Abstract: - This paper proposes a measurement instrument for the evaluation of the use of Social Media technologies in companies. Although the Enterprise 2.0 as a use of social software platforms within companies, or between companies and their partners or customers is a very popular topic there is no quantitative tool for measuring the level of Social Media use in companies appropriately. Comparisons of the use of Social Media and its correlations to other relevant business characteristics are hard to obtain. This study examines the dimensions and levels of Social Media use in organizations. Our research in the German energy supply sector indicates that there are multiple components influencing the level of Social Media implementation and use in companies and suggests an approach to their measurement that might be used for benchmarking in this field as well.

Key-Words: - Benchmarking, Enterprise 2.0, Organizations, Social Media, Social Media Score, Technology

1 Introduction

According to the BITKOM [1] nearly 47% of German companies use Social Media, another 15% plan the specific use and the level of Social Media use in SMEs and big companies appears to be similar. The most frequent Social Media use is in commerce (52%). The driver of companies Social Media implementations are predominantly needs for external communications (marketing, PR and promotion)– more than 75% of the companies using Social Media, in commerce even 85% of companies. As for the future, 62% of the companies already using the Social Media believe in its increased use, among big companies this reaches even 89%. Additionally 41% of companies plan to increase the investments. It should be also noted that the 62% of companies, not using Social Media today, do not address their target customers via the Social Media and 50% of them fear the potential legal issues (personal data protection, labour code or copyright issues) resulting from its use.

Anyway, these findings demonstrate the increasing interest of companies in the impact of this new technology on their businesses. Therefore a reliable and easy-to-use measurement tool of the Social Media use in companies might be useful in the analysis of their impact in companies and in their benchmarking as well.

Our research results show that there are multiple components which influence the level of Social Media implementation in companies. Depending on the target of Social Media use, externally - towards customers and clients or internally-towards employees and management.

2 Problem Formulation

Measurement of Social Media use in companies is investigated from three aspects: conditions of Social Media use within company, forms and benefits of external use of Social Media by clients or customers and finally, forms and benefits of internal use of Social Media by company employees and its managers. The data on these key aspects may be collected by means of questionnaire survey. For this purpose, an appropriate evaluation scale was designed and tested on its quality. The acquisition of precise and correct data is the prerequisite of trustworthy and valuable results of their processing resulting in the indicator of the Social Media Score (SMS) and its further use in management decisions.
2.1 Environment of Social Media use

The favourable company environment for Social Media use is a key prerequisite for benefiting from it. As it forms a part of the company culture, it is important for the Social Media acceptance by user groups and its sustainable growth in the company. Among the relevant aspects of efficient Social Media use are, for example, the implementation of the Social Media guidelines, a company's motivation system (rewards and awards) in favour of Social Media use, promotion and support of Social Media use, and the participation of the company's top management in Social Media use.

On the other hand, this may also indicate the weaknesses of current Social Media use reflected in the lack of interest in their external or internal use and insufficient level of company benefits.

2.2 External use of Social Media

The external use of Social Media is the second and most feasible dimension to be evaluated. It allows for the measurement of the specific forms of interaction between the business and its customers (B2C) via Social Media channels. Thus, marketing, sales, and PR departments should be highly involved in the Social Media implementation due to its potential for the acquisition of new leads and customers as well as for the retention of the existing ones[2]. The scope of the investigation covers the company profiles on Social Media platforms, e.g., Facebook, Twitter or Google+, customer/fan communities, company and employee blogging, use of videos, participation in online forums, games, contests, or other activities. The relevant part of this dimension is the evaluation of its success rate reflected in the acceptance and the use intensity of the implemented tools.

2.3 Internal use of Social Media

The internal use of Social Media is partially comparable to their external use. With this dimension, the ways of interaction between the company and its employees (B2E) are investigated. The forms of internal use may be the same or similar to the external ones and should lead to improved communication and collaboration processes within the company. Establishing new communication structures, new ways of collaboration and interaction within firms will lead to changes in the overall business culture and transformation of the traditional business structures [3]. In this respect, the scientific examination in the field of profitable Social Media implementation in business processes should be supported by the companies' top-management. Moreover, due to its inherent characteristics in terms of involvement and participation, the Social Media use may lead to a promising solution towards higher job satisfaction. This may find a positive reflection in the aspects of employee commitment and their attitudes towards company products and services as well.

2.4 Social Media Score

The dimensions of Social Media use in companies and their integration in one summarizing indicator - the Social Media Score (SMS) - are represented in the Figure 1 below.

![Image](image.jpg)

**Fig.1 Social Media Score and its components**

For measuring the three dimensions of the Social Media Score, a specific questionnaire was developed. It consists of 38 items and may be used to measure the implementation and use level of Social Media in a company. It typically addresses the executives of a company. Each given answer is rated on a Likert-scale from 1 to 7 points. Full answer to all questions may lead to a maximum of one hundred points to be achieved. The SMS will be stronger the higher the total value is.

3 Problem Solution

Initially, the SMS indicator was used in an empirical survey of employee motivation in several volunteering energy supplier companies in Germany. In this survey, the evaluation answers to the interview questions by participating companies led to a SMS ranking from 21.5 points as a minimum to 57.0 points as a maximum score (Fig. 2). The mean of the sample makes 36.4 with a standard derivation SD = 11.64.
3.1 Quality factors
Measurements should be objective, reliable and valid as well as its evaluation should be standardized, comparable, economical and useful [4]. Further the main quality factors related to this research which were tested will be explained in more detail.

3.1.1 Objectivity
The level of objectivity of a test expresses to what extend the collected data is related to the individual respondent answering the survey questions. A measurement may be considered to be fully objective if the results are equal independent of the respondent. Within this research work the SMS questionnaire requires a high degree of objectivity, because it does not measure a personal attitude but the general status of a company. In order to achieve this, the survey was primarily addressed to respondents with the same background and similar positions within the companies. Depending on the company size managing directors or the department heads were involved. Furthermore the interviews were mostly attended by one author to make sure that clear responses and objective answers are given.

3.1.2 Reliability
The reliability of the measurement values indicates the level of accuracy of the measured results. The level of reliability may be estimated by different methods. The most commonly used method is the consistency analysis by the correlation coefficient Cronbachs-Alpha [5]. It is based on the splitting of the data and executing a correlation-analysis of both halves. Alpha (α) may take values from 0 to 1.

Values α > 0.8 express a high reliability of measurement and may therefore be accepted [5]. The measurements within this study of the SMS scale with value of α=0.808 clearly testify the reliability of the collected data.

3.1.3 Validity
The validity indicates how exactly the instrument measures the object it was designed for. A questionnaire’s answers for example may be objective and reliable, but if they are not valid they are measuring something else then they should.

While the validity of a measurement cannot be given by an exact calculation method, there are some possibilities to reach a high validity [6]. In this study the new developed scale of the SMS questionnaire was used for the first time. This scale was designed to get an unequivocal and comparable value for each participating company. In the conception phase of the questionnaire at first the main dimensions, related to the use of Social Media use were identified. Then the questions covering all aspects of each component were formulated and finally, the set of questions were pretested by experts before the start of the main survey. With this approach the validity of the new generated scale should be an appropriate for a valid measurement.

4 Conclusion
One objective of this study was to evaluate the degree of the Social Media use within the energy supplier branch. Therefore, an appropriate measurement instrument was developed. It was assumed, that the degree of Social Media use can be measured by three main aspects.

The structure of the SMS may give further information, whether the focus lies more on the internal or external Social Media use and how the Social Media environment supports the overall Social Media use (Fig. 3).

It may be assumed that with an increasing use of Social Media the shares of external and internal use are still rising. Further statistical analytics show a significant correlation of these subscales.
Moreover, the correlation between the relative contributions of the subscales on external and internal uses of Social Media was carried out. The internal use of Social Media did not show a significant correlation to the relative contribution of the external use (Pearson $r=-.265$, $p=.339$, $N=15$). This means that a relative increase in the proportion of the external use did not co-occur with a relative increase in the proportion of internal Social Media use. Similar results were also achieved when only the absolute values of both subscales were observed (Pearson $r=.342$; $p=.212$, $N=15$), indicating the absence of a relation between internal and external Social Media uses. These findings justified the choice of two separate subscales for the external and internal use of Social Media which was taken as a basis of the construction of the SMS Indicator.

This instrument is the first method to gain an insight into the selected aspects of current status of Social Media use in a group of energy supplier companies by means of a cross-sectional research. Longitudinal research in this field, e.g. annual data processing, trend and forecast analyses might bring further valuable results for managerial considerations.

The application of the developed questionnaire and the following statistical processing of its data is not exclusively limited to the energy branch. Other service oriented sectors, such as insurance, banking or telecommunications may use this approach and procedure to analyse their specific or individual SMS. This may contribute to benchmarking across industry sectors and branches in use of the Social Media.

References: