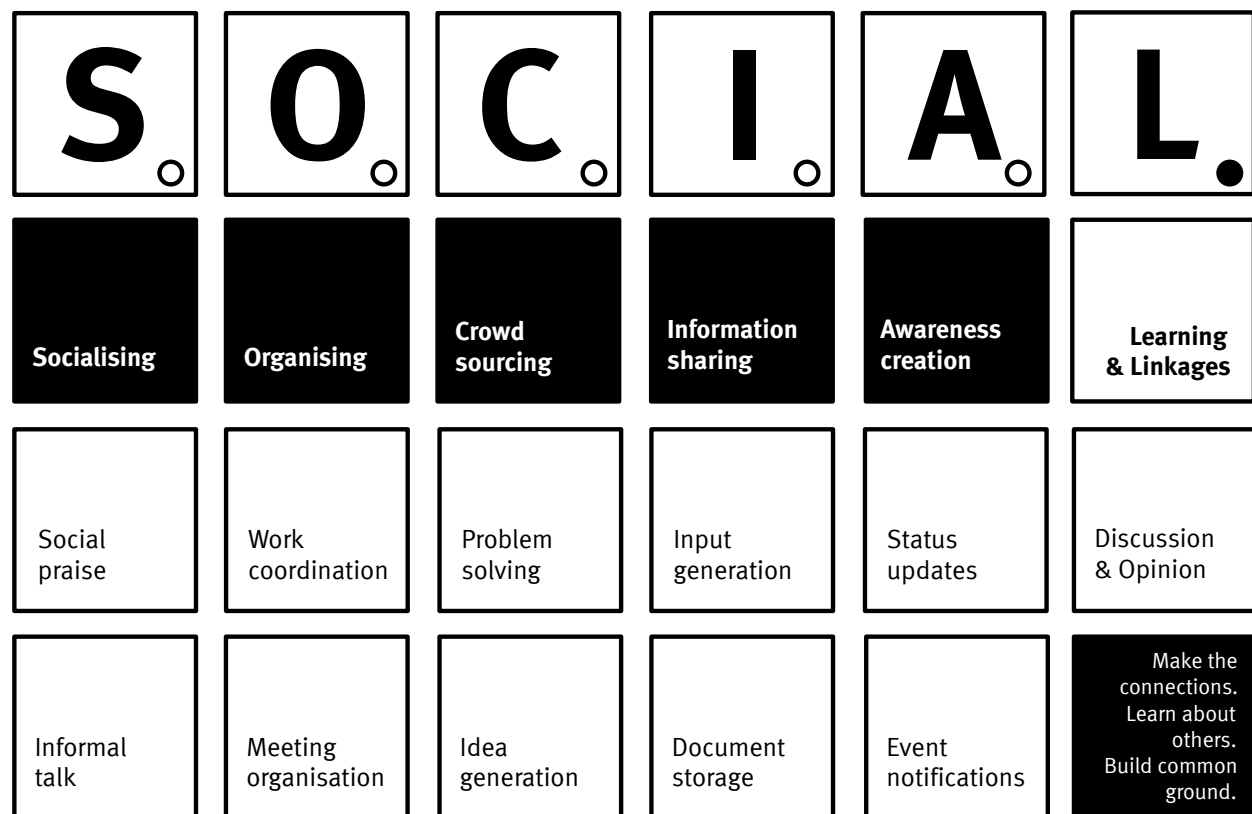


Figure 1: The S.O.C.I.A.L. framework of ESN use cases

¹ Please note that the results reported here might vary slightly from previously published studies on these cases, since we have in some instances regrouped sub genres to be consistent across all five cases. The results nevertheless reflect the original analyses and coding. Please also note that the Capgemini case was carried out earlier than the other Yammer cases. We might as well see an Idea Generation practice in this network today.

Discussion: Framework Development and ESN Contextual Profiles

In this section we discuss the above findings and elicit emerging benefits of ESN represented by the genres we identified across the cases. This leads us to the development of a structured framework, as well as a profiling of the differing nature of ESN in various organisational contexts. We illustrate these profiles with short vignettes of three of our cases.

The S.O.C.I.A.L. Framework

The eleven genres we identified represent eleven distinct purposes for ESN, or in other words use cases that reflect what ESN can be used for in a group context. We were able to further group these use cases into six categories that represent different benefits companies are able to realise from ESN. Companies can apply ESN as a platform for socialising, organising, crowdsourcing, information sharing, awareness creation and finally for people to learn about and establish relationships with others. To illustrate the identified use cases in these six categories we have devised a framework that we term the S.O.C.I.A.L. framework according to the resulting acronym (see figure 1). According to this framework, ESN is a place for:

1. **Socialising:** Any business or corporation is a social system that is only as good as its people and how they work and act as a social group. Socialising, recognising others and having a place for engaging in informal, not necessarily work-related conversations is important, in particular at times when the work-life boundary is shifting. Many employers recognise that knowledge workers who put in extra effort after hours, deserve a place for informal talk during work hours. Our data in table 3 shows that people understand this freedom and generally act responsibly, as this type of communication makes up less than 10% of communication across our cases.
2. **Organising:** ESN affords straight-forward, hands-on work organisation, revolving around coordinating tasks, making decisions and managing meetings and other project-related matters. This practice is found most commonly in smaller teams and in projects. The rather structured usage in this use case dimension stands in contrast to the socialising dimension and shows the wide range of ESN use cases.
3. **Crowdsourcing:** Large ESN networks in particular afford ad-hoc, internal crowdsourcing (Riemer et al. 2012b). Crowdsourcing is generally described as a “*web-based activity that harnesses the creative contributions of a diverse large network of individuals (the crowd) through an open call requesting for their participation and contributions*” (Stewart et al. 2010). Crowdsourcing can take the form of sourcing solutions or resourced to solve a work problem or a call for ideas as a form of online brainstorming.
4. **Information Sharing:** The most common benefit of ESN, found in all contexts, is the sharing of information in the form of URLs found on the Internet or as files to be stored on the platform. This information sharing is in particularly valuable as it often provides the basis for so-called serendipitous moments, where someone finds a useful resource without actually looking for it or expecting to find it in the ESN space.
5. **Awareness Creation:** Awareness is generally seen as “an understanding of the activities of others, which provides a context for your own activity” (Dourish and Bellotti, 1992, p. 107). This rests on the realisation that people can only coordinate and align their activities when they are aware of each other, what they are up to and what is going on in the wider work environment. ESN provides an ideal platform for making others aware of activities and events through posting short status updates and notification messages of various kinds.
6. **Learning & Linkages:** Discussing with others matters of general and daily interest might from an overly rationalistic viewpoint easily be overlooked as not serving any useful purpose for the organisation. In fact, in the public discourse on ESN this is often dismissed as ‘chatter’ or ‘time-wasting’

(Riemer et al. 2010). However, we argue that, especially in large ESN, these conversations facilitate the emergence of a shared background that makes people see the world in similar ways, which is the foundation for all other communication and joint work to take place effectively. We argue that the emergent nature of a shared background, previously described as common ground (Clark and Brennan 1991) or mutual knowledge (Cramton 2001), is the glue that holds together the user group and facilitates links between one's own worldview and that of others, which allows learning about what is important to others in the organisation. In that respect this last category in our framework is somewhat special in that it provides the basis for all other ESN practices to thrive. This is reflected in a different visualisation in our framework model.

Contextual ESN Profiles

Having outlined our framework of ESN use cases, in this section we provide brief characterisations of the nature of ESN in different organisational contexts by 1) outlining which use cases tend to dominate ESN in different contexts and 2) by providing short case vignettes that illustrate ESN use practices in teams, projects and large enterprises.

ESN in Teamwork

In a teamwork environment ESN affords hands-on coordination of tasks via the posting of short task update messages within the team. The main use cases that we see in such an environment are 'Work Coordination', 'Input Generation', 'Status Updates' and 'Problem Solving'. The focus in team-level ESN is on the actual work deliverables and on coordinating task hand-overs between team members, supporting each other in getting work done and solving task-related problems, as well as updating each other about task progress. The benefits are transparency and awareness of the work context and a more effective task execution.

Vignette 1: Team-level ESN in software development work at Communardo

Communardo is a medium sized software development company located in Dresden, Germany. Its 180 employees work together in software development and consulting projects that revolve around dedicated project teams. Typical projects last for 3-6 months and employ 4 to 10 employees. Communardo has developed its own ESN platform Communote. This was done initially to support its own teams, but was then turned into a marketable product. In Communardo the Communote platform serves as a day-to-day work coordination environment. Virtually all task coordination in teams is done on the platform: Users post updates on their task progress so that others know when to take over a task. They further post lists of to-do items, delegate tasks, and ask and answer task-related problem-solving questions. Moreover, team members, through providing updates on various matters, actively engage in the creation of awareness. ESN in this team environment clearly serves the role of a task/team coordination and awareness creation medium. At the same time, only very rarely do team members voice opinions or engage in any discussions that contain multiple messages, even though the platform facilitates reply posts. In Communardo, ESN clearly is not a discussion and sense-making medium, as team members can easily engage in such discussions face-to-face. For a full documentation of the case study see Riemer and Richter 2010.

ESN in Project Management

In a project environment ESN can take on the role of an informal project management space that revolves around people making each other aware of what tasks they are working on and events that happen in the project context. Moreover, ESN is useful for the coordination and preparation of project meetings, as well as for joint discussions of various project-related matters. While the main use cases are 'Work Coordination', 'Meeting Coordination', 'Status Updates', and 'Discussion & Opinion', most other use cases are likely to play some role as well.

Vignette 2: Project-level ESN in the cross-disciplinary University research project IREKO

IREKO is an inter-faculty research project at a German university, launched in November 2009, which consists of engineers, economists and social scientists. As such, IREKO itself is not a coherent project, but an umbrella project that consists of eight different sub projects in areas as diverse as interorganisational learning, innovation transfer, engineering etc. Inspired by a team member who was an experienced Twitter user the IREKO team decided to adopt Communote as a platform for their project communication. IREKO team members draw on the Communote platform to provide others with information about those aspects of team and project work that would remain unknown to them otherwise. Such signalling behaviour raises awareness in the recipient of the information for various matters, such as what someone is working on, for upcoming events, or for people's availability. Even though the team shares a group calendar, meeting coordination accounts for a large portion of the communication. Team members propose dates and shape an agenda for a meeting by posting agenda items on Communote that are drawn upon during the meeting. In summary, the platform allows the team to coordinate tasks, meetings, be aware of each other and discuss matters of concern in the project. For a full documentation of the case study please see Riemer et al. 2011b.

ESN in large Enterprises

In large enterprises ESN presents an ideal space for context and relationship building, crowdsourcing of problem solutions and ideas, as well as for information sharing and creating serendipitous experiences. In contrast to the other contexts, ESN in large networks is very conversational, which manifests in the degree of reply posts and the extent to which users voice their own opinions in various discussions. The main purpose of such conversations is to build context and common ground in a large group of people who share the same general, corporate context, but might come from different regions or corporate branches and thus do not share an immediate work context. People thus engage in social networking to establish new connections and to learn about the context of others. Such conversations enable organisational learning across divisional silos and can thus contribute significantly to organisational innovation. Once ESN is adopted to a significant degree, it brings together a large and diverse group of people that is ideal for crowdsourcing solutions and ideas. At the same time, it is unlikely that ESN is taken on as a medium for task-focused collaboration at the wider network level. However, it is possible that some teams adopt ESN as a medium for work coordination by using dedicated groups on the platform.

Vignette 3: Network-level ESN for organisational learning at National Australia Bank (NAB)

National Australia Bank (NAB) is one of the big four retail banks in Australia. ESN within NAB is based on the Yammer platform. It emerged in a bottom-up fashion with the first users registering on the platform in September 2008. Today, about 22,000 NAB users are registered on Yammer and the network is very active and mature. As table 1 shows more than 250 messages are written on an average working day in the 'All Network' stream alone. Due to the busy nature of the network, groups have emerged as a way to facilitate more focused communication; today 36% of all messages are posted in groups. As table 2 shows we find a variety of ESN use practice with general discussions, problem-solving and providing input being prominent ones. Most notable however is that this network shows an elaborate and more pronounced idea-generation practice than we have observed in other networks. A closer look at the content of these conversations reveals the benefit for the corporation when viewed from an organisational learning perspective. For example, in more than a quarter of all instances employees brainstorm matters of corporate strategy, work philosophy, working conditions and sustainability. Furthermore, people engage in discussions about their immediate work processes, exchanging ideas that can be influenced and implemented by the employees themselves. Interestingly, there are also a number of conversations about improvements to or developments of new products and other customer-related issues. Finally, people discuss ideas for personal (skills) development and workplace learning. Please note that detailed results of this case study will be published at a later date.

Conclusion

In this study we have compared the results of five in-depth case studies of ESN adoption and use. Grounded in the same methodology across the case studies, all undertaken by the same author team, we were able to 1) derive a comprehensive catalogue of ESN use cases, presented as a structured framework, and 2) compare the cases and derive contextual ESN profiles stressing the different nature of ESN when applied on the level of teams, projects and in large enterprises.

Our case catalogue, presented in accessible form as the S.O.C.I.A.L. framework, is useful not only for researchers in the field, but for decision-makers who want to gain an understanding of the potentials of ESN for their own business and an instrument that can guide them in deriving their own contextual use cases for shaping the rollout and adoption of ESN in their organisations. A word of caution is warranted at this point: we fundamentally believe that ESN needs to find its place in the local organisation organically. However, this does not preclude guiding this process. At the same time, our use case catalogue can only be a framework, not a recipe for implementation. As table 3 shows, we would not expect every use case to be useful in every organisational context. We have provided profiles and case vignettes to highlight the contextual nature of ESN as a phenomenon.

Further research is needed. Firstly, whereas we have used a large set of data from five cases additional cases might still add more variety to our results. One such case context might be topic-centred communities of practice (Wenger, 1998). We assume that problem-solving and discussions might be particularly important for members of these communities. Secondly, our genre analysis approach can only capture one side of the use practice, the writing of messages on the platform, but not how they are read and used. Whereas to the best of our knowledge no study has yet investigated this side, it would be useful for gaining a more balanced understanding of the ESN phenomenon.

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