

Success Measurement of Enterprise Social Media - Methods, Criteria and Challenges

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1 Introduction

The discussion about Information Technology (IT) investments and their impacts on productivity has not decreased since Carrs published the article “IT Doesn’t Matter“ in 2003, in which he argues that historically there has been no correlation between those two terms (see Richter et al. 2011, p. 2). This continuing discussion clearly shows the relevance of Information System (IS) success for the motivation to invest in corporate IT (see *ibid.*). Individuals, businesses and the entire society feel the impacts of the digitalization (see Gimpel & Röglinger 2015, p. 3). Generation Y, the first digital natives (see Bolton et al. 2013, p. 245), changed the way firms manage and motivate their employees (see *ibid.*, p. 255) by redefining the communication and collaboration rules and the way business is managed (see van Zyl 2009, p. 906). By entering the workforce the digital natives expect the workplace to fulfil their desires in terms of social media needs (see Meck 22.11.2015) and thus they will define the use of ESM in the future (see Wehner et al. 2017, p. 125). Companies have to react to advancing digitalization to remain competitive (see MIT Center for Digital Business and Capgemini Consulting 2011, p. 58). Accordingly all companies have to develop a strategy to build a digital enterprise which is characterized by a higher level of flexibility and agility, whereby business processes have to be reviewed and redefined (see Bentele et al. 2015, pp. 44-45). Correspondingly, two out of three companies mention that digitalization is an important factor (see Bundesministerium für Wirtschaft und Energie 2018, p. 22). In general that includes two aspects: the business processes in terms of customers and the inter-organizational ones (see Bentele et al. 2015, pp. 44-45), whereby the latter is focused on in this thesis. As appropriate, the number of companies which have high or really high digitalized inter-organizational processes increased from 2017 to 2018 (see Bundesministerium für Wirtschaft und Energie 2018, p. 20). According to McKinsey’s study in March 2015 companies consider, among others, their employees knowledge as the biggest challenge on the way to Industry 4.0 (see McKinsey & Company 2015). Thereby, digitalization is more than just improving logistics and processes, it essentially concerns the optimization of corporate knowledge management (see Bentele et al. 2015, p. 44). Knowledge management evolved into a technology discussion (see *ibid.*) and inter-organizational Enterprise Social Media (ESM) is seen as another evolutionary step to support corporate knowledge management, see a definition of Enterprise Social Media in chapter 2.1 (see Rossmann, Stei & Besch 2016, V). Inter-organizational ESM can be seen as an integrated platform that is comprised of a number of social media tools like weblogs, organization-based wikis, social tagging as well as social network sites (SNS) (see Leonardi et al. 2013, p. 3). These tools create the opportunity to make knowledge both visible and constant and the employees have a chance to be a part of the knowledge management process (actively or passively) (see *ibid.*).

Tools like this are meant if there is talk of Web 2.0 in corporate practice or Enterprise 2.0 (see Back et al. 2010, p. 1).

Success measurement is one of the most relevant research areas in the studies of ESM (see Rossmann & Stei 2016, p. 10). Despite the fact that the research area of ESM is quite young (see Guhr et al. 2018, p. 41), there are approaches which address its success measurement qualitatively (see e.g. van Zyl 2009) and quantitatively (see Mangiuc 2009; Steinhübel & Reek 2016). Based on critics of a one-way perspective, there are integrated frameworks in the early literature, in which a qualitative and quantitative business value develops derived from a quantitative description of the user behaviour (see Meske et al. 2014, p. 1780). These frameworks provide a catalogue of financial and non-financial metrics to identify ESM success (see *ibid.*). Nevertheless, the management is increasingly voicing its disappointment with the outcomes of IT projects, which illustrates the acuteness of the problem (see Gemlik et al. 2010, p. 615). Even though a comprehensive measurement approach can help to identify existing challenges (see Cooper et al. 2010, p. 2), the corporate practice and the science struggle to measure benefits of ESM and thus to justify the investments in IT (see Richter et al. 2013, p. 2). Considering that, several authors demand a consideration of ESM success measurement during the whole transformation process, respectively at different times or phases (see e.g. Cooper et al. 2010, pp. 4-6; Herzog et al. 2013, p. 9; Herzog et al. 2014, pp. 7-10; Steinhüser et al. 2015).

Maturity models can be seen as such a roadmap framework which provide growth stages and as-is situation analysis to manage and control implementation and transformation more easily (see Jansz 2016, p. 5). The relationship between ESM maturity and metrics or methods isn't discussed yet, but is seen as an interesting aspect for future analysis (Herzog et al. 2013, p. 9). This research gap is the basis of this thesis, in which a discussion about measurement approaches in companies and the connection between metrics and maturity levels is investigated with following questions:

RQ1: How can ESM success be measured?

RQ2: How do success metrics change by developing ESM maturity?

To answer these questions, a literature review gives a comprehensive overview of definitions as well as relevant theories and findings in IS and ESM success measurement, as well as in maturity models. Following that, to make the research transparent, the chosen research method, the expert interview, is outlined in chapter 3, including the process of data collection and data analysis. The findings about ESM success measurement approaches as well as the relationship between metrics and maturity are summarised and discussed in chapter 4. Finally the thesis is reviewed and limitations as well as an outlook for future research is given.

market. Furthermore the *perceived benefit for the organisation*, the *time onboarding new employees* and *employee engagement* evaluate the stages' success. If an extension already exists e.g. concerning Enterprise 2.0, the use of metrics regarding customers and suppliers should be taken into account.

The fact, that an ESM maturity model should be adapted to company specific objectives implies, that such a model can't be highly standardized. Furthermore, company specific success factors have an essential effect on the maturity process. Even though not every company achieves the highest growth stage, the graphical illustrations provide information about potentials and prospective areas in which good performance is necessary to guarantee the achievement of objectives. In that sense, the highest stage additionally helps to recognize development potentialities concerning an Enterprise 2.0. Thus, an ESM maturity model can only be a framework and guide for an ESM implementation in practice. Besides this, it can be assumed, that a new tool which is implemented in a certain stage, passes through the same growth stages as the whole software. Therewith, this framework can be an orientation point for the implementation of a new tool or an update. By applying this framework in practice, it has to be considered, that the named metrics are indeed important in a certain stage, but that comparison data are needed to interpret the metrics properly. This signifies the necessary collection of metrics in earlier stages. Thus, this framework can be an orientation to have an overview of prospective important metrics.

5 Conclusion, Limitations and Outlook

The thesis presented here is focused on analysing how ESM success can be measured and how metrics change with growing maturity. In this context initially a literature review was used to create a conceptual framework to guide this thesis and examine the relevant literature in the area of IS and ESM success measurement, as well as related research on ESM maturity models. According to the obtained results, it is stated that the field of ESM success measurement is quite young and has not been fully explored yet. Practice and science still struggle measuring ESM success and justifying investments in ESM. The importance of ESM success measurement could be established.

In this thesis, semi structured expert interviews were conducted and analysed to gather information about ESM success measurement in companies. By means of qualitative content analysis, the findings were compared to the literature and discussed to answer the research questions.

It was identified that companies collect and interpret metrics to measure ESM success,

even though there exist several challenges in regard to data collection and analysis. It has to be noted that these challenges have such a great influence on ESM success measurement, that they can't be neglected and always have to be seen in the context of it.

ESM measurement approaches could be identified and described. It has been worked out that ESM success is measured by differentiating between the measurement of usage and business value. Furthermore, the system stakeholders' focus concerning success relevance, changes with growing maturity from usage to business value. Even though the business value is stated as crucial to success, the measurement focus stays on the usage. Several reasons, which can be attributed to the named challenges were identified. On the one hand, usage related metrics such as for instance the *number of active users*, the *volume of generated content* and the *intensity of collaboration* are easier to collect through e.g. analytic tools. On the other hand there are no proper methods known to measure the business value. Therefore, there are metrics used which approximately measure the business value. It seems to be, that long-term objectives are broken down into success factors which, to some extent can be measured by metrics. Accordingly, business related metrics are e.g. *a reduced time to solve a problem*, *cost-benefit-calculations* and *user satisfaction in general*. Furthermore in practice there is, under the consideration of external circumstances and other influencing factors, a certain relationship supposed between usage and business value.

The consideration of ESM measurement approaches has shown that on one side of the argument the definition of success is company and stakeholder specific, but on the other it depends on the organizational context (e.g. corporate culture and company size). Additionally, a more detailed differentiation of metrics within maturity levels could be worked out, so that the definition of success varies with growing maturity. To show a relationship between metrics and maturity levels, initially the ESM success dimensions put forward by Steinhüser et al. (2011) were, with the help of expert statements, extended by the dimension *group-focused impact*. Furthermore, the KMMM as a content related and the CMMI as a widely applied maturity model, were used as an orientation to classify and order quotes regarding maturity levels. In that way it could be worked out, that metrics change with the success measurement focus which occur in particular levels. This focus can be determined by success dimensions, which show in which area good performance is necessary to guarantee the achievement of objectives.

However, the present thesis is not without limitations which offers opportunities for future research. Content limitations, as already stated in the discussion section, refer besides others to the fact that the findings may represent a framework towards measuring ESM success in practice, but additional research is needed to support the results and

develop the approach further. Company specific contexts and thus individual organizational circumstances such as corporate culture and size, the employees' attitude towards ESM and the strategic orientation of the company have necessarily to be taken into account. Corresponding to the objectives, success factors and interests regarding ESM success measurement are varying. Hence the evaluation has to be considered individually whilst allowing for company specific contexts.

As processes in IS research change quickly, trends always need to be considered. Accordingly, the distinction between OSN and ESN prospectively may become smaller so that a comprehensive consideration can be interesting for future research. In this context, new challenges e.g. regarding the integration of OSN and ESN and data protection regulations can occur. As the identification of the relevant target group is an important part in ESM success measurement it should be discovered how this group can be ascertained. In this context it is interesting if ESM has the potential to support knowledge management in areas other than the knowledge-based employee sector. Furthermore, since there are difficulties measuring the business value, it could be of interest if there are e.g. knowledge management theories existing, which describe how to measure the quality of corporate culture and transparency or even of knowledge management as a whole. Based on this, future research should discuss how to combine knowledge management theories and ESM success measurement.

In chosen data collection method limits the ability to draw representative conclusions e.g. because of the relatively small sample size of two companies and eight experts. Furthermore a more detailed allocation of metrics to success factors could be done in future research to prove and improve the conclusions. Taking that into consideration, future studies should include a wider range of companies in terms of sector, size and maturity stage. Besides this, also other stakeholder groups like users and management should be included. This could help to get a deeper understanding about stakeholder interests.

As Mayring (2014) proposed, content analysis should be based on quality criteria such as for instance inter-coder-reliability (see Mayring 2014, pp. 107-113). This procedure is neglected in this thesis but should be considered in further research to guarantee a certain amount of impartiality and to differentiate the qualitative content analysis from unstructured interpretative approaches (see *ibid.*). In addition to this, a consideration of quantitative methods during the analysis procedure, could support the findings with significant statements (see Mayring 2000, p. 191).

Finally, the graphical illustrations of the findings, as presented in chapter 4.2, raise no claim to consider the requirements concerning the development of maturity models as Knackstedt et al. (2009) demand. Thus, the present thesis findings and future research should be validated with regard to Design Science Research requirements to make a proper comparison to other maturity models. Additionally, the concept of capability levels and maturity level assessments need to be analysed in greater detail. However, according to Paulk (2009), “In the end, all models [...] struggle with balancing generality, detail, and usability.” (Paulk 2009, p. 15).