Just for the fun of it? Towards a Model for Assessing the Individual Benefits of Employees’ Enterprise Social Software Usage

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Abstract
Complementary to the increasing popularity of social web sites (e.g., Facebook and Twitter) in the private realm, social software has also drawn the attention of organizations in recent years, leading to increasing adoption rates of enterprise social software platforms (ESSPs) in organizations. Often motivated by employees’ changing communication behavior and demands, companies tend to disregard the business motives for social software adoption, namely the benefits the tools provide to the users. To identify such benefits, we collected a rich set of qualitative data aiming at investigating the benefits social software users gain by using ESSPs. Based on the collected data as well as on theory, we propose a conceptual model comprising the potential benefits that ESSP usage brings about and the contextual factors influencing the identified usage-performance relationships.

1. Introduction
Social software applications – such as wikis, weblogs, and social networking sites (SNS) – have recently attracted the attention of organizations [e.g., 51, 78]. The impressive growth of public social web sites like Facebook and Twitter has put pressure on organizations to account for the changing communication behavior of their employees and, thus, increasingly provide them with intra-organizational social software tools [32]. Nowadays, a diverse mix of organizational social software applications is bundled and integrated within enterprise social software platforms (ESSPs), which are increasingly adopted by organizations [9, 11, 45, 52]. As previous research on the introduction of new technologies demonstrates, even with the widespread adoption of an information system (IS) in an organization, its business impact might still be limited. In other words, the assumption that increased usage of a technology leads to a higher performance impact “is often false in practice” [27, p. 220]. Hence, organizations adopting new technologies, instead of opting for mere adoption of the technology, should at first develop a solid understanding of its potential business benefits [18]. However, and surprisingly so, in the field of social software, it is still widely unclear which benefits can be achieved through employees’ usage of these tools (with some exceptions [e.g., 8, 13, 18]). Moreover, “doubts persist about the value of these collaboration tools even when they are being actively used” [55, p. 2]. A better understanding of the benefits of ESSP usage would help organizations to take better informed decisions when it comes to enterprise social software adoption.

When studying the potential positive outcomes of organizational technology adoption, it is vital to take the usage context into account [e.g., 21, 48]. Trice and Treacy [75, p. 39] put it as follows: “Utilization alone is not sufficient to predict performance accurately, which means that forward linkages are bound to be complex. Thus utilization is a necessary but insufficient condition for a system to affect performance.” This is especially true for collaboration technology like social software, since the free form character and the large number of usage contexts of ESSP allow for a large variety of usage scenarios [54]. Consequently, employees might not only employ ESSP to support collaboration, communication, and knowledge sharing [5], but also for non job-related topics, such as personal messaging or scheduling the weekly informal get-together with colleagues.

In order to shed light on (1) the individual benefits that are achieved through employees’ ESSP usage and (2) the contextual factors that might play a role in this relationship, our research addresses the following research questions:

\[ RQ1 \quad \text{Which individual benefits are achieved by employees’ ESSP usage?} \]

\[ RQ2 \quad \text{Which contextual factors influence the predictive power of ESSP usage on the individual benefits achieved?} \]

The remainder of our paper is organized as follows: In the next section, we introduce the basic theoretical concepts that form the foundation of our research. Thereafter, we define the research scope and the methodology employed. In section 4, we present our conceptual model as well as the research hypotheses. In the final section, we discuss the
contributions of this paper and outline the next steps of our study.

2. Theoretical foundations

We base our definition of enterprise social software platforms (ESSPs) on Kim et al.’s definition of social web sites, which the authors define as “Web sites that make it possible for people to form online communities, and share user-created contents (UCCs)” [45, p. 216]. In the enterprise context, people are represented by an organization’s employees, a network of co-workers represents the community, and UCCs are represented by any kind of content (e.g., blogs, wikis, text messages, photos, videos, bookmarks, user profiles, and activity streams). In short, ESSPs are a mix of social networking sites [7, 64] and social media sites with which to share various media types [45]. Typical products in this segment are IBM’s social software platform IBM Connections, the Jive platform, and Microsoft’s SharePoint 2010 Communities (please refer to Drakos et al. [20] or Koplowitz [46] for recent market overviews on ESSPs). It is important to note that we focus on intra-organizational social software usage and its impact in this research endeavor. Business benefits gained through the usage of public social web sites (e.g., Facebook usage for human resources, marketing, or sales purposes) [e.g., 25] are therefore outside the scope of this research.

One trend that has reinforced organizations’ demand for collaboration technologies like ESSPs is the workforce of knowledge-intense organizations becoming more geographically dispersed [42]. A geographically dispersed team refers to a team with team members not being physically co-located but working from different geographical locations [e.g., 30]. A recent survey study by Chan and Morgan [11] revealed that more than fifty percent of the survey respondents work for multinational organizations, stressing the importance of providing an “online workplace” with appropriate communication and collaboration facilities accounting for the oftentimes virtual work environments [11, p. 7].

Complementary to the increasing adoption of social software by organizations, research started to empirically investigate the phenomenon of organizational social software and the business impact thereof. Because research suggests that “practices and benefits are likely to be very different in an enterprise context” [64, p. 96], we will not take into account the research findings reporting on individual level benefits of social software usage in the private realm in our research [e.g., 7, 19, 23, 76]. Andriole [5] explored the business impact that different social software tools might bring about when employed in an organization. He conducted a combined interview and survey study which revealed collaboration and communication, knowledge management (KM), innovation, customer relationship management, and training to be the areas benefiting most from organizational social software adoption. The study results of Farzan et al. [24] and Steinfield et al. [70] show that organizational social software usage helps employees to identify potential new contacts and thus establishing new weak tie relationships [28] within their organizations. A qualitative study by da Cunha and Orlikowski [13] investigating the effects of an intra-organizational social software tool suggests that potential usage benefits include improved information sharing, enhanced co-ordination, and better possibilities for employees to express their concerns. Similarly, in their qualitative investigation Denyer et al. [18] found that social software provided a “cost and time-efficient means of enhancing communication” [18, p. 390]. Leidner et al. [47] conducted a qualitative exploration into organizational social software usage and its benefits. According to their study results, better recruiting, higher morale, and better employee engagement are the main benefits to be expected from ESSP usage. Jackson et al. [37] carried out an exploratory study of a large global information technology (IT) corporation’s internal blogging system by analyzing usage statistics, interview transcripts, and survey results. They found that benefits to users were mainly social (e.g., community building, and reputation building) as well as informational (e.g., information sharing, feedback giving and receiving). Ali-Hassan et al. [4] recently examined an international IT company’s intra-organizational social software tool by means of a quantitative survey. His results confirm that organizational social software usage is positively associated with knowledge access, which in turn is positively related to two individual performance measures at the employee level – innovative performance and job performance.

Although this review of related work shows that empirical studies tapping into the potential benefits of organizational social software usage exist, there is, to the best of our knowledge, no study that investigates individual level benefits of ESSP usage empirically and takes contextual factors influencing the identified usage-performance relationships into account. Our study aims to address this research gap.

3. Research scope and methodology

We focus on investigating the behavior of individual users rather than an organization as a whole. Although an organization implements a particular ESSP, it is the users who decide on the extent of usage
and who should notice the benefits achieved. This is of particular importance with social software since – due to the lack of clarity on usage benefits compared to traditional IS (e.g., enterprise resource planning systems) [55] and due to their typically voluntary nature – potential users as well as management need to be convinced that it is worth investing the time and effort using the ESSP. While examining factors leading to group behavior is important, the structure and composition in the context of globally dispersed teams is often ad hoc, loosely coupled, and flexible, making it increasingly difficult and less meaningful to assess the performance of the entire collaborative unit [66, 67]. Thus, we follow recent research calls by Ahuja et al. [2] and Powell et al. [61], and investigate the usage behavior and the resulting performance measures on an individual level.

The data for this study is collected in two phases. The first phase, which informed the researchers during the conceptual model formation, consists of an exploratory investigation to look into practitioner perceptions towards individuals’ social software usage and its outcomes. Within this investigation, we a) conducted several workshops, each with participants from multiple professional services firms, and b) collected secondary qualitative data from an online discussion event for professionals.

We focused our exploration on social software applications that are exclusively utilized for internal purposes, since this study focuses on the internal use of ESSPs. The workshops were conducted as part of an annual benchmarking project carried out by the authors. This project focuses on a qualitative, longitudinal, and industry-specific investigation of professional service firms concerning their KM and collaboration practices. One part of the interview-based benchmarking is aimed at the participants’ social software platforms, i.e. their usage and usage outcomes. We conducted several workshops (each lasting 4 to 8 hours) with the participant companies’ chief knowledge officers as well as project employees, discussing which KM and collaboration instruments they deployed and what kinds of outcomes they attain. Field notes and protocols gathered in the workshops, during which individuals shared their thoughts and emerging ideas on enterprise social software usage, provided the researchers with valuable insights about relationships, anecdotes, and informal observations [22]. In order to strengthen the generalizability and internal validity of our research, existing literature and theories were used to form a priori concepts (codes) for structuring field notes and workshop protocols [31]. Workshop protocols were conducted and written by two researchers, face-to-face.

We further collected secondary qualitative data from an online discussion event called “The Social Business Jam”. On February 8-10, 2011, IBM hosted an online conversation (called a “Jam”), bringing together more than 2,700 participants – representing corporations, academic institutions, nonprofit organizations and government agencies – to discuss topics around the theme of organizational social software and its business impacts (for further information on the event, see [34]). After the event, the host made available the data files of all the discussions that took place there, providing us with a data set of more than 2,100 single discussion posts revolving around the topic of organizational social software usage and its impacts. These statements by individual organizational members offer a rich set of data that allows exploring the theme of organizational social software with regard to the research questions in depth.

Based on a set of a priori concepts (codes) from literature and theories, the data was coded by two researchers face-to-face by means of the qualitative data analysis software ATLAS.ti 6.2. Divergent codes between the two researchers were resolved during this process and merged into analogous codes. New codes were allowed to emerge from data analysis during the coding process. While existing theories and research informed the researchers during the coding process, the theory was iteratively reconciled and refined according to emerging codes. Groups of codes were classified into categories (i.e. ATLAS.ti “supercodes”) until an appropriate level of abstraction of the conceptual model was given.

In the second data collection phase, we will launch a survey to validate the proposed model (see section 5).

4. Conceptual model and hypotheses

Based on the empirical material that we collected and analyzed as well as on theory, we developed a conceptual model addressing the research questions. In the following sections, we will first introduce our notion of ESSP usage and then present our conceptual model by introducing the different constructs and the underlying hypotheses.

4.1. Enterprise social software platform usage

Studies investigating individuals’ IS usage define and operationalize the IS usage construct differently. While some researchers focus on the behavioral intention to use a system [e.g., 1, 33, 44], others base their research on actual system usage by measuring system usage in subjective (e.g., frequency, duration,
intensity) or objective (e.g., system logs) terms [e.g., 35, 50]. However – as IS research has pointed out – these rather lean conceptualizations have important shortcomings [e.g., 16, 71]. When studying the usage-performance relationships, the plenitude of different measures of IS usage is said to be one reason for the mixed conclusions about the relationship between IS usage and performance measures [59], with the observed usage-performance relationship ranging from strong positive relations between IS usage and performance impacts [e.g., 63] to no or only a weak relationship [e.g., 36]. The core of the problem seems to be that relevant measures and dimensions of IS usage will vary across study contexts [10], but instead of developing usage measures appropriate for the context at study, studies in the realm of IS usage often chose the measures based on their appearance in past empirical studies rather than for theoretical reasons [60]. In order to address this issue, we decided to base our ESSP usage (ESSPU) construct on theoretically grounded social software usage measures proposed in literature [e.g., 3, 62]. Figure 1 depicts the developed conceptual model comprising the potential benefits that ESSP usage brings about and the contextual factors influencing the identified usage-performance relationships.

4.2. Individual performance

We base our definition of individual performance impact (IPI) on Goodhue and Thompson [26], who define individual performance as the accomplishment of a portfolio of tasks by an individual. Higher performance thus implies a “mix of improved efficiency, improved effectiveness, and/or higher quality” [26, p. 213].

Several workshop participants stated that social software helps them to perform their tasks more efficiently, and that they were able to improve the quality of work outcomes due to the conversations and collaboration with co-workers on the available social software tools.

Prior research also supports the notion that ESSP usage might be positively related to an individual’s performance impact. ESSPs offer knowledge-seeking and knowledge-contribution features [3] that provide access to diverse and heterogeneous knowledge pools containing various forms of knowledge repositories, such as weblogs and wikis. Studies have shown that
for employees in knowledge-intense organizations, access to information from other people in their social network is the most important information source [e.g., 14, 69], making it a vital performance driver. A study by Teigland and Wasko [74] confirmed that employee communication across an employee’s locally co-located co-workers (i.e., communication with her/his geographically distributed co-workers) is positively related to her/his general performance. Against this background, we posit that an individual’s ESSP usage will be positively related to her/his individual performance impact (H1). Table 1 lists all hypotheses included in our model and mentions according literature with prior conceptualizations for the respective (or similar) constructs.

4.3. Employee connectedness

For defining our employee connectedness impact (ECI) construct, we adhere to Mom et al. [56] and define an employee’s connectedness as the extent to which the employee is networked to other organization members across hierarchical levels and organizational units in terms of direct (offline) personal contacts [40, 68]. In the context of geographically dispersed teams, where hallway or lunch talks with co-workers are happening less frequently, limited connectedness between employees might lead to problems of information transfer [e.g., 70]. In this environment, ESSPs may provide the means to facilitate and encourage communication among distributed co-workers and thereby create the social structures needed to strengthen information transfer [29]. Consequently, it may be argued that the functionality for searching for experts, which is a major feature of ESSPs [20], is likely to support employees in establishing offline contacts and thereby strengthening their connectedness [64]. This assumption finds support by a qualitative investigation by Zhao et al. [81] on organizational social software usage where study participants report that they felt much more connected to people in their department, especially to co-workers they otherwise do not regularly work with, through social software usage.

The qualitative data from the online discussion event support this notion: several participants confirm that organizational social software usage might well support the creation of ties to co-workers and thereby support connectedness. As an example, one participant stated: “If I haven’t seen another adult being for the past week be/c I work at home or in an office of empty cubicles, I might turn to social software to engage in conversation and interaction.”

Consequently, we expect that an individual’s ESSP usage will be positively related to her/his employee connectedness impact (H2).

4.4. Decision-making performance

When analyzing the qualitative data, the notion of decision-making kept coming up in one way or another. A common observation with regard to this construct was that through ESSP usage a diverse information base becomes available, which in turn serves as a strong basis for employees’ decision-making. One participant of the online discussion event stated: “The flow of information enables informed decision-making at all points of the network.”

In the context of our study, decision-making performance impact (DMPI) can be defined as the extent to which an employee perceives ESSP usage to enable her/him to make better decisions. In decision-making situations, a decision-maker typically has a certain set of information about the available decision alternatives [17]. Since ESSPs provide access to a myriad of information through tools like wikis (for knowledge transfer [77]) and blogs (for knowledge dissipation [79]) the decision-maker has access to a much richer information base when using organizational social software tools. In support of this, a recent study by Ali-Hassan et al. [4] showed that social software usage is positively related with information access, it is to be expected that it will also be positively related to DMPI. We therefore hypothesize that an individual’s ESSP usage will be positively related to her/his decision-making performance impact (H3).

4.5. Innovative performance

We base our definition of innovative performance impact (INPI) on Janssen and Van Yperen [39, p. 370], who define it as “the intentional generation, promotion, and realization of new ideas within a work role, work group, or organization.” Innovation-related research suggests that social relationships are important for creativity and innovation [58]. More specifically, studies revealed that the weak ties of one’s network of co-workers (i.e., the co-workers one interacts with periodically, colleagues one knows through co-workers, and other professional acquaintances [55]) facilitate creativity and innovation best because people to whom one has weak ties are there as a resource if needed, but they are not so close as to hinder our own independent thinking [58, 82]. Since ESSPs support employees’ building of such networks of weak ties, it is to be
expected that ESSP usage will be positively related with INPI. Moreover, by letting its users tap into a wide variety of different knowledge repositories and, thus, exposing employees to a broad set of perspectives, for example during problem solving activities, ESSPs foster novel outcomes and innovative solutions [65, 73]. It is generally widely acknowledged in research that there is a positive relationship between an employee’s boundary-spanning behavior (i.e. communication and collaboration with people beyond the employee’s team) and her/his creativity and innovation [e.g., 43, 74]. Based on the above, we hypothesize that an individual’s ESSP usage will be positively related to her/his innovative performance impact (H4).

4.6. Virtuality

The qualitative data pointed out that it seems to be of relevance to how far the employees using ESSPs work in geographically dispersed teams when it comes to the performance effects from ESSP usage. Employees working in such teams must nowadays rely on information and communication technology to accomplish their work in virtual work environments [41, 42]. In the context of our study, we define virtuality (VIR) on the basis of Chudoba et al. [12] as the extent to which employees work with co-workers having different geographical locations (e.g., working from home, satellite offices or while traveling), time zones, and cultures.

Given the above described capabilities of ESSPs, we expect that employees in virtual workspaces will benefit more from ESSPs than co-located employees. Thus, we posit that the relationship between an individual’s ESSP usage and his/her IPI (H5a), ECI (H5b), DMPI (H5c), and INPI (H5d) will be moderated by VIR so that the effects will be stronger for individuals with higher VIR.

4.7. Task interdependency and task equivocality

Despite the virtuality of the work context that an employee works in, the qualitative data suggested that the identified usage-performance relationships (except of the usage-ECI relationship) are also influenced by the type of tasks employees typically accomplish. This is in line with theory [26]. In a recent research commentary, Goodhue [26, p. 220] puts it as follows: “For a technology to positively affect performance, it must be utilized and it must be a good fit to the task.” It is further argued that information systems “have a positive impact on performance only when there is correspondence between their functionality and the task requirements of users” [26, p. 214]. In order to account for the nature of the tasks that employees carry out and their potential effect on the usage-performance relationships, we therefore borrow the two task characteristics measures from Goodhue and Thompson’s [26] task-technology fit (TTF) theory for inclusion into our conceptual model: task interdependency and task equivocality.

Task interdependency (TI) can be defined as the extent to which the tasks an individual typically accomplishes rely on relations with other individuals. Task equivocality (TE) is defined as the extent to which the tasks an individual typically carries out are non-routine.

As an example, an employee bound to follow strict process parameters will probably not be inclined to frequently exchange or seek knowledge. Her/his tasks mainly center on well-defined processes that usually do not require flexible knowledge exchange. Thus, her/his tasks are mostly static and well-structured, which makes the need for new knowledge rare once employees have learned to perform their tasks (low task equivocality and low task interdependency).

On the other side of the spectrum, an employee who has to deal with novel or unstructured business problems is tied to her/his access to knowledge resources and, hence, depends on exploring other people’s knowledge (high task equivocality and high task interdependency).

Owing to that, the task context of employees needs to be reflected accordingly when examining the usage of ESSP in organizations. We expect employees who carry out tasks, which exhibit high equivocality, to derive greater benefits from ESSP usage than employees performing tasks of low equivocality. Additionally, employees working with several business units or functions will derive greater benefits from collaboration capabilities than those who only work with their local co-workers. As Goodhue and Thompson [26] suggested, we propose task equivocality and task interdependency to have a moderating effect on the usage-performance relationships.

We therefore suggest that the relationship between an individual’s ESSP usage and his/her IPI (H6a), DMPI (H6b), and INPI (H6c) will be moderated by TI so that the effects will be stronger for individuals with higher TI. We further expect that the relationship between an individual’s ESSP usage and his/her IPI (H7a), DMPI (H7b), and INPI (H7c) will be moderated by TE so that the effects will be stronger for individuals with higher TE.
Table 1. Research hypotheses and prior operationalizations of the respective/similar constructs

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<tr>
<td>H1</td>
<td>An individual’s ESSP usage (^{(1)}) is positively related to her/his individual performance impact (IPI) (^{(4)}).</td>
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<td>H2</td>
<td>An individual’s ESSP usage is positively related to her/his employee connectedness impact (ECI) (^{(5)}).</td>
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<td>H3</td>
<td>An individual’s ESSP usage is positively related to her/his decision-making performance impact (DMPI) (^{(5)}).</td>
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<tr>
<td>H4</td>
<td>An individual’s ESSP usage is positively related to her/his innovative performance impact (INPI) (^{(5)}).</td>
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<tr>
<td>H5</td>
<td>The relationship between an individual’s ESSP usage and her/his IPI (H5a), ECI (H5b), DMPI (H5c), and INPI (H5d) will be moderated by virtuality (VIR) (^{(5)}) so that the effects will be stronger for individuals with higher VIR.</td>
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<tr>
<td>H6</td>
<td>The relationship between an individual’s ESSP usage and her/his IPI (H6a), DMPI (H6b), and INPI (H6c) will be moderated by task interdependency (TI) (^{(7)}) so that the effects will be stronger for individuals with higher TI.</td>
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<tr>
<td>H7</td>
<td>The relationship between an individual’s ESSP usage and her/his IPI (H7a), DMPI (H7b), and INPI (H7c) will be moderated by task equivocality (TE) (^{(8)}) so that the effects will be stronger for individuals with higher TE.</td>
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Eventually, we will control for the variables gender, age, hierarchy level, voluntariness, and social software experience.

5. Conclusions, limitations, and next steps

Our theoretical contribution lies in the conceptualization of a model explaining the benefits social software users gain by using ESSPs. We thereby address the call for research put forth by Benbasat and Zmud [6] requesting more research investigating the consequences of IS usage, “the impacts (direct and indirect, intended and unintended) of these artifacts on the humans who directly (and indirectly) interact with them, [and] structures and contexts within which they are embedded.” To identify these benefits, we collected a rich set of qualitative data and consequently – based on the collected data as well as on theory – developed a conceptual model comprising the potential benefits that ESSP usage brings about and the contextual factors influencing the identified usage-performance relationships. In addition, we contribute to practice by providing an instrument for organizations to identify the performance impacts of ESSP usage in their organization.

Our research is limited in that it is only based on qualitative data, literature, and theory. The qualitative data set collected from the online discussion event might be biased towards social software because the host of the event is a provider of organizational social software itself. We tried to account for that bias during data analysis. Finally, our research endeavor is currently limited to the individual level of analysis, which must be regarded as a limitation when studying collective phenomena such as ESSPs.

In the second data collection phase, we will launch a survey to validate the proposed model. We have therefore established an initial item pool based on established measures from previous studies (see Table 1). To ensure the measurement instrument’s content validity, we will employ established procedures as proposed in the literature (e.g., card-sorting and the item-ranking approach) [15, 57]. We will discuss the measurement instrument with a panel of ESSP users (semi-structured, face-to-face interviews) regarding its length, the format of the scales, construct validity as well as question ambiguity, and consequently implement their feedback for further refinement. To further enhance the instrument’s content validity, we will ask the interviewees to identify any factors that are not in the survey but which they consider important in their adoption of ESSPs.

As a last step in validating the measurement instrument, we will launch a web-based pre-test with selected participants. To finally empirically validate the proposed model, we will launch the survey instrument in the field. Using the survey’s empirical data, the instrument’s psychometric properties will be explored by applying second-generation modeling techniques. Following the validation guidelines of Straub et al. [72] as well as Lewis et al. [49], we will test the measurement model for reliability, convergent validity, discriminant validity, and predictive validity. Given an adequate measurement model, the structural model will be analyzed to test the associations hypothesized in the research model.

By validating our conceptual model by means of a survey, we address the call for research by Wattal et al. [80, p. 168] who argued as follows: “Future research should employ cross-sectional surveys to develop comprehensive theoretical models that can guide the study of such [collaboration] technologies in organizational contexts”. 

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