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Evaluation of the deployment and adaptation of monitoring tools

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*Purpose:* The evaluation of the deployment and adaptation of Social Media Monitoring tools by typical regional Small and Medium Enterprises (SME).

*Results:* Three regional SMEs were recruited and agreed to take part in a study in which they evaluated four Social Media Monitoring (SMM) tools after using them for an extended period of time. The results from the analysis revealed that companies with varying profiles had diverse needs and therefore the effect of introducing SMM tools in their activities differed considerably. However, the common effect that SMM tool introduction had to all SMEs was an increase in their Social Media engagement as well as an interest to experiment with new kind of activities.

*Conclusion:* Although SMM tool introduction seemed to have a positive effect on all SMEs it was often the case that information about how to use Social Media appropriately or how to act on information gained through SMM was valued more by some SMEs.

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# Evaluation of the deployment and adaptation of monitoring tools

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## 1. Introduction

This report is the product of a study aimed to evaluate the deployment and adaptation of Social Media Monitoring (SMM) tools by typical Greek Small and Medium Enterprises (SMEs). Three SMEs with diverse profiles were recruited to assess the usefulness as well as the ease of deployment and integration of four SMM tools. An additional study goal was to examine the needs and problems of typical regional SMEs in regard to social media and identify features and functionalities of SMM tools that could support them in achieving their objectives. To that end, a multi-phased evaluation study has been designed that required SMM tool usage for an extended period of time by the SMEs and frequent semi-structured interview sessions in order to assess the various evaluation factors.

The report is structured as follows: Section 2 presents an overview of Social Media Monitoring, the various application areas and classification schemes of SMM tools; Section 3 offers a description of the evaluation method that this study has followed as well as brief overview of the participating SMEs and the SMM tools that have been introduced to them; In Section 4 a discussion of the evaluation results and the most important findings is provided; while Section 5 offers a short summary of the derived conclusion.

## 2. Social media monitoring tools

The contribution of information technology (IT) in improving and developing business performance has long been recognized (Hairuddin et al. 2012). This is certainly the case for Social Media; a term that was initially considered to be only a “buzz word” but has gradually gained the status of an important strategic tool for any company. Enterprises can no longer ignore the power of social media given the increasingly large number of consumers using them to express their needs and complaints, as well as opinions about proprietary products and services (Stavrakantonakis et al. 2012). Before the rise of Social Media similar information could only be gathered through expensive and time-consuming traditional methods (e.g. Surveys) of consumer/marketing research (Murphy et al. 2011). However, extracting useful information from the vast amount of unstructured data that users generate daily on social media platforms is by no means an easy and cost-free task. Companies have to dedicate resources and employees with specific expertise or outsource the task to specialized companies offering to provide social media consultancy services.

As a result, social media monitoring tools and platforms have emerged to address the need for customer listening methods, as well as to harness the wealth of information available online in the form of user generated content (Stavrakantonakis et al. 2012). Considering that Social Networks are becoming increasingly important, especially for the survival of small enterprises, (Copp & Ivy, 2001; Pitt et al., 2006; Michaelidou et al. 2011) the proliferation of SMM tools could be proven to be a critical factor in their competition with the larger ones. SMEs are usually more limited in their ability to hire additional employees or external help compared to large corporations and therefore using SMM tools effectively could provide opportunities to become more competitive in the landscape created by the rise of Social Media.

The wealth of information that can be extracted from Social Media with the help of SMM in order to understand better the way brands are viewed in the eyes of the consumers can be relevant to many different stakeholders in an enterprise. For instance, insights that can be gained through SMM are: overall reputation of a brand, competitor's analysis, feedback about marketing campaigns, current issues and requests in regard to specific products, new ideas for product development (Fensel et al. 2012). Stavrakantonakis et al. (2012) mentioned the following application fields for Social Media monitoring:

1. Reputation management;
2. Event detection, issue and crisis management;
3. Competitor analysis;
4. Trend and market research plus campaign monitoring;
5. Influencer detection and customer relationship management;
6. Product and innovation management.

According to Fernandez (2010) companies could benefit from SMM in the areas of:

- 1) Crisis management;
- 2) Influencer identification;
- 3) Building relationships with media and customers;
- 4) Creative feedback and ad-targeting;
- 5) Competitive monitoring.

According to Stavrakantonakis et al. (2012) there are more than 200 tools specializing on SMM in the market today. These tools vary considerably in terms of general scope, functionality, application areas as well as on the matter of price; ranging from zero to several thousand Euros per month (Kasper et al 2010). Stavrakantonakis et al. (2012) proposed an evaluation framework of SMM tools in the corporate environment. In accordance to this framework SMM tools should be evaluated in regard to three aspects: (1) the main concepts related to Social Media monitoring (analysis, insights, engagement, workflow management and influence); (2) the technology used by the tools and (3) the most important aspects related to the user interface.

### 3. Evaluation method

In order to evaluate how easy typical SMEs could deploy and integrate social media monitoring tools in their everyday activities a multi-phased evaluation study has been created. In this study four free online tools that could be used for the purpose of Social Media Monitoring (SMM) have been introduced to three regional SMEs. Since willingness to integrate SMM tools into their activities has been considered an important aspect of the evaluation the SMEs were only encouraged rather than forced to use the tools during the study. The study conductors introduced the tools to the SMEs by providing training material, tutorials and support. In order to make the companies familiar with the various tool functionalities the prepared training material contained various tasks and usage scenarios tailored for each SME individually. The intentions for providing these tutorials was to cover the majority of the functionalities and the various usage modes for each tool and were not meant to indicate how the companies ought to use them. The latter was clearly communicated to the participating SMEs.

Initially, the participating SMEs were profiled in regard to their overall social media activities (i.e. engagement level, goals, strategy, needs, management, policies) according to qualitative data collected through a pre-study interview as well as from a group of quantitative metrics gathered from social media analytics tools (e.g. facebook insights, Klout). After the companies became familiar with the SMM tools they were left alone to use them freely for whatever purpose they deemed appropriate for a time period of one month. Although, the study conductors were available to provide support whenever asked by the participants they did not intervene in any other way in order to avoid influencing the study results. Semi-structured interviews with the SMEs were conducted on a weekly basis aiming to debrief the companies, detect attitude changes towards social media, gather insights about how the tools were perceived in terms of functionality, usability, usefulness as well as to assess the general impact on their social media activities. Throughout the study duration objective metrics about social media activity of the companies were also measured in the background with the help of online analytics tools. The study results were analyzed through Qualitative Data Analysis (QDA) techniques on the interview transcripts and classical statistical analysis methods on the objective measurements.

#### Participating SMEs

In this section the general profiles of the SMEs that volunteered to participate in our evaluation study are presented. General information's about the companies are provided as for example in what areas they are active, number of employees, internal structure as well as an overview of their social media activities and aspirations.

## SME 1

SME1 was a very small company in the general field of Software Development. The Company is mainly focused on Web Development and has a customer portfolio that consists of companies and institutions from both public and private domain. They did not invest much on advertising and marketing since their contracts usually come through company's friends and old customers. Their workforce consists of four external collaborators in addition to the two resident staff member (owners). Almost all employees have higher education degrees while two of them have also a PhD title.

The social media activities of this company are rather limited. They reported using the social media platforms LinkedIn, Facebook, Twitter, and YouTube. However, they did not have an actual company page on LinkedIn which was the network they reported using most frequently. They used their personal accounts mainly for networking and for the purpose of monitoring developments in programming and web development (following specialized groups, news etc.). Their Facebook page had 49 likes and their twitter account 7 followers while their post output was extremely limited on all platforms. They seemed to be habitually passive social media users since were mostly interested monitoring information on various networks rather than contributing content themselves. Only the two resident employees were responsible for social media management of the company.

On average they reported spending about three hours per week on social media activities which in the case of this SME means mostly reading content created by others. As explained by the company owners the main reason for the limited use of social media is that the small number of employees did not allow allocating personnel to such activities. A much deeper explanation though could be the fact that although the company believed in the importance of Social Media in general, they were not convinced about a reasonable return of investment for Greek companies in their kind of business. Their main goal they hoped to achieve with their engagement in social media was to establish the company's brand in the market of software houses.

## SME 2

The second SME was a software quality research group. This company is engaged in research programs related to software quality assessment/evaluation, with special emphasis on educational technology. Although, their workforce entailed 16 employees only one was responsible for the management of the company's social media presence. Even though, all of their employees were encouraged to actively participate and produce content in order to promote the SME activities only one was allowed to use the company's official accounts for posting/replying to messages on a regular basis, updating information, announcing events, accepting followers/friends, monitoring social media traffic etc..

The social media platforms the SME reported using most are in order: Facebook, Twitter, and LinkedIn. On their Facebook page (67 page likes) the company created approximately 10 post per month and on their twitter account (10 followers) they had the

overall amount of 119 tweets. On average they reported spending 1 hour per week on social media activities. The main problem of this company in regard to social media was that the single person responsible to manage the company's SM presence did also have other responsibilities and therefore had not enough time to engage more actively in conversations with their followers. The time problem becomes more severe considering that the same person had to manage multiple social network accounts. The company's primary goals they hope to achieve through their social media activities is to promote their research effectively, improve their networking and attract new project partners.

### SME 3

The third SME is a relatively small SME that is mainly focused around web development as well as providing web and mobile marketing services to their customers. In addition, they frequently launch and manage various Business-to-Consumer (B2C) e-commerce projects. Two of these projects they were trying to promote through social media were an online travel agency and an online coupon and deal offering website. The company has 7 employees while 3 of them are mainly responsible for the management of their social media activities.

Being strong believers in the benefits of social media the company spends about an hour everyday posting 4-5 times for each of their projects mainly on Facebook. Their posts were selected from the company's RSS feed and were almost always accompanied by promotional pictures. They had 3418 likes on their travel agency Facebook page. In addition to Facebook they also used Google+ and were interested to start using Twitter and Pinterest actively in the future. The Deal offering website was launched approximately the same time that the study began and had therefore zero followers/page likes in the beginning.

The company owner stated explicitly that they were convinced about the Return of Investment (ROI) of social media engagement. In regard to the two aforementioned projects (travel agency, deal offering website) social media was an ideal platform for them to promote their products. They gradually abandoned more traditional web-based marketing strategies (e.g. Google ads, banner campaigns) on which they relied for many years in favor of Social media campaigns. Their main goal in regard to Social media was to increase their reach by widening their customer base. Their hope was that by increasing page likes in Facebook more customers would be seeing their offers which would hopefully be translated into more sales. They believed that one of the most important advantages of Social Media is that it allows them to communicate with their target customer base more effectively. In contrast to traditional web marketing their followers/fans voluntarily chose to follow them and therefore stated implicitly that they are interested in the kind of products/services they have to offer. Although, the company had a clear overall strategy for using Social Media they did not set measurable achievable goals on a frequent basis that would allow them to measure their success. They occasionally monitored and measured their post effectiveness by studying Facebook insights focusing more on simple metrics such as overall page likes.

## Tool selection

The goal of this study was to evaluate whether typical regional SMEs could benefit from integrating Social Media Monitoring into their activities and to identify which specific features of SMM could support them most in achieving their goals. Consequently, multiple tools had to be included in the study in order to avoid influencing the results with potential shortcomings of a single SMM tool. For that reason four SMM tools were introduced to the participating SMEs three of which were the social media tools that were created by the InterSocial project (InterSocial Monitoring tool, Soneta, and ESA) and one commercial tool (HootSuite). It was deemed necessary in order to be ecological valid to include a commercial tool since many of the InterSocial project tools were still under development during the evaluation study. In the next sections a short description for each tool that has been included in the study is provided along with information about their SMM capabilities. Some of the tools introduced were not clear-cut SMM tools but had auxiliary functionalities (e.g. enhancement, aggregators). In addition, they varied considerably in terms of functionality and in the amount of information they create. Each of the tools however can be applied in one or more of the aforementioned SMM application areas.

### Intersocial Monitoring



The INTERSOCIAL Monitoring Tool is a Facebook and Twitter specific search engine, built upon Facebook's and Twitter's publicly available APIs. The tool allows the user to search for specific keywords or phrases on the Timelines of Facebook and Twitter subscribers which they had denoted as

being "Public". The tool can retrieve public posts from Facebook, Twitter or both simultaneously.

**SMM capabilities:** Keyword monitoring, Reputation management, Competitor analysis, monitoring multiple networks

### Soneta



SONETA is a tool that can be used to monitor and enhance the social media presence of an SME. The tool enables tracking of social media traffic in Twitter for a user-defined set of keywords within a user-specified time period and within user-defined geographical region(s). It can be used to recognize

trending conversation in specific geographic region and returns data visualizations in the form of wordclouds, bubbleclouds and treemaps.

**SMM capabilities:** Keyword monitoring, Trend analysis, Geolocation monitoring, Reputation management, Competitor analysis, Data filtering and analytics, campaign monitoring

## ESA



The ESA (Enterprise Social Aggregator for SMEs) tool allows the management and monitoring of three of the most widely used social network platforms (i.e. Facebook, Twitter, and Google+). Currently the tool is available both as a Wordpress widget and as an Android mobile application. In addition, ESA offers the possibility of calculating statistics of aggregated data from social media, by exploiting the Facebook and Twitter API (e.g. reach, total mentions). It is an open source project and is available for download on Codeplex.

**SMM capabilities:** Keyword monitoring, Reputation management monitoring and management of multiple networks, Data filtering and analytics

## HootSuite



HootSuite is a social Network Management Tool that enables monitoring, searching and custom analysis of social traffic. Furthermore it acts as a global aggregator of the most popular social networks (i.e. Facebook, Twitter, LinkedIn, Google+, Foursquare, Wordpress and Mixi) and allows users to participate in their social networks through one single point. In particular, Hootsuite can be used as a Twitter handler to send and schedule Tweets, listen using search, list and keyword tracking streams, as well as monitor Mentions, Direct Messages, Sent Tweets, Favorited Tweets, and more in dedicated streams. In a same manner, HootSuite's advanced Facebook functionality includes posting updating, adding images, monitoring feeds etc. Finally, HootSuite can also support groups of users within an SME by assigning specific roles for each user through the HootSuite Teams. Hence it can be deployed by large SMEs in order to manage complex campaigns – including Profiles, Pages, Events, Groups, and Search.

**SMM capabilities:** Keyword monitoring, Reputation management, Competitor analysis, Trend analysis, Monitoring and management of multiple networks, Data filtering and analytics, Campaign monitoring, Influencer detection

## Procedure

Figure 1 presents an overview of the methodology followed in the study. Initially, a semi-structured interview was conducted capturing SMEs' business profiles, existing social media presence, policies, and needs. Next, a set of SMTs were introduced to the participants followed by a training session in which training material was given to each individual SME with contextualized use cases of the SMTs. Subsequently, the participating SMEs used the tools for a period of one month. During this period and following a ten-day interval, three semi-structured interviews were conducted with each SME in order to collect qualitative data on the tools' deployment process, the overall

user experience as well as on the impact the tools had on their social activities (see Appendix for an overview of the main questions asked during the various semi-structured interviews). The interview during the second phase of the study was focused on the deployment process. The SMEs were asked about the level of effort that was required on their part in order to learn and start using the tools as well to assess the sufficiency of the provided training material. The focus in the third phase was on the user experience the participants had with the social media tools included in the study. They were asked to comment about the usefulness, usability, learnability, and functionality of the SMM tools. Finally, in the last phase the SMEs were asked to report whether the SMM tools supported them in achieving their social media goals and to assess the general impacted on their business activities. The study concluded with a post-study discussion. In addition, we collected quantitative data related to the SMEs’ social networking presence (e.g. likes on the Facebook Page, number of Twitter followers) before, during and after the study.

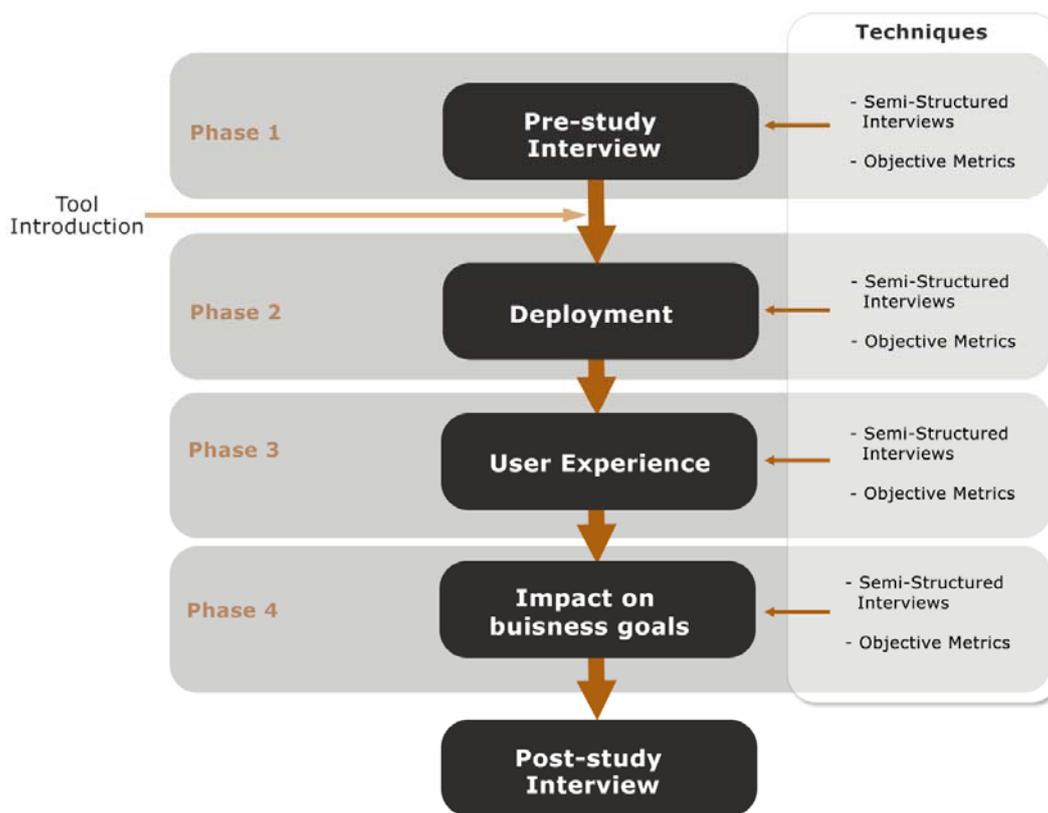


Figure 1. Overview of the various distinct phases of the evaluation study

### Data analysis techniques

The evaluation study described in the previous sections resulted in two kinds of data: qualitative and quantitative. Qualitative data (interview transcripts collected from each participating SME) were analyzed with Qualitative Data Analysis (QDA) techniques while classical statistical techniques were performed on quantitative data gathered

throughout the study. In the next section a general description of the various data analysis techniques that were applied on the data collected by the evaluation study is provided.

### Qualitative evaluation

Qualitative Data Analysis (QDA)(Miles et al. 2014) is the range of processes and procedures that can be applied to qualitative data that have been collected in order to gain some form of explanation, understanding or interpretation of the people and situations under investigation (Taylor & Gibbs 2010). The goal of qualitative data analysis is to uncover emerging themes, patterns, concepts, insights, and understandings (Patton, 2002). Qualitative studies often use an analytic framework which is a network of linked concepts and classifications in order to understand an underlying process. The term grounded theory is used to describe the inductive process of identifying analytical categories as they emerge from the data (developing hypotheses from the ground or research field upwards rather defining them a priori) (Glaser & Strauss 1967).

The Qualitative data analysis techniques that have been used in order to analyze the results of the evaluation study followed a series of steps. First, the answers from all semi-structured interviews were transcribed and ordered according to research questions for each participating SME. Next, a preliminary data analysis was performed which involved the simple process of checking the data in order to identify general themes and form a first impression of the results. The subsequent step, which is referred to as coding, requires that the data are read and re-read to identify and index themes and categories which may focus on particular phrases, incidents, or types of behavior. This is an iterative process and all data relevant to each category are identified and examined using a process called constant comparison, in which each item is checked or compared with the rest of the data to establish analytical categories (Pope et al 2000). Each identified category or segment is labeled with a “code” which refers to a word or short phrase that suggests how the associated data segments informs the research objectives. After coding was complete, the results were analyzed by summarizing the prevalence of codes, discussing similarities and differences in related codes across distinct original sources/contexts, or by comparing the relationship between one or more codes. In addition, various content analysis techniques, such as frequencies or counts of events/mentions, have been performed along with correspondence analysis that aimed to create SME profiles in accordance to their responses in the semi-structured interviews. Finally, a technique called Narrative Summary Analyses (Gilligan et al. 2006) was performed in which the qualitative data were put back together, in re-ordered form that resembles a narrative from the points of view of the participating SMEs.

### Quantitative evaluation

Before, during and after the evaluation study the social media activities of the participating SME's were measured in the background with the help of various online tools (Facebook insights, Klout, Simple Measured, Sprout Social, Twenty Feet). Some of the objective metrics that were monitored by the study conductors were: Klout Score,

number of Posts, page Likes, number of Engaged users, total Reach, number of Impressions, number of Tweets, Twitter followers. The rationale behind collecting these measurements was to investigate whether changes in the activities of the SME due to the introduction of the SMM tools could be reflected in the objective metrics of social media analytics. Moreover, it would be interesting to identify which metrics could be affected by what kind of activities. The resulting data were analyzed with classical statistical techniques and visualizations such as average comparisons, standard deviations, bar charts etc.

## 4. Results and Discussion

In this section the results from the evaluation study are presented in the following order: first the needs and problems in regard to Social Media as reported in the pre-study interview conducted with the SMEs are presented individually; the following section is dedicated to the analysis of the result of the objective measurements and the assessment of the real-world impact of SMM tool usage; and in the final section the results of the qualitative data analysis are presented followed by a brief discussion in which the main findings are summarized.

### Pre-study interview

Before the SMM tools were deployed, the participating SMEs were interviewed in order to determine their principal needs as well as to identify the most important problems they face in their everyday Social Media activities. An additional goal was to discover in what particular areas the companies already applied or wished to apply SMM as well as to record their general practices of monitoring whether they succeed in achieving their goal and objectives.

#### SME1

From the beginning it became clear that this SME was not a very strong believer that their company could benefit from actively participating and creating content on various Social Media platforms. Yet, they spent about 3 hours per week mainly monitoring content created by others. The most important problems they reported were difficulties in the management of multiple Social Networks as well as lack of time to engage with Social Media in general (see figure 2).

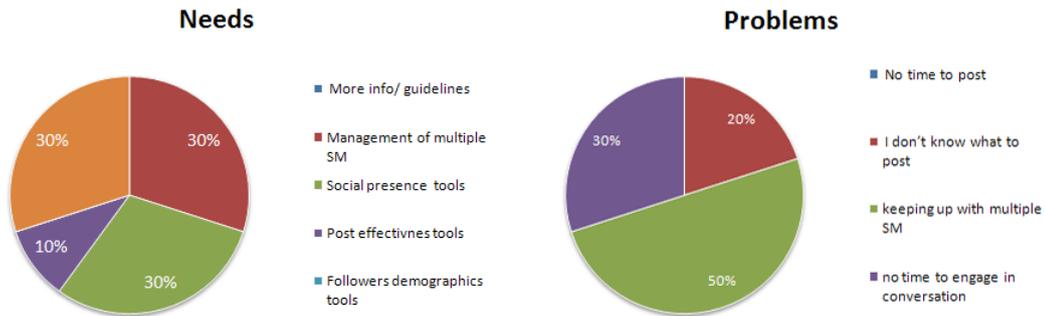


Figure 2. The most important needs and problems regarding Social media as reported before the evaluation study by SME 1

When asked about what kind of help they would prefer they affirmed being interested in tools helping them viewing and posting on multiple Social Networks as well as tools that would let them measure their social presence. They were not aware of any existing tools that were able to fulfill their requirements (e.g. HootSuite, Klout, Sprout Social, SocialIQ). They had heard about “Facebook Insights” but they had not used it to monitor their social reputation by studying metrics such as total reach or post effectiveness. They did not conduct competitor or trend analysis and were not launching social media campaigns. The only kind of monitoring they reported doing was checking general metrics such as overall number of page likes. They did not study the demographics of their followers and were not actively searching to identify influencers. To summarize, this company was mostly interested in reputation management and in tools that would let them monitor multiple Social Media platforms.

### SME2

The main characteristic of this SME was the fact that they followed a single-representative model for their Social media management. Although, social media management was not the only duty of this particular employee she was responsible for posting/replying to messages on a regular basis, updating information, announcing events, accepting followers/friends, and monitoring social media traffic in general. As a result, it was only natural for this SME to report that not having time to post and engage in conversation with their followers was the most important problem they faced in regard to Social Media. The second issue this company reported was having difficulties in managing multiple social media platforms.

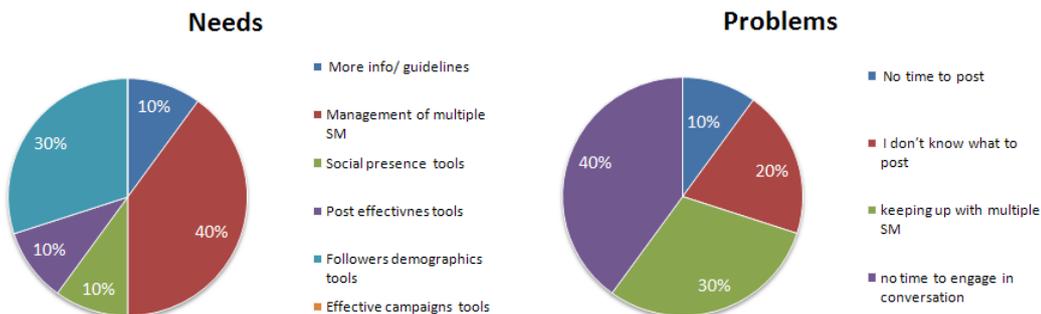


Figure 3 The most important needs and problems regarding Social media as reported before the evaluation study by SME 2

When asked about what kind of help they would prefer their answer indicated that they needed tools supporting them in the management of multiple social media platforms as well as tools that could help them understand the needs of their customers. Prior to the evaluation study the SME was not aware about any SMM tools (e.g. HootSuite, Klout, Sprout Social, SocialIQ). The only source they used to monitor the effectiveness of their Social media activities was Facebook Insights. They did not have specific measurable goals in order to monitor their success. The only metrics they checked occasionally was the number of views and likes on their Facebook pages as well as general demographic information about their followers. They did not conduct competitor or trend analysis and were not launching social media campaigns. To summarize, this company was mostly interested in tools that would let them monitor multiple Social Media platforms.

### SME3

Before participating in this study the company representatives stated explicitly that they were convinced about the Return of investment (ROI) of Social Media engagement for their kind of business. They had already good results with their Facebook page and were interested expanding to other platforms. However, their main problem was lack of time and therefore studying how to use new Social Networks was postponed perpetually. They stated that it was difficult for them to hire a new employee to work exclusively on Social Media thus information about how to use the various Social Media platforms effectively was extremely valuable to them.

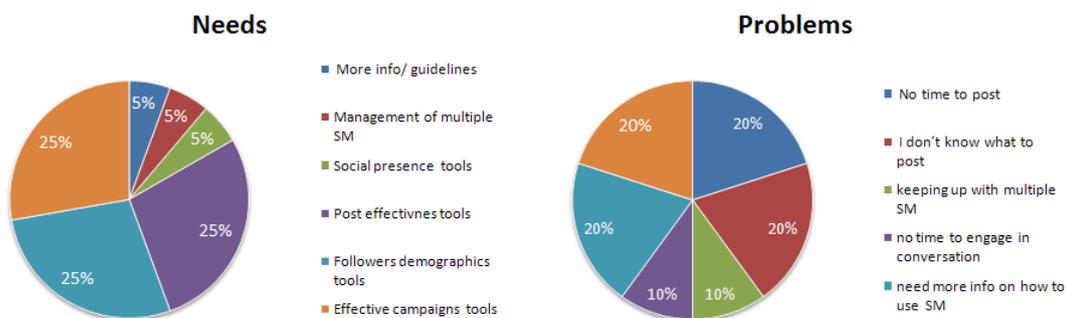


Figure 4 The most important needs and problems regarding Social media as reported before the evaluation study by SME 3

The tools that could help them in their activities were those measuring the effectiveness of their posts as well as tools supporting them to built more effective promotions and campaigns and help them understand the needs of their followers. They knew some of the commercial SMM tools (i.e. HootSuite) but relied only on Facebook insights to monitor the effectiveness of their Social Media activities. They frequently looked into “Likes” over time diagrams, how viral certain posts were from which they tried to understand the effectiveness of certain post. Although the company had a clear overall strategy for using Social media, they did not set measurable achievable goals on a frequent basis that would allow them to measure their success. They occasionally monitored and measured their post effectiveness by studying facebook insights focusing more on simple metrics such as overall page likes.

They stated their interest about techniques could help them identify general themes of conversations and learn what their customers are talking about. They intended to integrate keywords of popular conversation in their posts hoping to engage their customer more. Their hope was that by increasing page likes in facebook more customers would be seeing their offers which would hopefully be translated into more sales. They frequently launched promotional campaigns and were analyzing their audience demographics (e.g. age, gender) and often creating posts targeting a special subgroup (e.g. only women or men).

## Quantitative Results

After the SMEs had used the provided SMM tools for an extended period of time the objective measurement have been examined in order to identify changes in social media activities of each participating company. The data collection began a moth before and was continued throughout the evaluation study. In general only small changes in the Social Media activities of the various companies could be detected by the analysis of the objective metrics.

### SME 1

The first SME managed to gain a small increase in Facebook Page fans (from 48 to 53) and Twitter followers (from 7 to 9). As a result they also gained a small increase in their Klout score (from 22.4 to 27) which is a metric/rank that reflects influence and derives from an amalgamation of data from multiple Social Media platforms. The frequency that this SME created content did also increase slightly affecting positively various metrics such as “Mean daily total Reach”, “Reach of page posts”, “Impressions”, “page Consumptions”. However, data analysis showed that the positive impact on this measurement peaked immediately after SMM tool introduction and started decreasing slowly after that. It seems that the SMM tools introduction resulted in an increased interest in Social Media engagement by this SME at the beginning. It is however, uncertain whether the tools will have a long-lasting effect.

## SME 2

As in the previous case this SME managed to gain a small increase in Facebook page fans (from 69 to 74 page Likes) and in their twitter follower (from 10 to 12). Their Klout score increased from 27.1 to 30. Almost all secondary metrics (Mean daily total Reach, Reach of page posts, Impressions, page Consumptions) on their Facebook page received also a boost. These metrics showed as in the first case a small decrease in the third phase of the evaluation study but unlike SME 1 this company managed to gain a new increase in the last weeks.

## SME 3

Since this SME included two projects in the evaluation study the objective measurements were analyzed separately. In the first project (travel agency) we could not find any substantial changes in activities or in Facebook Followers (from 3418 to 3419) before and after SMM tool introduction. On the other hand they suffered a small decrease in their Klout score (from 45.1 to 43.7). These results could be explained by seasonality since interest to travel is usually lower in October than in August. Moreover, since the second project (deal offering website) was launched at the same time the company's efforts were more focused on promoting their new service rather than improving the old one.

In regard to the second project the objective metrics showed an increase of Facebook followers from 0 to 4649 and a Klout score from 0 to 51.5 in 1 month. However, this impressive increase in number of followers cannot be attributed solely to the introduced SMM tools. The company used also various promotion options provided by facebook (boosting page, advertisement, and boosting posts) during the same period. By contrast, the impact of the SMM tools can be clearly observed on Twitter. In the beginning, they streamlined their post to twitter and managed to gain only 6 followers. Actively using the introduced SMM tools they managed to gain 131 followers in two weeks.

## Qualitative evaluation results

In this section the results of the qualitative data analysis that was performed on the interview transcripts is presented. Qualitative techniques are not constrained by predetermined categories of analysis, allowing for a level of depth and detail that quantitative strategies can't provide. Quantitative approaches allow for large-scale measurement of ideas, beliefs, and attitudes but the set of questions that can be asked is limited. By contrast, qualitative methods typically produce a wealth of detailed data about a defined number of people and cases—data that need not fit into predetermined response choices that characterize most surveys, questionnaires, or tests. (Patton 2002)

Initially the results from the semi-structured interviews were organized according to the evaluation dimensions: deployment, user experience, and overall impact. The transcripts were then reorganized so that a single text was derived for each individual participating SME. These transcripts were read and reread in order to identify and index themes and

categories which may centre on particular phrases, incidents, or types of behavior. All the data relevant to each category are identified and examined using a process called constant comparison, in which each item/code is checked or compared with the rest of the data to establish analytical categories.

The codes that emerged from the above mentioned process were grouped into the five categories: Goals, General Comments, Problems, Tool Issues, and Mode of Tool Usage. The last category enclosed comments by the participants that described in what manner they used (or intended to use) the SMM tools. Some of the codes in this category were: monitoring competition, monitoring post success, monitoring specific topics, monitoring multiple Social Networks, geolocation monitoring, trend analysis etc. Correspondence analysis with data showing the frequency by which participants mentioned the above codes revealed considerable differences among the SMEs in regard to what features of SMM they were interested in (see Figure 5).



**Figure 5.** Results of correspondence analysis, a technique that profiles the participating SMEs in regard to what mode of SMM they were talking about throughout the study

Company proximity to a code in Figure 5 indicates increased number of mentions for the particular code by the SME. Examination of this plot reveals that SMEs 1 and 2 were more similar to each other than to SME 3. The former were more interested in monitoring multiple Social Networks while the latter expressed more interest for monitoring trends and their competition. The dissimilarities between SME 1 and 2 were mostly based on the difference of mode of use of multiple Social Network monitoring. SME 1 wanted to be able to gain a quick overview of various social media platforms while SME2 was more interested in being able to simultaneously create content on all Social Networks in which they were active. In addition, SME 1 showed a greater interest for geolocation based monitoring than SME 2 that could not find a useful application for this functionality in their context. The count of mention of each code representing an

area of application of SMM can be viewed in Figure 6. In the next section results from the qualitative data analysis are presented for each SME individually.

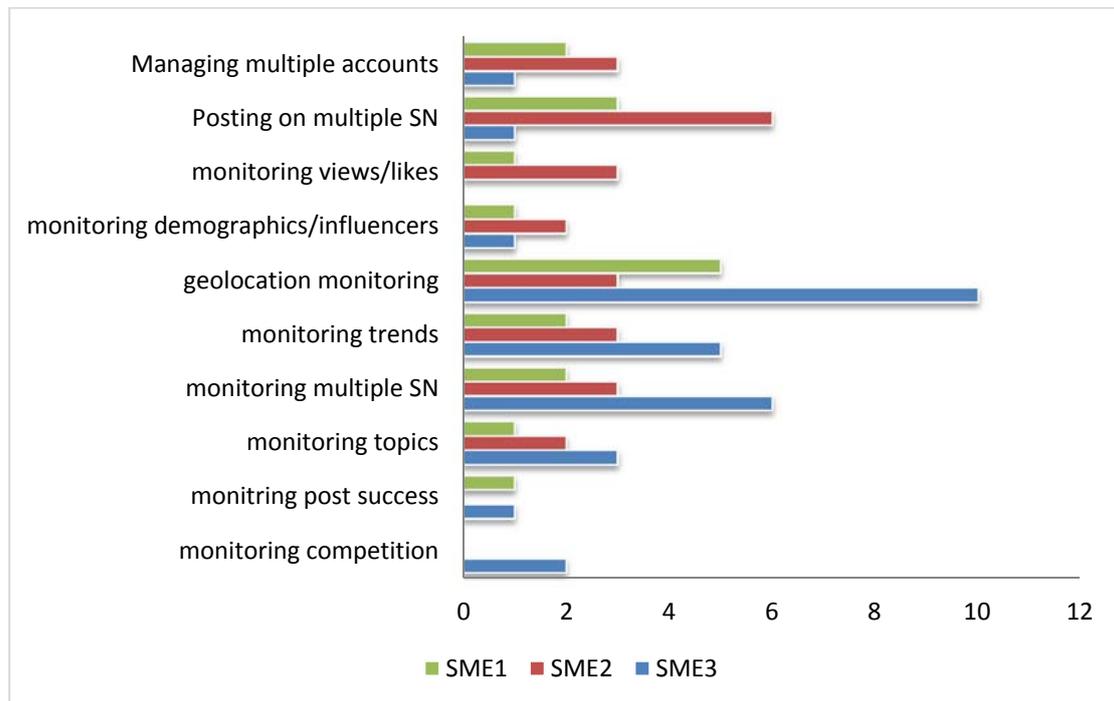


Figure 6 Bar charts showing count of specific code mention for the three participating SMEs

### SME1

Even though quantitative data showed only a marginal change in activities for this SME qualitative data analysis revealed considerable change in attitude of this company towards Social Media. Engagement with the SMM tools affected this company in that they started taking their company’s social media presence more seriously than before. They became aware that they did not have a clear strategy for their company in regard to Social Media. They revisited their social media objectives and intent to start measuring the effectiveness and impact of their social media activities in the future.

During the study they were mostly talking about the ability to monitor multiple Social Networks in order to gain a quick overview of the newest development. They did not comment about whether and how the intent to act on the new information they could gain though this monitoring activity. Since they did not affirm an interest on competitor monitoring it is highly possible they intent to use the tools for reputation management (monitoring their own accounts).Although they were intrigued by the possibility of geolocation monitoring, they could not actually find appropriate ways of using this functionality. They also could not find appropriate keywords they could start tracking that could be useful to them. This was an overarching theme with this company. A large amount (72.2%) of their comments was an indication that they could not find ways of using the tools in a manner that could be beneficial to them. The main reason for this could be the lack of clear strategy and goals regarding Social Media for this SME.

## SME 2

Qualitative data showed for this SME that the SMM tools introduced motivated the staff to increase their social media activities. Although, quantitative data showed only a small increase in related scores the company representative did spend considerable more time on Social Media. They became preoccupied with experimenting in order to find appropriate ways to use the SMM tools introduced. They became interested in new types of social media activities as for example trend monitoring and campaigns design. This process led them to question and redefine their current social media strategies.

Although they became intrigued by many features of the SMM tools, the main impact was made by tools that would allow them to manage, view and post on multiple Social Networks (40% of their comments). This was only natural considering that the most important problem this SME reported in the pre-study interview was lack of time. They intent to continue using social media aggregators mostly for posting purposes (such as the ones provided) to identify social media opportunities. This company apart from reputation management also stated an interest for trend analysis and specific topic monitoring. The effect of their introduction to SMM tools was a reinforcement of their already positive attitude towards social media in general.

## SME 3

The impact of the SMM tools on this SME was quite different compared to the others. This can be attributed to two factors: (1) this company was more Business to Customers (B2C) oriented and (2) they had a somewhat more clear Social Media strategy than the others. This may be the main reason that the SMM tool introduction had no significant effect on the Social Media platforms this company was already extremely active. The main change came in the form of engagement with a new Social Media platform. The SMM tool introduction motivated them to start experimenting with Twitter, a platform they neglected for some time. They reported that until this point they found it difficult to integrate Twitter into their activities mainly because they could not find the needed time to experiment and study online information about good practices by others. During the first phase they used mainly the monitoring tools to search for post by their competition in order to create an understanding of appropriate Twitter usage. Then, they used geolocation monitoring and trend analysis to find and engage with conversations relevant to their projects. The experimentation with the SM tools helped them formulate strategies as well as creating tactics about effective usage of a Social Network on which they were not actively engaged in the past. At the end, they became also interested in identifying influencers because they understood how this could help them build a larger follower-base on twitter.

To conclude, this company was enthusiastic about social media before the study and remains so after it. The main change was in regard to Twitter which they started using effectively partly due to their involvement in this study. They did not use social media tools before and their deployment opened new possibilities to them. Although they will not continue using them on a regular basis they are convinced that the tools will help

them during periods in which they will dedicate resources to experiment with social media and in order to discover new ways of engaging with their customers.

## Discussion

The result of all types of data collected in the study presented in this report led us to the following conclusion regarding the impact of SMM tool to the three participating SMEs

**SME 1:** SMM tool introduction had only a marginal motivational effect. This company needed information and examples about appropriate ways of using Social networks specific to their company domain more than tools. This lack of strategy resulted in difficulties incorporating the tools in their activities with some exceptions (monitoring multiple Social networks, reputation monitoring).

**SME 2:** Some of the SMM tools had a positive impact on this company. The employee responsible for social media management had time issues and needed help in her everyday activities. Tools providing multiple Social Networks management solved a real problem for this company and also triggered interest for new activities (trend monitoring, campaigns).

**SME 3:** SMM tools had only a marginal effect on this SME that manifested into engagement with a new Social Media platform. This company needed information about effective ways of using new Social Networks more than tools, but their engagement with them triggered an experimentation phase from which the company benefited. This SME became interested in trend, geolocation and competitor monitoring.

## Tools

Examining the results from the point of view of the SMM tools that have been introduced several conclusions can be drawn. The first outcome was that the commercial tool received more positive comments than the tools created in the InterSocial project. This is certainly understandable considering that Hootsuite is a leading, mature tool that is on the market for many years and provides a multitude of functionalities. The negative comments about this tool referred to the time that was required from the participants to familiarize themselves with all its concepts and functionalities. On the other hand, most of the InterSocial project tools needed less time to learn to use although some of them had usability issues at the time of the deployment. Almost all tools (including the commercial) could include more information about appropriate use by displaying best practices and examples in order to help companies that are less “Social Media savvy” to start using them effectively. In the next section some findings in regard to specific areas of application of SMM tool are presented.

## Keyword monitoring/tracking

One of the simplest and most common features of SMM tools is keyword monitoring. It was observed that companies do not always know what keywords to monitor as it was the case for SME1 and to some extent SME2. They felt that their domain or niche

market did not have specific keywords that could be tracked in order to gain valuable information. In these situations it would be helpful if case studies about other similar companies or examples about best practices would be provided by these tools. In addition, SME3 asked whether results could be modified to take language issues into account. For example they wanted to monitor posts or tweets that were written in the greek language but had the term “offers” in English (it is common in Greece to use English terms inside native text). This functionality was not available by any of the tools.

### Trend Analysis

Trend analysis was particularly useful for SME3 and to some extent SME2. Finding trending information especially for specific regions received the attention of the participating SMEs. It helped them find and engage in conversations as well as to modify their posts in order to include terms that receive the attention of their customers.

### Monitoring multiple Social Networks

This was the most important feature for SME1 and SME2. Especially SME2 became enthusiastic about the possibility of managing viewing and posting on multiple Social Networks since it saved them a considerable amount of time. SME1 and SME3 used this feature more passively by monitoring content created by others. They reported that they would receive the integration of more Social Media platforms in one tool positively.

### Reputation management

Participants did not ask for more elaborate reputation measurements, scores or statistics. They were happy with those provided by the tools themselves (e.g. page, post likes). Aggregators that let them view all their Social media platforms at once were also enough to monitor their reputation by analyzing their customer comments qualitatively.

## 5. Conclusions

The results of the evaluation study presented in this report revealed that the usefulness of the SMM tools as well as intention to adopt and integrate them in future activities varied considerably among the participating SMEs. This was a generally expected result since these companies differed considerably in terms of organizational structure and needs in regard to Social media management. The main common effect that the introduction of the SMM tools had among all SME's was a renewed interest for engagement with social media in general. All SMEs that participated in our study increased their social media presence to some extent either by engaging in new social networks or by increasing their activity on those they used in the past. Usage of the SMM tools for some SMEs resulted in the realization that their companies were lacking an overall Social Media strategy with specific objectives and measurable goals. However, apart from the positive effect and intentions to integrate SMM tools in their everyday activities the SMEs had also difficulties creating clear usage scenarios of those tools that were aligned with their business goals in general. The work presented in this report is primarily driven by an

effort to understand the perceived difficulties of SMEs in integrating and adopting SMM tools and to describe lessons learned for efficient and effective adoption. Therefore, a practical implication of this work relies on elaborating an empirical evaluation framework along with specific guidelines for the deployment, usage and impact of social media tools on SMEs with diverse business profiles and objectives.

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## APPENTID (Semi-structured interview questions)

### Pre-study interview questions

#### General Questions

1. What social media do you use?
2. How much time do you invest on average per day on social media?
3. Do you believe that social media provide reasonable ROI (return/ investment)?
4. What is the main problem you face in regard to Social Media?

#### Social media management/policy

1. Who is responsible for managing the social media account?
  - a. How do you manage multiple administrator accounts?
2. Who is the contact person?
3. Who reply's on customer messages?
4. Are employees allowed to post messages without supervision?

#### Social media Strategy

1. What is the over social media strategy of your company?
  - a. What do you hope to achieve through your presence in social media?
  - b. Do you have specific, measurable goals for using Facebook?
  - c. Do you have specific, measurable goals for using Twitter?
  - d. Do you have specific, measurable goals for using LinkedIn?
2. How do you measure if you achieve your goals?
3. How do you measure your success?
4. What kind of posts are you usually making?

#### Social media Tools

1. Do you use tools to automate posting and measure your success.
2. Do you use or have heard about one of the following tools
  - a. Facebook insides
  - b. Hootsuite
  - c. Klout
  - d. Sprout Social
  - e. SocialIQ
3. In what metrics would you be interested?

#### Followers/fans profiling

1. Do you know what your target audience is?
2. Are you interested in the user profiles of your followers/fans?
  - a. Does demographic information about followers/fans help you form better messages/posts?
1. 5. Are you searching for and targeting influencers?

#### Miscellaneous

1. Do you launch Social media campaigns?

2. Do you pay to boost posts/ or pay for twitter followers?
3. Do you schedule your posts?
4. Do you know what the best time is to post your messages?

### What are the most important problems you face in regard to social media?

1. No time to post
2. I don't know what to post
3. It is difficult to keep up with multiple social media accounts
4. I have no time to engage in conversation with my customers
5. I don't have enough information about how to use the various social media effectively
6. I cannot afford having an employee focusing on social media

### What kind of help would you prefer?

1. More information/ guidelines about appropriate use
2. Tools that allow the management of multiple social media accounts (posting, viewing)
3. Tools and Metrics that let me measure my social presence and the achievement of my goals
4. Tools that show me engagement and the effectiveness of specific post
5. Tools that would help me understand the needs of my audience better
6. Tool that would allow me to build more effective campaigns

## Phase1: Deployment of Social media tools interview questions.

1. How easy was it to embed the provided tools in your SME activities?
2. Did you embed all the provided tools? For each tool you haven't used, please describe why you not?
3. What level of effort was required to deploy the provided tools? How would you improve the process?
4. Did the deployment of the tools result in changes of your social media policy? If yes, please describe them.
5. How much time did you invest on the deployment of the provided tools? What was the most time-consuming task?
6. Did you find the provided training/instructions activities useful? How would you improve the process? How easy would the deployment be without the provided training?

## Phase2: User experience with tools interview questions.

1. How useful did you find the provided tools?
2. How easy was it to use the provided tools?
3. How did the provided tools support you in achieving your objectives? Please provide examples.

4. What are the 3 things you like best and least about the tools?
5. If you could make one significant change to each one of the tools what change would you make?
6. How much time did you invest on the usage of the provided tools? What was the most time-consuming task?
7. Did the deployment of the tools result in changes of your social media policy? If yes, please describe them.

## Phase3: Impact of tools on business goals interview questions.

1. Did the provided tools support you in achieving your business goals? Please provide examples.
2. Do you intent to keep using the provided tools in the future? Please explain why or why not.
3. Would you recommend the provided tools to other SMEs? Please explain why or why not.
4. How much time did you invest on the usage of the provided tools. What was the most time-consuming task?
5. Did the deployment of the tools result in changes of your social media policy? If yes, please describe them.
6. Please describe the ideal social media tool that would support your business goals.