Implementation Strategies for Enterprise Social Networks

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Abstract: In recent times, enterprises have been increasingly dealing with the use of social media in internal communication and collaboration. In particular, so-called Enterprise Social Networks (ESN), promise meaningful benefits for the nature of work in corporations. However, these platforms often suffer from poor degrees of use. This raises the question of what initiatives enterprise can launch in order to stimulate the vitality of ESN. Since the use of ESN is often voluntary, individual adoption by employees need to be examined to find an answer. Therefore, the Unified Theory of Acceptance and Use of Technology (UTAUT) model was selected for the theoretical foundation of this paper. Following a qualitative research approach, the available research provides an analysis of expert interviews on specific ESN implementation strategies and included factors. In order to extensively conceptualize and generalize these strategic considerations, we conducted an inductive coding process. The results reveal that ESN implementation strategies can be understood as a multi-level construct (individual vs. group vs. organizational level) containing different factors dependent on the degree of documentation and intensity. This research in progress describes a qualitative evaluation as a preliminary study for further quantitative analysis of an ESN adoption model.

Keywords: Enterprise Social Networks, implementation strategy, technology acceptance, UTAUT

1 Introduction

Communication and collaboration in enterprises is undergoing rapid change. The latest information technology has fundamentally transformed the manner in which corporate collaboration operates ([CA08]; [MMJ05]; [SNB13]). A substantial step in this development has been the rise of Enterprise Social Networks (ESN): "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" [LHS13].

Typical solutions have been implemented, for example, on the basis of software solutions such as IBM Connections, Jive, Microsoft SharePoint, or Slack. Forecasts

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emphasize the increasing relevance of these platforms. Market researchers anticipate a global revenue volume of 3.5 billion USD for investments in ESN by 2019 [Th15]. This indicates a doubling of revenues between 2014 and 2019 and a yearly growth rate of close to 20%.

The existing body of research has found that ESN exerts a positive influence on a variety of personal and organizational aspects, e.g. communication ([vSB15]; [TL12]), collaboration ([Be14]; [Br09]), knowledge-sharing and dissemination ([An16]; [EAF15]), innovativeness ([Le14]; [PRB15]), work performance, and job security [Wu12].

However, a look into corporate practice shows that enterprises struggle to realize the potentials that are associated with ESN: enterprises often do not achieve the benefits they desire [WS11] and the expectations reposed in ESN are mostly not met [DPF11]. The cause of these failures is twofold: overemphasis of technological aspects and underestimation of social factors in the introduction phase ([vR13]). As long as the introductory processes for ESN only focus on software functions, sustainable success is improbable.

This raises the question of how enterprises can stimulate the adoption of ESN in order to achieve levels of vitality that allow the realization of the above mentioned potentials. Previous studies have linked disappointing adoption rates to the following exemplary factors: resource constraints, lack of guidance, training and support, as well as extensive time and effort requirements to learn how to use ESN [DPF11]. In light of these findings, it seems reasonable to claim that enterprises need to support the introduction of ESN.

One key success factor that has been reported is the formulation and implementation of specific strategies for the purpose of influencing ESN adoption. A lack of implementation strategy has been found to delay the adoption of ESN, while relying on passive rollout strategies has often proved unsuccessful [KSR13]. In turn, an appropriate strategy would encourage and facilitate the smooth adoption of the communication platforms. These strategies typically include such elements as planning the implementation, securing resources, and guiding the adoption [AA15]. Prior studies suggest that, in order to tailor the strategic considerations specifically to the organizational context, a necessary first step is to gain an extensive understanding of the impact on ESN on the organization. This may refer to potential changes in the existing corporate culture as well as in the established communication structure [RRv11]. As the use of ESN is often voluntary, in which case the adoption decision is made by employees, it is vital to make sure that strategy reaches out to and addresses even the bottom level of employees [MR14].

A literature review shows that traditionally ESN implementation strategies follow one of two different approaches: bottom-up vs. top-down. The first approach is characterized by the fact that the introduction of ESN is driven by the employees, that the latter proactively ask for the implementation of the platforms. Contrarily, in the top-down approach, we have a scenario where top management serves as the driving force behind

platform introduction [MR14]. The practical application of this categorization was confirmed by Williams and Schubert [WS11]. In an analysis of seven in-depth case studies, the authors found that both approaches were applied in enterprises. These findings were later extended in a literature review by Louw and Mtsweni, who write that the adoption process works best when the implementation approach is hybrid, meaning that both approaches are applied simultaneously [LM13].

In contrast to these findings, Richter et al. have observed that the bottom-up/top-down labeling dichotomy is not used in practice and so is of dubious relevance [Ri13]. Examining 21 case studies, the authors describe that enterprises rather follow one of two strategies: exploration ("a continuous investigation of possible use cases for new (open) tools, through a participative approach") or promotion ("the intentional business-aligned and skilled use of the new tools focusing on well-defined usage potential") [Ri13]. Both strategies are of a complementary nature and may be used simultaneously.

In light of these mixed findings, it is important to define tangible strategies for the improvement of ESN vitality. This is a matter of high practical as well as theoretical relevance. It has been reported that well-defined implementation strategies for ESN adoption are missing in practice [LPB14]. Additionally, an analysis of related scientific work regarding ESN implementation unearthed only very few tangible indications of relevant factors in implementation strategies [VL15]. Therefore, it remains unclear which particular factors in implementation strategies need to be considered in order to stimulate ESN use [AA15].

The purpose of this paper is to explore the nature of ESN implementation strategies by answering the following research questions:

- (1) Which factors are considered in ESN implementation strategies in order to foster ESN use?
- (2) How are relevant factors for ESN implementation strategies structured in a conceptual model?

The remainder of this paper is organized as follows. Chapter 2 illustrates Technology Acceptance research and characterizes the UTAUT model as a theoretical foundation. Then, in chapter 3, the qualitative research approach that was used to gather expert opinions on tangible strategies is described. The conceptual model for ESN implementation strategies is elaborated in chapter 4, and its implementations are presented in chapter 5. Limitations and further research issues are subject of chapter 6.

2 Theoretical foundation

Central to the degree of vitality of ESN is the user himself. As platform use is often voluntary, the decision for use or non-use is made on the individual level by employees. This leads to the following question: why do people adopt information technology? The problem of user adoption has featured Information Systems research for a considerable period of time. A traditional framework for Information Technology Adoption is provided by the Technology Acceptance Model (TAM) as developed by Davis et al. [DBW89]. It yields a causal model for describing the predictors and relevant constructs specifying the degree of utilization of technological systems. TAM has been applied to different technologies and has proven its predictive capacity for individual technology adoption [BDV10]. The model's success is due to its comprehensibility and ready applicability, but also the high degree of reliability of the initial variables, as a meta-analysis by King and He [KH06] demonstrated. Along with the further development of Technology Acceptance theory, the original TAM model was later extended by other constructs and relationships.

This led to the development of advanced models like Unified Theory of Acceptance and Use of Technology (UTAUT) ([Ve03]). This theory was developed through a review and consolidation of the constructs of eight models that earlier research had employed to explain information systems use behavior (Theory of Reasoned Action, Technology Acceptance Model, Motivational Model, Theory of Planned Behavior, a combined Theory of Planned Behavior/Technology Acceptance Model, Model of Personal Computer Use, Diffusion of Innovations Theory, and Social Cognitive Theory). Finally, UTAUT led to four key constructs supporting technology acceptance: 1) performance expectancy, 2) effort expectancy, 3) social influence, and 4) facilitating conditions. The first three constructs are direct determinants of use intention and behavior, and the fourth is a direct determinant of use behavior. Additionally, four moderators are included that have an effect on different relationships in the model: gender, age, experience, and voluntariness of use. The UTAUT causal model is shown in figure 1.

As Venkatesh et al. state, the model explains as much as 70% of the variance in behavioral intention [Ve03], proving its robustness and comprehensibility. However, the question of what specific actions enterprises can take to stimulate adoption remains. A common criticism of UTAUT refers to its limited usefulness when it comes to explaining what single interventions drive user acceptance: "Little is known about the key antecedents that influence the UTAUT constructs" [BDV10]. One way of raising the explanatory power of Technology Acceptance research might be to elaborate the model in specific contexts ([VB08]; [KSR12]). Given the initial question of what implementation strategies are used in enterprises to foster adoption, extension of the UTAUT model specifically to ESN adoption seems reasonable.

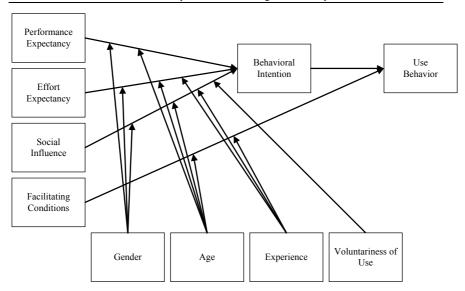


Figure 1: The UTAUT model ([Ve03])

3 Method

Since the literature on ESN adoption provided no hints as to which concrete factors need to be included in an ESN implementation strategy, we chose a qualitative research approach to identify what ESN implementation strategies are used in practice. Furthermore, we sought to identify the factors behind these strategies and how they impact on the adoption rate.

For purposes of this explorative study of ESN implementation strategies in corporations, a methodical study approach based on qualitative evaluation as presented by Silverman ([Si13]) was implemented. The sample chosen for qualitative evaluation covers companies with proven experience in using ESN. For this reason, only those companies were invited to participate that had already implemented ESN within their organization and therefore had obtained relevant experience.

All in all, ten major German enterprises were selected for participation in this study. Consequently, we conducted explorative interviews with corporate executives responsible for the implementation of ESN. The interviews took place in autumn 2014 and data were collected by way of telephone interviews. We developed a semi-structured questionnaire and used it as a guideline; the interviews took, on average, 35 minutes.

In order to provide intersubjective confirmability, all telephone interviews were digitally recorded and subsequently transcribed [OK09]. Initially, we analyzed the results of the transcription case by case. On this basis, we developed a category system to evaluate the written material in a structured manner [Si13]. It was then possible to gather and interpret the data based on the categories identified.

4 Results

The results of the qualitative evaluation are presented below. As control variables, we used the time since ESN was introduced and the technological solutions applied. For the ten companies interviewed, the introduction of ESN took place between April 2012 and October 2014. Concerning the technological solutions used, the main focus was on Jive (n=5), followed by IBM Connections (n=2), Microsoft SharePoint (n=2) and Yammer (n=1).

4.1 Conceptual model for ESN implementation strategies

Analysis of the ESN implementation strategies revealed, for the interviewed sample, a heterogeneous pattern. Hence, it can be generally distinguished between (1) whether an implementation strategy is established explicitly or implicitly, (2) what degree of implementation intensity the enterprise strives for in general, and (3) which organizational levels (individuals, group, organization) are addressed by the implementation strategy concept. An overview of the evaluated factors for implementation strategies is shown in figure 2.

With regard to the first dimension, it should be noted that eight of the ten enterprises analyzed had not documented an explicit strategy for ESN implementation. This applies in particular to corporations in the early stage of introducing ESN. The data also indicate that only in a minority of enterprises were extensive strategic considerations invoked in the phase of platform introduction preparation. The initiatives for implementation were rather weakly described and not generally communicated in many corporations. An elaborated strategy for ESN implementation only existed in two of the ten corporations.

The second dimension refers to the degree of intensity of the ESN implementation strategy. When analyzing the implementation efforts in different enterprises, it became clear that the strategies differed widely in depth. Some enterprises supported the introductory process with a rather low amount of internal resources and concentrated on single and often isolated activities (low intensity). This often involves provision of technical support, standardized learning offers, and single contact persons. At higher levels of intensity, the implementation strategy contains a variety of coordinated and related activities that are more resource-demanding but also promise to anchor ESN use at a deeper level in the enterprise. This usually means the establishment of distributed responsibilities, extensive community management, individual support, substantial training, and several specialized contact persons.

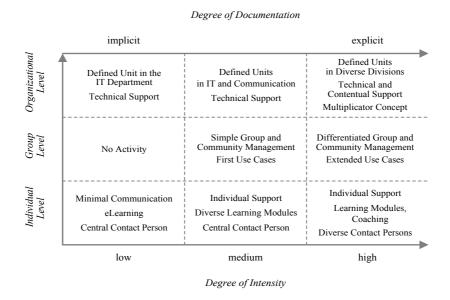


Figure 2: Factors of ESN implementation strategies

Regarding the third dimension, this showed that ESN implementation initiatives mainly relate to three levels. The reported factors for ESN implementation relate to the individual, group, and organizational levels. This result means that the implementation strategy needs to address not only individual employees (e.g. project managers, community leaders, helpdesk employees) but rather the whole organization as well (e.g. units with explicit responsibilities such as support or communication). Thus, different levels of intensity regarding ESN implementation strategy are associated with differentiated activities on the individual, group and organizational levels. The single identified initiatives are documented in figure 2.

Moreover, based on the findings of qualitative evaluation, it can be assumed that the degree of documentation of an ESN implementation strategy increases with the general intensity of ESN implementation.

4.2 Impact of implementation strategies on ESN system use

The influence of implementation strategies on ESN system use can only be described subjectively on the basis of the qualitative evaluation. As the expert interviews indicate, a greater intensity of implementation strategy positively affects ESN adoption and use. Therefore, the results of our qualitative research can serve as a basis for the setup and evaluation of corresponding quantitative explorations in future steps of the research project.

From among the companies interviewed in this sample, no holistic measurement scale could be derived for determining ESN use. Rather, questions in this regard are frequently answered purely subjectively or based on different internal surveys. Differentiated measurements of system use are generally developed as the maturity of corporate ESN increases. In this process, the introduction and use of appropriate control models can well be regarded as a partial task of implementation strategy.

In practice, the following indicators for ESN system use are frequently drawn upon: number of registered users, number of active users, number of groups/communities, number of newly established groups/communities, number of postings, comments and likes, number of shared contents, number of accesses to contents, and general activity of the users. On the basis of data protection regulations, these metrics are frequently collected on an aggregated level.

In the next research steps, however, statements on the relationship between ESN implementations strategy and system use need to be evaluated quantitatively. In this qualitative preliminary study, all interviewed executives predict a positive effect for ESN strategy on system use. This applies in particular to the early phases of introducing ESN. In the further course of use, specific cases are formed, i.e. a culture for ESN use emerges. This is frequently influenced by management and the overall company culture. Thus, the causal effect of implementation strategy on ESN use is chiefly manifested in the initial phase of system introduction. In the context of further system use, implicit ESN strategy models gain in importance.

5 Implications

Diversified implications for practice and further research on ESN can be derived from this qualitative research.

Firstly, the interviews with ESN experts provide differentiated insights into how to conceptualize the relevant constructs in the context of ESN implementation strategies. Thus, implementation strategies can be understood as a multifaceted concept described by the degree of documentation, support intensity, and focus on multiple organizational levels. The proposed model may serve as a foundation in order to derive a specific measurement model for the evaluation of ESN implementation strategies. These measurements will allow us to examine if and how single factors of practical implementation strategies impact on the key constructs of the UTAUT model.

Secondly, the insights we have gathered also possess practical relevance. The ESN implementation strategy model offers a frame of reference for the introduction of ESN. In that respect, various levels of ESN implementation strategies can be determined along with defined initiatives on the single levels. It may serve as a starting point for further development of existing strategies and, moreover, suggests initiatives to expand the implementation efforts. In addition, the reference model for the introduction of ESN can be consulted in those companies that have not yet come to terms with the new forms of communication and collaboration.

Limitations and further research issues

Limitations are to only be expected in any kind of research work, restricting the area of applicability of the results and, at the same time, opening up potential for further studies. In this qualitative preliminary analysis, the small sample size of the study needs to be clearly pointed out. Accordingly, the results of the qualitative evaluation will have to be quantitatively confirmed in the next steps of our research project and evaluated by a larger sample size. Further limitations derive from the nature of the qualitative research work itself. The insights gained are mainly based on the subjective opinions of experts. For this reason, the validity and reliability of the results need further examination.

The Technology Acceptance research stream served as the theoretical foundation for this paper. It suggests a positive relationship between ESN implementation strategies and the ESN adoption process [AA15]. While the Technology Acceptance literature has been widely established in Information Systems research, it has also occasioned some criticism. A common critique refers to missing actionable guidelines ([LKL03]; [VB08]). Therefore, as Venkatesh et al. suggest, future research should combine technology adoption with other research streams [Ve03]. In previous research, the UTAUT model has already been adapted to different ESN-specific contexts, e.g. to the adoption of Enterprise 2.0 applications incorporating different context-specific variables [Wa14], prediction of ESN system use with the focus on technological, social, and organizational factors [KSR12], the adoption of collaboration technologies using collaboration-related constructs [BDV10], and microblogging adoption in enterprises

As these Technology Acceptance models for ESN often lack suggestions for concrete action [LM13], a further extension of the UTAUT model seems promising. This could be by way of integrating the factors of the ESN implementation strategy as predictors for performance expectancy, effort expectancy, social influence, and facilitating conditions. Given that individual employees decide on the adoption of ESN, it is reasonable to focus on the question of how employees perceive the factors behind the ESN implementation strategy and how it affects their ESN adoption intentions. By asking different groups of employees, one could additionally analyze if critical aspects, seen from their perspective, are missing from the proposed model.

Another step in our research would lie in development of an appropriate measurement model for the conceptual model of ESN implementation strategy provided in this paper. By means of a literature analysis, existing measurement scales need to be identified and, if necessary, adopted to the context in question. As far as operationalizations are missing, a scale development process will need to be implemented. The collection of data can be carried out in the ESN itself (since almost every action in ESN leaves a digital trace, see [BRT14]) or in employee interviews via online questionnaires.

It will fall to subsequent studies to show how a stronger intensity of implementation strategy affects ESN use and the associated indicators of success. Thus, this research provides a suitable basis for the development of appropriate measurement models.

Looking ahead, the quantitative evaluation of the extended UTAUT model is planned using a partial least squares structural equation modeling. Another contribution can be expected from this empirical evaluation of the model. This would also permit examination of the relative importance of the single factors in the ESN implementation strategy model vis-à-vis the behavioral intention and the actual use behavior of employees, and it would additionally shed light on the relative importance of single strategic ESN implementation efforts.

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