Towards a Maturity Model for the Adoption of Social Media as a Means of Organizational Innovation

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Abstract

Social Media applications as a contemporary phenomenon attract the attention of organizations and researchers. While these technologies are mainstream in a private setting, there is still uncertainty among organizations of operating them. The corporate perspective aims at deploying these technologies for value creation, i.e. improvement and even innovation. Conceptual guidance for a proper management to professionalize Social Media management is missing. Maturity models provide support to this challenge. This paper deals with the development of a maturity model for the organizational adoption of Social Media. By means of a design science research approach, the model is defined along the dimensions strategy, processes, IT systems, culture, and governance and measured against five maturity stages. Thereby a contribution is made to the knowledge base of corporate Social Media usage as well as to the development of a maturity model along a defined design methodology.

1. Introduction

Web 2.0 and Social Software applications as contemporary phenomena receive significant attention in private and in business setting. As a group of web-based applications Social Media (SoMe) emphasize the creation and exchange of user generated content [27]. From an organizational perspective, they fundamentally change the manner of online communication towards a dialog among and between fans, followers, consumers and organizations [11]. This does not only mean a new way of communicating with stakeholders but also the start of an innovation process regarding products, services as well as ensuing processes within the organization. To explore and exploit the innovation opportunities requires organizational transformation efforts. Different literature streams elaborate on that topic from their respective point of views and usually take focused sometimes one-sided perspectives. They do not provide an integrative approach such as a systematical and comprehensive assessment of a corporate SoMe usage for external communication and the respective innovation potential for the organization. The concept of Business Engineering provides such a holistic approach and emphasizes innovations as trigger of transforming strategy, processes, systems, culture, and governance respectively [3, 57].

Examining the state-of-the-art of technology deployment or the consequences of its introduction into the organization is an important basis for the justification of already done investments or future decisions thereof. Integrated approaches for assessing a field with a broad scope can best be supported by maturity models and are frequently in scope of Business and Information Systems Engineering research [17]. Anchor points of their application are an informed approach for continuous enhancements [1, 44] and as a means for self-assessment and benchmarking [17, 23]. Hence, maturity models assist problem solving activities by revealing the status quo of a company’s capabilities, or achieved states, respectively. They provide structured guidance to initiate improvement activities along selected dimensions [46]. In this context, maturity is understood as a “state of being complete, perfect or ready” [53].

Following a design science research approach [25, 45], this paper’s objective is the development of a maturity model for the organizational adoption of SoMe as a means for external communication and the ensuing innovation potential for the organization and its value proposition.

Next, we elaborate on the motivation, research gap and approach. This leads to a specification of the solution (section 2), the development process (section 3) and the demonstration of the artifact (section 4). The last section concludes with a discussion, limitations and the venue for further research.
1.1 Problem identification and motivation

By 2006, McAfee [36] coined the term Enterprise 2.0 to indicate the application of Web 2.0 mechanisms in the corporate ecosystem to enhance collaboration. This concept of collaboration is usually placed within organizational boundaries and relates to knowledge management and e-collaboration [22]. Nonetheless, external collaboration is observed mainly in corporate functions such as communications, marketing, and human resources [32] but also for idea tournaments, crowd-sourcing activities. Still, organizations struggle with an effective deployment of Web 2.0 applications. When trying to decide whether to invest into SoMe companies have no valid cost-benefit analysis or fear a loss of control [18, 20]. Very often SoMe decisions are “me-too” moves out of fear to miss the hype [13, 56]. The innovation potential is often not exploited since there are no “proven” deployment concepts and the SoMe platforms are used as yet another push medium for corporate information [24, 54].

The organizational innovation [14–16], i.e., the adoption of the new technologies and their related practices to the organization, is therefore focused on incremental changes and minor adaptation to selected organizational practices. Although practitioner reports claim that corporate SoMe usage has already a high degree of maturity (e.g., [9]) they rather promote future usage driving the hype [29] instead of providing methodologically solid and generalizable assertions. As a result, there is a need for a systematic approach to assess the maturity of corporate SoMe usage.

1.2 Research gap and contribution

The characteristics of social technologies are a new dimension for IS researcher. These applications and their deployment differ from typical enterprise IT systems because they are rather basic from a technical point of view and easily used by employees due to private experiences. Further, they are to be implemented as supporting tools, which are only valuable if their users – that is consumers and organizations – create, exchange and modify user generated contents. Oftentimes they are not embraced by top management (top-down) but rather used and implemented by employees (bottom-up). The organizational deployment of social technologies covered in literature reveals a diverse set of starting points, e.g., organizational challenges [30], implementation processes [50], customer dialog management [19], marketing strategies [24], technology tools and usage [42, 43] or cultural values [52]. While these studies advance the SoMe knowledge base, they take a rather focused perspective. To the best of our knowledge, there are so far no proven insights on structurally assessing a corporate SoMe deployment or its management based on a maturity model approach. The review of relevant literature as well as expanding the perspective to the nearby domain of Enterprise 2.0 maturity models provides some guidance for our objective.

In line with this argumentation, the paper has an exploratory contribution [7] to the understanding of a corporate wide SoMe adoption in organizations. Due to the lack of comparable SoMe maturity models and long-term experiences in deploying and managing SoMe, our research concatenates previous findings of related domains and proposes a solution of a comprehensive and corporate-wide SoMe assessment focusing on the potential of external communication for organizational innovation. Another contribution is the development of a re-usable artifact for scholars as well as an applicable tool for practitioners for self-assessment and benchmarking. This provides transparency which gaps need to be closed and hints which initiatives could be initiated.

1.3 Research design

Developing a theoretical artifact (SoMe maturity model) that extends existing capability limitations and solves a practical problem (corporate SoMe usage) is assumed to fall within the application area of Hevner’s et al. seven guidelines for design science research [4, 25]. We intend to design an innovative artifact comprising a model and method component. It is a model since it provides a formal description to assess the status quo (what). It is also a method as the specification of improvements describes activities to solve the problem (how) [3].

We operationalize our research by applying the process model by Peffers et al. [45]. In the previous sections we elaborated on the problem identification and motivation for developing a new maturity model. The objectives of the solution are formulized by means of specific design recommendations being derived from prior literature on maturity models. Central part of this paper is the model’s development phase. By adopting findings from related literature we derive the basic model’s dimensions and sub-dimensions. Empirical input and primary data for the maturity model stems from a research project with seven organizations. Participating employees are directly involved in the SoMe activities of their organizations and work in corporate communications, marketing, (customer) support, Investor Relations and IT. In case studies with each organization and a joined workshop, we elaborated on the characteristics and application
areas of SoMe, performed comparisons on the current state of practices and derived concrete recommendations for action. Moreover, we identified additional areas with a need for action to professionalize the SoMe management. The artifact’s demonstration and evaluation steps are touched upon briefly, as we put emphasize on this paper on the development process. This emphasis is in line with the design science guidelines [25] that demand the design as a search process and the communication of results.

2. Objectives of the maturity model

Since the origins of the maturity model concept in the 1970s [12, 21] there have been numerous research articles [5] and models developed by scholars and practitioners [40]. These high numbers of models lead to a certain arbitrariness of the design process [4, 8, 41]. While the literature on maturity models is rich in describing the main features and success factors, there are only a few publications with a sound theoretical basis. An application to different domains is burdensome due to missing validity, reliability and generalizability [37]. Designing new models therefore requires a rigorous design process.

Publications that propose a methodology to design maturity models are comparable in their development processes. Mettler [39] develops a bottom-up methodology which initially sets the dimensions and characteristics that represent maturity. In a second step descriptions are derived from those characteristics. A top-down approach, on the other hand, is eligible if the application domain is relatively novel and if it is not yet clear what constitutes maturity. Maturity stages are defined in a first step followed by a development of specific assessment items (characteristics) representing different maturity degrees. As such, emphasis is put on describing what represents maturity as well as how to measure it. Moreover, a top-down methodology can be applied in different domains, is generalizability and permits standardization. The respective methodology proposed by de Bruin et al. [8] fits our purpose. Hence, we base the model development on this concept consisting of the phases “scope”, “design”, “populate”, “test”, “deploy”, and “maintain” (see Table 1).

3. Development of the maturity model

Our development strategy applies an iterative process [25]. First, we use the knowledge base on maturity model design as conceptual guidance (Scope, Design). Thereafter, we develop our initial model architecture (Populate). A literature review on related approaches is performed for specification and adjustments (Test and Populate). The insights from our research project eventually contributed to all of these development phases wherever applicable. As indicated before, the deployment phase (called demonstration [45]) as well as maintenance phase (evaluation) are discussed briefly and are dedicated objectives in subsequent research projects.

3.1 Scope

The application domain of a maturity model can be either specific (e.g., CMM being applicable to the processes of software development or processes in general) or rather general (e.g., EFQM considering business excellence). For the purpose of our model we select a specific application domain being the organizational implementation of SoMe for external communication within a B2C context with the goal of first, organizational innovation (e.g., processes) and second, business model innovation (e.g., products and services). Unit of analysis are organizations that already perform some kind of SoMe activities. Including only those organizations allows for a realistic assessment of the SoMe approach due to the experiences made in managing the diverse set of activities. The B2C scope is justified because it is much more developed than the usage of SoMe in a B2B setting [20].

The primary application purpose of the model is the determination of the status quo, rather than already deriving suggestions for innovation activities. That is, the model serves as an assessment tool of present organizational states. The uncertainty related to a proper SoMe management is a key concern of organizations [24, 28]. Within our case studies we realized the need for a structured and comprehensive evaluation. An assessment (descriptive approach) provides a first step towards transparency on how to

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
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<tbody>
<tr>
<td>Scope</td>
<td>The application domain is specified and the target audience determined.</td>
</tr>
<tr>
<td>Design</td>
<td>The design requirements are specified and the model’s characteristics are outlined including stage definitions and descriptions.</td>
</tr>
<tr>
<td>Populate</td>
<td>Characteristics of each stage are determined and the assessment approach defined.</td>
</tr>
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</table>

Test | The model is tested in terms of completeness and accuracy. Assessment instruments are controlled for validity and reliability. |
Deploy | The model is deployed to the target audience and to independent communities. |
Maintain | The model is maintained to incorporate new insights, improvements as well as to ensure evolution. |
The design phase highlights the “needs of the intended audience and how these needs will be met” [8]. Qualitative exploratory research methods such as literature analysis, case studies and focus groups [4, 8, 17] are proposed for this purpose. The examination of prior publications on that subject fits best with our objective to develop the SoMe maturity model as it allows for adaptations of proven practices and existing knowledge.

The audiences are internal and external representatives of different organizations at executive and management level. The method of application is third party assisted, that is, by research partners and focus organizations. This guarantees that all information is collected in a consistent way. Respondents from management can provide insights related to strategic aspects and a holistic perspective on SoMe, consumer interaction or integration. Staff members as a second group of respondents provide input into the actual operations of the SoMe activities. This approach allows for a thorough examination of the usefulness and quality of the designed model.

The drivers of the model’s application are both, internal and external requirements. Internally, there is the demand to professionalize the SoMe management. Within the previously mentioned research workshop participants stressed the need to justify the investments, a smooth integration into existing processes and specification of the value contribution. Externally, there is the strong consumer demand to connect with organizations or brands of interest [20]. A decent appearance on different SoMe applications for the sake of consumer interaction and community building and as a basis for innovation activities requests an internal alignment between different organizational departments.

The maturity measurement is performed along different dimensions. To derive these dimensions we consider SoMe as a type of IT innovation. As internet based applications they are a new technology that organizations have to incorporate into their operations. A solid implementation, integration and management of these technologies require comprehensive and corporate-wide efforts. A framework for such a transformation process provides the concept of Business Engineering [3, 57]. It is the framework’s vision to enhance the corporate value chain by becoming more consumer-centric, a common principle in the context of Web 2.0. The complexity of the transformation task is managed by breaking the subject of interest into different design areas. These areas – thus our respective maturity dimensions – are strategy, processes, IT systems, culture [47]. Furthermore, we integrate the dimension governance as an additional design area [3]. This extension is reasonable because the governance task accounts for the pace how to become more mature and supports the decision which degree of maturity should be actually achieved.

As maturity principle we propose a staged model consisting of distinct stages that indicate increasing degrees of maturity. Because of the relatively novel domain of SoMe we choose a top-down approach. Reusing existing maturity models as proposed by Becket et al. [4] is hardly feasible due to a lack of models in this context. Adapting some components might still be an option if the context of prior findings is applicable for instantiation. Also, it is currently difficult to specify the most advanced state of a maturity stage. Therefore, we initially design our model architecture from scratch to have an unbiased perspective on the assessment factors that are considered to be relevant. In particular, we define five maturity stages (see Table 2) which represent different degrees of organizational SoMe usage. Five stages are commonly used by researchers since they provide sufficient differentiation between different stages while not being too complex for application [8].

**Table 2. Maturity stages and definitions**

<table>
<thead>
<tr>
<th>Maturity stage</th>
<th>Definitions</th>
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<tbody>
<tr>
<td>Stage 0</td>
<td>No degree of maturity</td>
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<tr>
<td>Stage 1</td>
<td>Low degree of maturity</td>
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</table>
Stage 2: Rather low degree of maturity
Stage 3: Medium degree of maturity
Stage 4: Rather high degree of maturity
Stage 5: High degree of maturity

Considering the five Business Engineering dimensions we assess different maturity factors, i.e., process/structure maturity (extent to which SoMe processes are defined, managed, measured, controlled, and effective), object/technology maturity (extent to which SoMe usage reach a pre-defined level of sophistication) and people/culture maturity (ability of the workforce to manage the dialogue on SoMe applications). Since there is not necessarily a mutual influence of the different maturity factors, the path towards maturity progression might differ [37], e.g., there might be already some strategic SoMe objectives in place while processes and people capabilities are not yet equally developed.

3.3 Populate

The population phase elaborates on the actual model development. Sub-dimensions are defined to add more specificity to each of the five dimensions, to enable a richer analysis of maturity and to give a more detailed presentation of the maturity results to the target audience (see Table 3). Due to the novelty of the domain, there is a lack of literature to instantiate all components from prior insights. As accepted design principle in such a situation [8], we define some sub-dimensions based on inferences from our study if there are no adequate scientific insights on that matter.

3.3.1 Strategy dimension. The strategy dimension assesses the scope and appreciation of SoMe in the organization. Strategic SoMe objectives assess the formalization of goals to be achieved. Combining the insights from two academic [18, 30] and a practitioner maturity model [10], we can define a stage 1 maturity if there are no objectives for the SoMe application and rather a bottom-up approach towards their adoption. The integration of SoMe as some supporting element for achieving a particular strategic objective is regarded as stage 2 maturity. A top-down and strategically oriented approach indicates a stage 3 maturity due to a centralized and corporate perspective towards the subject [18, 30]. A level 4 maturity could be assumed as soon as SoMe are entirely integrated into operations so that there are no longer dedicated strategic objectives needed. The highest degree of maturity (stage 5) could be assumed if Social Media becomes the enabler for new business models [10].

To judge the potential of SoMe operations for becoming a competitive advantage we consider maturity in scope of Porter’s generic value chain [48]. We argue that the more organizational functions are integrating SoMe in their daily operations, the more mature is an organization SoMe-wise. This argumentation is reasonable as it expresses the demand for an organizational wide customer orientation [57].

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Sub-dimensions</th>
<th>Measurement</th>
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<tbody>
<tr>
<td>Strategy</td>
<td>Strategic SoMe objectives in place</td>
<td>Select stage</td>
</tr>
<tr>
<td></td>
<td>SoMe acknowledged competition factor</td>
<td>Determine stage</td>
</tr>
<tr>
<td></td>
<td>SoMe channels aligned</td>
<td>Select stage</td>
</tr>
<tr>
<td>Governance</td>
<td>Performance assessment implemented</td>
<td>Select stage</td>
</tr>
<tr>
<td></td>
<td>Budget management in place</td>
<td>Select stage</td>
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<tr>
<td></td>
<td>Content ownership defined</td>
<td>Select stage</td>
</tr>
<tr>
<td></td>
<td>Platform ownership defined</td>
<td>Select stage</td>
</tr>
<tr>
<td>Processes and Organization</td>
<td>SoMe consumer processes implemented</td>
<td>Select stage</td>
</tr>
<tr>
<td></td>
<td>SoMe dialog processes implemented</td>
<td>Select stage</td>
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<tr>
<td></td>
<td>SoMe crisis mgmt. processes implemented</td>
<td>Select stage</td>
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<tr>
<td></td>
<td>Stakeholder concept in place</td>
<td>Select stage</td>
</tr>
<tr>
<td>Systems</td>
<td>SoMe infrastructure operational</td>
<td>Select stage</td>
</tr>
<tr>
<td></td>
<td>SoMe data analysis implemented</td>
<td>Select stage</td>
</tr>
<tr>
<td>Culture</td>
<td>Top-Management involved</td>
<td>Determine stage</td>
</tr>
<tr>
<td></td>
<td>Employee access granted</td>
<td>Determine stage</td>
</tr>
<tr>
<td></td>
<td>Employee usage accomplished</td>
<td>Determine stage</td>
</tr>
<tr>
<td></td>
<td>Structural SoMe guidance offered</td>
<td>Determine stage</td>
</tr>
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</table>

An additional strategic perspective focuses on the type and need of information via different communication channel (sub-dimension SoMe channel aligned). Research acknowledges the need for SoMe channel management [19] due to a difference in the type of information posted on the numerous platforms [55]. A stage 1 maturity within this dimension is given as long as SoMe contents are taken from existing corporate communication material. In these cases, there is no dedicated SoMe content production. A stage 2 maturity is given as soon as there are dedicated SoMe contents developed and published. A stage 3 maturity could be asserted if there is a SoMe platform strategy which differentiates the type of information and contents to be published on different channels, i.e.
there is coordinated communication. As soon as there is a full support of SoMe communication with functional strategies, e.g., brand strategy, we assert a stage 4 maturity, while a stage 5 maturity would represent a full alignment of SoMe channels and other online media.

3.3.2 Governance dimension. The governance dimension describes the management framework and how coordination is institutionalized. A SoMe performance measurement is key to justify an investment [19]. Due to the enormous amount of available data [49], there is the need to identify and select relevant parameters. Lee and Kwang [33] specify increasing maturity by a shift from a process-centric measures to outcome-centric measures. Initially (stage 1), process measures are applied to measure the level of engagement. This implies a quantification of efforts such as number of comments by the company or the creation and posting of new contents. By assessing the level of engagement from external stakeholders (e.g., number of responses from followers or the amount of user generated content) represents the next level of maturity (stage 2). Linking SoMe activities to non-financial and qualitative measures (e.g. customer satisfaction) represents progress (stage 3) towards outcome-centric measures due to the identification of value contributors. Assessing the contents (e.g. brand sentiment, brand centrality) of SoMe contributions is a level 4 maturity, as it allows to adapt brand or SoMe content strategies [55]. Eventually, linking SoMe activities with dedicated business objectives represents the highest degree of maturity (stage 5) [6].

While regular operations are usually managed in silos of the organizational functions, there is an overlap of activities between departments in case of SoMe. A SoMe budget offers alignment in terms of costs or benefits [18]. Maturity in this regard is assessed to be stage 1 when SoMe activities are initiated and single departments use SoMe on a project basis [18]. Corresponding budget requirements are managed in such a context in a decentralized way by the committed department(s) [50]. A stage 2 maturity is achieved as soon as there is a SoMe budget on a functional level to sponsor a variety of activities. A stage 3 maturity could be asserted in case of a dedicated and centralized SoMe budget that is cross-functionally financed. There is possibly some kind of budget council consisting of representatives from different organizational functions [30]. A stage 4 maturity should be observed as soon as a budget is merely used for major adaptations (e.g. infrastructure) since operations are usually running smoothly. As a consequence, the highest degree of maturity is inferred in case that SoMe are just a regular part of the communication infrastructure in which there is no longer a dedicated budget needed, i.e., SoMe has reached the status of a common production factor.

Research on SoMe further reveals the necessity to clarify ownership issues related to content creation and platform management for ensuring efficient decision making, fair cost allocations and ultimate accountability [30]. In the absence dedicated SoMe research or applicable maturity levels from other models, we measure maturity in analogy to the previous sub-dimension: A stage 1 maturity is applicable in case of a project managed approach, stage 2 maturity for a functional managed approach, stage 3 maturity as soon as there is a cross-functional and centralized SoMe management, a stage 4 maturity as soon as there is necessity for management due to exceptions, and a stage 5 maturity when ownership issues are managed in regular operations.

3.3.3 Process and organization dimension. The process and organization dimension examines the integration of SoMe in daily operations and how work routines, roles and responsibilities are defined. The CMMI framework serves as guideline for these process measurements (“consumer processes”, “dialog processes”, “crisis management processes”) as it is known in practice, generally applicable, aims at improving existing operations and differentiates maturity in five stages [1]. In general, there should be an assessment of consumer related processes that are affected by Social Media, i.e., all aspects for which a consumer might contact a company via SoMe platforms [18, 30, 57]. The sub-dimension “SoMe crisis management processes” emphasizes an organization’s PR management in case of negative publicity. The chorus of outrage on the Internet (e.g., Greenpeace & Nestlé’s KitKat in 2010) is a new dimension on the Web 2.0 due to the reach and amount of messages as well as their frequency of distribution. Being able to effectively respond to these situations is a capability that needs to be developed for safeguarding corporate reputation and image.

A SoMe stakeholder concept focuses on the needs, interest and relations of different interest groups within and outside the organization [6]. The degree of maturity is measured by the extent of the concept. In a first step, all directly involved SoMe functions and individuals should be mapped within the company’s structure to provide transparency of participating actors and their motives (stage 1). The identification of all indirect involved persons is the next level of maturity to indicate direct authority and reporting lines. This is crucial for decision making and alignment activities. The identification of management collaboration between different functions is the next step (stage 3) to draw conclusions from indirect authority.
Understanding these lateral collaboration networks exposes horizontal information flows and expertise on different hierarchy levels. Being aware of these structures discloses how and which groups of networks have close ties as well as which structures are somewhat more separated (e.g., executives vs. actual operations). The integration of externals partners and suppliers into the concepts could be regarded as a level 4 maturity. It reveals dependencies, key actors and competencies that are bought from outside. A stage 5 maturity is present as soon all points of interaction with external web-user, fans or followers are identified. This provides transparency on the central lines of communication or bottlenecks. It further gives indication which cooperation mechanisms are or need to be in place for a proper customer management.

3.3.4 Systems dimension. The systems dimension scrutinizes the technical implementation, integration and conjunction of SoMe in the systems landscape. A proper web presence (SoMe infrastructure) on different platforms is an important basis to establish information and opinion exchange. Increasing maturity is achieved by managing multiple SoMe platforms and systems to interact with web-users [33]. Integrating Web 2.0 technologies for personalized information retrieval or publication (e.g., RSS feeds or bookmarking tools) is considered as the first stage of maturity as it is merely an additional means for a one-way direction of communication [33]. Monitoring tools represent in this setting a simple SoMe system (stage 2) as they grasp the sentiments on the Web but do not allow to respond or to broadcast any information. Providing the opportunity for a dialog on some external or third party managed platforms (e.g., Facebook) is considered as a stage 3 maturity due to the need for set-up, maintenance and platform management. Managing an own community platform for online interaction is assumed to be maturity stage 4 as it implies some kind of a customized system. The integration of all systems within a dedicated SoMe management software suite eventually describes the highest stage of maturity.

The management of this new information becomes a challenge for data managers. They have to access, analyze and interpret a high volume of unstructured data [49] in order to make them valuable for different purposes. A quantitative data analysis for measuring engagement levels is considered as a low degree of maturity (level 1). Text mining efforts in terms of content analyses represent a stage 2 maturity as they advance the understanding on the market perception of products or brands. Product development, and with that also innovation, benefits from the generated insights as they allow the integration of new ideas or recommendations for product improvements. The analysis of web-users’ profiles, i.e. identity, interests or topics of discussion, that interact with the organization, represents a medium level of maturity (level 3). Being able to identify influencer, opinion holders or key persons in the social network of engaged web-users is the next level maturity (level 4) as it can affect reach and impact of organizational information or brand perception. Finally, integrating and linking SoMe consumer data with existing customer databases represents the highest degree of maturity (level 5) [49]. With this advanced data integration, it is possible to complement static customer data with dynamic information from SoMe platforms. These insights can be later used as input for customized offerings, advertisement and support.

3.3.5 Culture dimension. The culture dimension elaborates on the adoption of SoMe within the workforce. Resistance to adopt new technologies is a key concern for organizations [26, 31] which also holds for SoMe [18, 30]. Since we consider SoMe as an IT innovation, we assert the adoption itself as a process of innovation [2]. The concept of innovation diffusion [51] is suitable in that context to cluster different adopter categories (innovators = stage 1; early adopters = stage 2, early majority = 3; late majority = 4; laggards = 5). The assessment with this scheme applies for the sub-dimensions “management involvement”, “employee access” and “employee usage”. Within these dimensions we assume a high degree of maturity with an increasing penetration within the workforce. A strong management involvement, for example, is vital to signal the commitment for using these new technologies. The more managers actually use these technologies the more mature is the organization. Differentiating between employee access and employee usage is necessary to reveal the degree of SoMe acceptance among the workforce. While there might be no restrictions for accessing these tools to contribute to the information exchange, it does not imply a high usage thereof. Familiarity or authority concerns [30] with these tools may be reasons for refusal.

Structural guidance to use SoMe in daily business can be evaluated by the means of the support provided to employees [35]. Potential means are informal support structures such as information sessions and SoMe briefings or formal support structures such as SoMe guidelines for external communications, SoMe employee trainings, codes of conduct or guidelines for internal and external web users or SoMe experts/champions as internal support [6]. All measures provide guidance to act and react on these platforms. Employees being active on these channels therefore find legitimacy for e.g., deleting comments or
showing no reaction at all. Due to the difficulty of attributing some higher value of a particular measure over another, we argue that the more of these means are offered, the higher is the expected maturity on that sub-dimension.

3.3.6 Measurement approach. The sub-dimension’s measurement differentiates between two approaches (see table 3). The first one allows for a selection of a maturity stage if the previously defined requirements of that particular stage and the former stages are fulfilled (“select stage”). Among those sub-dimensions we are confident to assume the paths towards maturity. The second approach (“determine stage”) determines the maturity stage depending on the number of implemented measures. In these cases we cannot be sure how maturity will be achieved. Hence, we assume that the more measures are operational, there more mature is an organization. For the respective assessment, it is agreed on which measures would represent the highest degree of maturity. The relative amount of already implemented measures from this total defines the respective maturity stage. The five pre-defined stages are separated for this purpose into five percentile (1%-19% = stage 1; 20%-39% stage 2; 40%-59% = stage 3; 60%-79% = stage 4; 80%-100% = stage 5) to allow for an allocation.

To eventually quantify the maturity of each top level dimension we use a simple un-weighted average of the different sub-dimensions to enable cross-company comparisons and benchmarking.

4. Demonstration and evaluation

As indicated before, this research paper puts emphasis on the conceptual development of the maturity model. We applied a methodologically proven approach to derive the model’s components with a solid level of details. A full documentation and evaluation of the designed artifact cannot yet be provided. Proofing the model’s utility, quality, and efficacy is the logical next research step. Utility can be assured if practitioners actually apply the model and provide feedback. The model’s quality is assured if its development is rigorously executed and compliant with the requirements for a good maturity model. Iterations with research partners are needed in this context to add specificity [45]. While discussing the need of our case companies for a comprehensive assessment tool, we received confirmation that the five dimensions of the Business Engineering framework are suitable for that purpose. Ensuring the model’s efficacy needs time of application. It demands an initial assessment followed by dedicated transformation efforts to be implemented and to become effective. An additional assessment could later on evaluate the model’s efficacy.

5. Conclusion and future work

This paper presents the initial step for the development of a SoMe maturity model. With increasing penetration of these IT innovations in organizational operations there is a need for a comprehensive and structural approach to assess the maturity of the dedicated SoMe management to harvest the innovation potential for the organization and the business model as well. We conceptually derive our model by applying a design science research approach. Due to the novelty of the SoMe concept, we develop the model from scratch on a conceptual basis while adapting applicable literature and integrating insights from a SoMe study and a workshop with seven companies. The maturity model is intended as a management instrument to support the transformation process when adopting SoMe as external communication media in organizations. It is currently intended to serve as a tool for determining the status quo of organizational states along the dimensions strategy, processes, IT systems, culture, and governance.

This paper contributes to the field of Business Engineering, the concept of SoMe and its adoption by an organization. In particular, the research contributes to the knowledge base of SoMe usage in the context of business operations by defining assessment criteria how to implement related technologies. Furthermore, this paper implicitly provides additional insights into the development of maturity models based on the proposed methodological solutions

5.1 Limitations

The proposed maturity model is currently mainly of conceptual nature. The constituent literature on SoMe can – at best – recommend how single aspects of the organizational SoMe usage should look like. Recommendations are oftentimes based on case studies that still need empirical validations to eventually derive dedicated key success factors. Thus, despite our intent to apply a rigorous design process of our model, there is still the need for validation of the input parameters and model components.

A second point of concern is the difficulty to determine the current climax of a SoMe adoption. The dynamic Web 2.0 environment and application landscape demand constant adaptations to maintain an active online community, provide value to consumers and enable interaction with the dialog groups [34].
What is defined as a high level of maturity in this very moment may be rather standard operations in a short period. This reasoning holds also true for the overall necessity of SoMe maturity models in general. With an increasing diffusion of innovations, i.e., the application of and familiarity with SoMe in organization, the value of these models that formalize such an application assessment diminishes over time [37, 38]. Within the fast changing Web 2.0 environment, our time frame of a valuable model application is quite short. This requires a trade-off between a thorough and detailed theoretical development and an actual application in practice.

5.2 Outlook

The presented SoMe maturity model needs to find proof of concept within application. The organizational uncertainty with respect to managing and professionalizing the SoMe footprint provides a strong case for this objective. We aim at applying the maturity model in the scope of status quo assessments within organizations of the same industry. This approach allows for improving the model with respect to utility, quality, and efficacy.

The specification of improvements and the development of a transformation roadmap are future application purposes of the model (prescriptive approach). Success factors can be derived and used as an input for future improvement activities to reach a higher degree of maturity in SoMe management.

6. References


