

MASTER

The use of sentiment analysis tools in online reputation management process

Borcan, A.

Award date:
2013

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Eindhoven, September 2013

The Use of Sentiment Analysis tools in Online Reputation Management Process

by
Andana Borcan

Student identity number 0785840

in partial fulfilment of the requirements for the degree of

**Master of Science
in Innovation Management**

Supervisors:

dr. U. Konus, TU/e, ITEM

dr. ing. J. P. M. Wouters, TU/e, ITEM

Guido Budziak (Company supervisor)

TUE. School of Industrial Engineering.
Series Master Theses Innovation Management

Subject headings: Corporate Reputation, Online Reputation Management, Company Reputation Dimensions, Social Media, Sentiment Analysis

Preface & Acknowledgments

My adventures as an Innovation Management master student started two years ago when Eindhoven University of Technology became my “second home”. In the next pages you will read my final work done as a member of this great “family”.

In the next paragraphs I would like to thank those that supported me for this research and not only. I first want to thank Umut Konus for accepting to be my mentor although his schedule was already complete. Your involvement, guidance and support throughout my Master Thesis were outstanding. The given encouragements and extensive feedback were most valuable for my type of personality and way of working. Secondly, many thanks for my second supervisor Joost Wouters for the always quick and clear comments for my ever changing reports. Your critically questions and advice during our meetings helped me improve my work I finalize it for everyone to read.

Third I would like to thank Guido for giving me the opportunity to work and know a little bit of Adversitement. Your trusting attitude and behaviour towards me made my path easier. Special thanks to Erik Tromp for his patience and support for my numerous questions. It has been a pleasure to work with both of you.

Forth, I “have” to thank my two “roomies” for their nerves of steel to hear me going on and on about my work: Alex and Eva. With additional gratitude to Alex whose support proved to be most valuable especially these last couple of days. But they were not the only ones. Alexandra, Kati lots of thanks are coming your way too. The support of these 4 made all the difference for me. Further I would like to thank all of my friends here for making me miss home less: Sorin, Alejandro, David, Emilia, Elena, Iulia, Eduardo, Rasa, Markus, Dill, Feng, Sjoerd, Antti, Burak, Denis, Benedikt, Geoffrey, Decebal, Andrei, Sebi and...the list could go on but I have to give endless thanks to...

My awesome family! Without you I would not be the person that I am today! Thank you!

Abstract

The importance of Online Reputation and Sentiment Analysis- data mining technique used to extract opinions, sentiments and subjectivity in unstructured text in order to identify whether the expressions are favourable or unfavourable - has increased over the last years. However, domain experts do not have sufficient guidelines on how to use the latter in the context of Online Reputation Management. Therefore, in the present paper we want to propose the use of Sentiment Analysis tools for assessing and/or monitoring Online Reputation within a stagewise approach for a better integration of both concepts.

Management Summary

All structures of society: experts, public figures, institutions, companies, individuals, etc., are very influenced by Social Media being a new way of communication and collaboration (Matešić, Vuckovic, & Dovedan, 2010). In their sharing users include information from social activities, brands, organizations, etc. Through the access to all this sharing, companies have the possibility of obtaining information that could be of great value to them and their Online Reputation. While building a strong reputation and see its payoffs may require a lot of time, being destroyed, because of lack of attention and involvement, can take place overnight. However, being able to use all the extracted data- the user generated content- is a challenge. So, as Social Media's importance increased, so did the importance of tools that deal with enormous amount of data. And this is how data mining techniques come into the picture: we propose the use of Sentiment Analysis as a data mining tool to overcome these challenges "by systematically extracting and analysing online data without incurring any time delays" (Rambocas & Gama, 2013, p. 1). **Sentiment Analysis** is used to extract opinions, sentiments and subjectivity in unstructured text in order to identify whether the expressions are indicating positive or negative – favourable or unfavourable – opinions towards the subject in discussion (Bae & Lee, 2012).

Having all these in mind we want to suggest the use of Sentiment Analysis tools that extract opinions from relatively short messages in multiple languages that are available on Social Media for assessing and monitoring Online Reputation. In other words, the present research proposes the integration of Sentiment Analysis tools in the Online Reputation Management Process.

But before getting into more details we need to define the rest of the key concepts that are relevant for the present paper: **Online Reputation Management** can be defined as the process of analysis and management for entities' reputation - people, organizations etc. - which is characterized by the existent content within all kinds of online media. Fundamentally, what is very important for organizations is to be able to answer fast enough when people express things online about them (Hung et al., 2012; Perez-Tellez et al., 2011). **Social Media** represents a set of platforms that support "people to connect, communicate, and collaborate" (Jue et al., 2009, p. 44).

Problem Statement: *The importance of Online Reputation and Sentiment Analysis concepts has increased over the last years; however domain experts do not have sufficient guidelines on how to use Sentiment Analysis in the context of Online Reputation Management.*

Research Question: *How can Sentiment Analysis be used as a tool in the process of Online Reputation Management for a higher integration of both concepts?*

Methodology

In order to be able to answer the above main and secondary question, the methodology contains two approaches:

1. **Interviews-** The respondents included in the study were Adversitement's employees and its client's employees. The procedure for this approach was as follows: Employees were approached via email. A reply and consent to participate in the study was received from all initial contacts. The interviews were transcribed based on the recording done during the interview with the consent of the interviewee. The transcripts were sent to respondents to validate them. Out of 8 only one did not reply. Having the validation, the coding phase followed- based on a framework- in order to sort and synthesize the information (Yin, 2003). This was done with the help of the qualitative tool NVivo.

2. Key Words Frequency & Polarity of Online Reputation on Twitter. The procedure for this approach was as follows: The data was collected for a period of time, depending on the company's type of business, ranging from 2 weeks to 1 month- B2B (Business-to-Business) companies had fewer comments than B2C (Business-to-Consumer). Then, the data was analysed in order to see if the key words representative for the Reputation Dimensions/Components suggested in this study were mentioned on Twitter by users. The overall Online Reputation was calculated for each organization based on the comments' polarity. Finally, these findings were compared with the key words companies use, intend to use and with their own information/perception about the polarity of Online Reputation.

Results, Discussion of Results and Conclusions

The definitions of the Online Reputation Management concepts vary accordingly to the business type. Also the steps employees take for a good reputation or assessment are dependent on the business. While B2B companies are focused more on sending out their message/story, B2C companies are more oriented towards listening to their customers' products review. Unlike the knowledge of the Online Reputation Management concept, employees do not have a clear perspective on the concept of Reputation Dimensions/Components. Definitions for the Sentiment Analysis concept varied from simplistic explanations to more comprehensive ones. They varied according to their experience and direct contact with the tool. Also identified within interviews was that the usefulness of the tool for Online Reputation is higher for B2C than for B2B. This might be because when users represent a company they cannot just post anything without some backup. This leads to fewer comments within the online medium for B2B business and more for B2C. Companies using reviews pages for different products will end with extensive data and having a tool could be of great help. Last and not least, from the interviews it was identified that most of the communication especially the sharing of "company story" is done on blogs, addressing other companies.

While some companies had procedures and a clear process for Online Reputation Management, some did not. Nevertheless, the employees were aware of the Social Media importance and the necessity of a process, trying to identify what steps they can take, how they can be impacted by them and last but not least, how to justify their investments.

With reference to the key words that are suggested in this paper for analysing the Online Reputation, we can conclude that users do not use them so much when they express themselves in the online medium- Twitter. Furthermore, only a few of the key words employees intend to use in the future were found as being used within the online medium. When asked what key words/topics they believe users are using/ talking about in the online medium only Adversitement and Gamma answered. Moreover, from the topics/key words they gave only a few were found to coincide in Kappa's case and none in Adversitement's case. Comparing how they evaluate their reputation and what were the result after analysing the data, in most cases it was a match, except one case. Possible reasons for the above: these dimensions do not apply to the investigated companies; or companies do not send the right message or do not communicate sufficiently with their stakeholders; or the key words chosen for these dimensions were not the best choice; or the number of comments was too low- Nu's and Adversitement's case.

Moving forward, based on the interviews and Portmann's (2013) representation of process of integrated Reputation Management we suggest a few action points for each of the following stages. These steps aim for the integration of Sentiment Analysis in the Online Reputation Management

process. An important aspect that needs to be emphasized here is that the below stages need to be iterative in order to be obtain the wanted results.

Identification stage: Sentiment Analysis can be used here for identifying key issues that can affect the company by scanning and monitoring the online medium. Determining the right key words is an important element here. Word clouds done with the help of Sentiment Analysis based on the online comments could also contribute to identifying relevant key words that stakeholders use and discuss about. Also very important to be included here is Benchmarking.

Analysis stage: Sentiment Analysis could be used to analyse the data gathered by determining the polarity, trend line, word clouds and other, depending on how extensive the tool is. However, it should be kept in mind that this might not be sufficient. Other assessments might be necessary if the Sentiment Analysis is not extensive enough.

Reaction stage: Sentiment Analysis will not have a direct role but based on its outcomes different steps need to be taken for the development and implementation of appropriate actions for business strategies. Among the steps identified within the interviews are: change the campaign in case it was not successful; discuss outcomes for future actions and for creating more visibility on Social Media Channels; Improve products; Improve Website. Of course, actions are dependent on the outcomes of the Analysis stage and on the company/industry/business specifics.

Controlling stage: Sentiment Analysis tools could again play a role for the evaluation of the steps taken previously, by determining their effect and impact on stakeholders' perception towards the organization's reputation.

Managerial Implications

For decision makers responsible with the ORM we would suggest the following steps for the Identification stage:

Step 1: Establish the Reputation Dimensions and key issues representative for the organization

Step 2: Establish the right key words representative for the Reputation Dimensions and key issues established at Step 1

Step 3: Scan the online medium based on the outcomes of Step 1

Step 4: Benchmarking

For Adversitement we have the following recommendations: (1) to communicate clearer to their clients the numerous applications of the Sentiment Analysis tool and its options (2) to include the suggestions for when proposing SA for Online Reputation Management (3) to include in the Sentiment Analysis tool the characteristics identified from the interviews for a better applicability of the tool (4) add Key Words Frequency option- as a graphical representation- combined with the polarity of the comments the key words are being part of.

Limitations and Future Research

For future research, as one of the study limitations was the key words chosen, would be to further investigate what key words could be used based on company/industry/business specifics. A higher sample size and data volume including more online platforms could extend the available information so far. Maybe a better differentiation between B2B and B2C can be done and better managerial implications will result.

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List of Abbreviations

ORM- Online Reputation Management

OR- Online Reputation

SA- Sentiment Analysis

SM- Social Media

B2B- Business-to-Business

B2C- Business-to-Consumer

FAQ- Frequently Asked Questions

Introduction

Which candidate do you think has higher chances to win?

A- The candidate with less but positive mentions;

Or

B –The candidate who has the most mentions?

“For instance, suppose that there are two presidential candidates and we want to predict who will be elected.[...]If we consider only three measures (indegree, retweets, and mentions), candidate B is more influential than candidate A; that is, candidate B is the likely winner. However, if we compute a measure of PN (positive/negative) influence, candidate A has a greater likelihood of winning because the many voters who support candidate A retweeted or mentioned candidate B with unfavourable intention. Therefore, the importance of PN influence is that it provides new insights into influence and a better understanding of popular users.” (Bae & Lee, 2012). For this example, the outcomes could have been predicted with the help of Sentiment Analysis tool.

Another situation where Sentiment Analysis can be of help is the one regarding Rainbow Oreo cookie controversy. Kraft- the producers of the popular cookies- “swapped the image of its famous black-and-white snack with one featuring a rainbow-colored Oreo. The image displayed the text “Proudly support love!” and was in support of gay rights on June 25 2012. The just mentioned image was also part of the company’s campaign for the 100th anniversary of the Oreo cookie. This campaign generated “tremendous buzz in the social sphere”. Therefore, the company decided to analyse the reactions: status updates, comments, tweets and blogs. The results were: 80.9% mentions of the rainbow cookie were positive and 19.1% were negative. Overall the sentiment on Twitter was more positive than on Facebook. (Pekala, Sentiment Analysis: Accurate or Just Consistent?, 2011)



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Made with some colors that do not exist.



Through Social Media people, regardless of their nationality, gender, race and class share their impressions and experiences about anything they wish to disclose. In their sharing users include information from social activities, brands, organizations, etc. (Rambocas & Gama, 2013). Through the access to all this sharing, companies have the possibility of obtaining information that would be of great value for them and their reputation. However, being able to use all the extracted data- the user generated content- is a challenge. If until now the companies’ challenge was to find information, now as a result of fast development of ICT technologies, the challenge has become to create and retrieve relevant data, and mine it so that it will be transformed into knowledge. But because of the vast channels to do that manually is a big challenge, if not close to impossible. Furthermore, it will take a long period and by the time a conclusion can be drawn the discussions within the online medium might have gotten to a point that no measure can be taken to prevent a possible disaster. If the reaction is not fast and the involvement in the Social Media does not exist, the opportunities this medium would have could easily change into threats and lead to: serious reputation damage, loss of confidential knowledge and intellectual property, and even loss of confidence (Ford & Mason, 2013; Oehri & Teufel, 2012). While building a strong reputation and see its payoffs may require a lot of time, being destroyed, because of lack of attention and involvement, can take place overnight.

So, as Social Media’s importance increased, so did the importance of the tools to deal with the enormous amount of data. And this is how data mining techniques come into the picture: “Data

mining techniques provide researchers and practitioners the tools needed to analyse large, complex, and frequently changing social media data.” (Barbier & Liu, 2011, p. 327). Therefore we propose the use of Sentiment Analysis as a data mining tool to overcome these challenges “by systematically extracting and analysing online data without incurring any time delays” (Rambocas & Gama, 2013, p. 1). “Sentiment analysis allows a company to discover, predict and understand consumer intent, future market changes and future market sales based on comments people make online” (Flory, 2011, p. 2). In short, this gives organizations the opportunity to learn more about their stakeholders’ sentiment and attitudes (positive/negative/neutral) in real time, eliminating the worries of data structure and volume (Rambocas & Gama, 2013).

Having all these in mind we want to suggest the use of Sentiment Analysis tools that extract opinions from relatively short messages in multiple languages that are available on Social Media for assessing and monitoring Online Reputation. In other words, the present research proposes the integration of Sentiment Analysis tools in the Online Reputation Management Process.

Thesis Outline

The paper will be structured as follows: In the first section the Literature Review will be presented including all the relevant definitions of concepts and terminologies. Afterwards the Relevance, Research Gaps and Contributions will be presented followed by Problem Statement and Research Questions. Then Methodology and Results will be discussed, followed by Discussion of Results and Conclusions. Chapter 7 will include Managerial Implications. The research will end with Limitations and Future Research.

1. Literature Review

1.1. Corporate Reputation

Along with the launch of Corporate Reputation Review in 1997 the literature on corporate reputation grew enormously (Hong & Yang, 2009). Compared to 90’s, in the period 2001-2003 the average number of studies in this area increased almost five times (Barnett, Jermier, & Lafferty, 2006). This cannot but emphasize that reputation has become an important subject among researchers. As a result the corporate reputation concept has been a debated subject over the years and many researchers tried to define it. The reasons for this might be the fact that this construct was approached from different disciplinary perspectives as Fombrun and Rindova (1996) stated; and that reputation is in the end a “social construct that is formed by people” (Portmann, 2013). However, in the current research we will present two perspectives from two studies that derived their definitions from considerable literature review in order to show the different perspectives and yet common grounds (they will be presented accordingly to the year of publish):

- Definition provided by Gotsi and Wilson (2001) for corporate reputation: “A corporate reputation is a stakeholder's overall evaluation of a company over time. This evaluation is based on the stakeholder's direct experiences with the company, any other form of communication and symbolism that provides information about the firm's actions and/or a comparison with the actions of other leading rivals.” (Gotsi & Wilson, 2001, p. 29)
- Definition provided by Barnett et al. (2006) for corporate reputation: “Observers’ collective judgments of a corporation based on assessments of the financial, social, and environmental impacts attributed to the corporation over time.” (Barnett et al., 2006, p. 34).

By looking at both definitions even if both had a lot of articles in common their interpretations differ. Nevertheless, a common element that was found to be in consensus, within the literature as well, is that “reputation can be defined in terms of its perceptual nature” (Inglis, Morley, & Sammut, 2006, p. 935), i.e. “the empirical truth of corporate reputation comes from whatever the respondents say” (Wartick, 2002). Said differently, the organization’s reputation “is formed in the intersection of what an organization says about itself and the stakeholders’ perceptions” (Portmann, 2013).

Moreover, the world of communication has changed tremendously in the last 25 years due to internet advancements giving people the opportunity to connect to each other and communicate regardless of their location on the map. As a result we have to incorporate in the concept of Reputation Management the Online Reputation. As a whole, Reputation Management can be seen as a holistic approach including both offline as online world- the below figure. There is a strong interconnectedness between both concepts and a separation could not be done easily and would not be useful (Portmann, 2013). However, in the current research the focus will be towards Online Reputation Management. The online medium is really wide-ranging and comprehensive, and focusing on all channels would be a work beyond a Master Thesis. Therefore we will focus in the current research on Social Media medium, a concept which has become a true phenomenon. The unit of analysis for Reputation will be at the organization level: Corporate Reputation in Social Media. Therefore, further in this chapter we will define the concept of Online Reputation Management, and then we will address the Reputation Dimensions, continuing with Social Media, Sentiment Analysis and ending with addressing the relationship between Sentiment Analysis and Online Reputation Management.

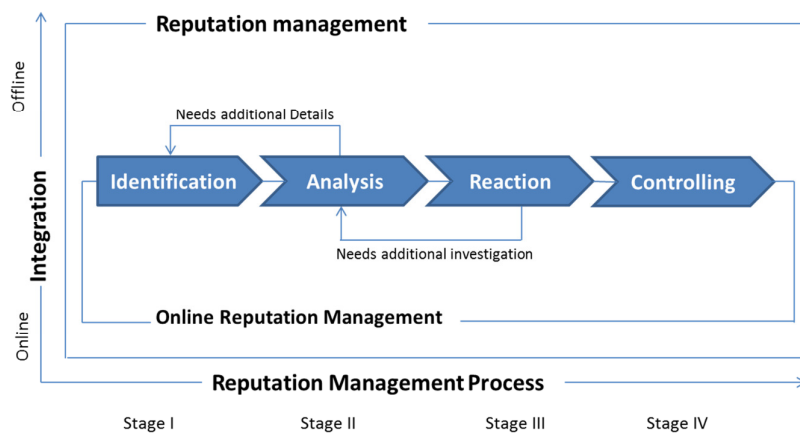


Figure 1.1. Process of integrated reputation management (Portmann, 2013)

1.2. Online Reputation Management (ORM)

As specified above, the world of communication has changed tremendously. With the beginning of the Web 2.0 new ways of communication, collaboration and sharing of content have appeared (Michaelidou, Siamagka, & Christodoulides, 2011). This facilitated David Caroll and his band (“Sons of Maxwell”) to post on YouTube a video named “United Breaks Guitars”. The video contained the story of how United Airlines broke Taylor’s guitar because of improper baggage handling. The movie became viral after it was included in a post on BoingBoing two days later. On July 16th, 10 days later, the movie had 3,5 million views and has made such a buzz in the blogosphere that it ended up even being mentioned in London Times and having a Wikipedia entry (viewed more than 1700 times) (Hemsley & Mason, 2013). This shows how Social Media medium played an important role in

facilitating the mentioned event getting viral so quickly and unexpectedly that left United Airlines unprepared to cope with the outcomes at that point. While building a strong reputation and see its payoffs may require a lot of time, being destroyed because of lack of attention and involvement can take place overnight. If they would have monitored the online communication they could have interfere in time to avoid all the negative online sentiment.

Another example scenario of how a crisis can escalate the Web is the Apple's iPhone faux. The organization decided to adapt the phone's price to the iPod music player and have an attractive price for the holiday shopping season. This decision led to a series of reactions from different stakeholders: "Journalists covered the organization with questions, bloggers discussed whether customers had been fooled, and social networks were buzzing with critical comments" (Portmann, 2013, p. 95). Furthermore, while traditional mass media speculated if the sales are dropping, investors took this decision as a negative sign and the stock price went down 5% in the same day. The reason consumers were wondering if they were tricked is because when iPhone was first launched they queued in lines in order to be one of the first receiving the phone and paid a high price. "The iPhone failure happened during the growing adoption of blogs, social networks, and other social media elements as a platform for sharing complaints. Customers had criticized Apple's brands, service, products and executives before, only now the expansion of social media ensured that Steve Jobs, Apple, and a few million others online, heard the message in a clearer manner." (Portmann, 2013, p. 95).

These examples emphasize the importance of Online Reputation Management. Companies need to be proactive and react fast in order to avoid negative news, comments becoming viral. Why? Because reputation is build and earned over a period time but it is easy to lose and it matters for the organization's survival (Portmann, 2013).

Online Reputation Management can be defined as the process of analysis and management for entities' reputation— people, organizations etc. - which is characterized by the existent content within all kinds of online media. Fundamentally, what is very important for organizations is to be able to answer fast enough when people express things online about them (Hung, Huang, Hsieh, Tsuei, Cheng, & Tzeng, 2012; Perez-Tellez, Pinto, Cardiff, & Rosso, 2011).

Portmann (2013) suggested that the process of Online Reputation Management consists of four stages: Identification, Analysis, Reaction, Controlling- see Fig. 3.1. **Identification** represents the stage in which entities should search for issues: "potential changes for a positive and risks for a negative reputation as early as possible" (Portmann, 2013). Depending on the business/industry, these criteria need to be constantly developed and then monitored. But for the success of this step, Portmann (2013) argues that inclusion of employees in the monitoring process could lead to added value for the organization. After Identification, the **Analysis** stage follows where the identified issues need to be analysed and included in the business strategies; these steps can overlap. The process continues with the **Reaction** stage where based on the results of the analysis, actions for an appropriate business strategy should be developed and then implemented. Finally, we have **Control** stage that represents the evaluation of the actions implemented for improvement. As a final and important note, the whole process should be iterative for continuous improvement and maintenance. (Portmann, 2013)

In the above two examples were presented to illustrate the importance of Online Reputation Management, then the concept, process and its components were explained. Moving forward we will give more arguments for why ORM.

1.2.1. Why Online Reputation Management?

According to Hung et al. (2012) a good reputation will establish customer cross-buying intentions by making sure that the service quality will meet the expectations of the customers, by reducing the information costs and by increasing trust and affective commitment. Companies have to make sure that the information they provide on the internet concerning their products/services is correct. More and more customers are dependent on the online opinions for making a buying decision (Hung, Huang, Hsieh, Tsuei, Cheng, & Tzeng, 2012). Therefore, in case customers are not satisfied with the given information they can easily complain and not give positive reviews that will further influence the purchase of other users. "Since negative word of mouth has a higher informative value and a greater effect on purchasing intentions than positive word of mouth, it is crucial for companies to identify critical situations at an early stage." (Kaiser, Schlick, & Bodendorf, 2011). Studies have shown that online opinions have a great impact on the buying decisions of consumers and that a relation between online reviews and volume sales exists (Kaiser et al., 2011). Also, recent estimates show that one in five tweets and one in three blogs have as discussions products or brands.

Moreover "95 % of executives think of an organization's reputation as playing a crucial role in achieving their business objectives, 63 % of organization's market value is ascribable to reputation, and the top ten world's most admired organizations (among them Apple Inc.) enjoy a total shareholder return of almost three times that of the 500 largest US trading organizations." (Portmann, 2013). Moreover, in the case where 80% of equity is resulting from intangible assets, which of course are difficult to evaluate, organizations are vulnerable to anything that might damage their reputation (Portmann, 2013). In other words: "The loss of reputation affects competitiveness, local positioning, the trust and loyalty of stakeholders, media relations, and the legitimacy of operations, even the license to exist." (Aula, 2010). No need to emphasize even more the importance of ORM to monitor online media considering the emergence of Social Media.

1.3. Company Reputation Dimensions

As in the case of defining corporate reputation, there is not a general agreement on how to measure reputation, but there is an agreement towards its importance (Schwaiger, 2004). In order to establish a positive reputation, companies need to know its dimensions in order to create strategies and measure it. In their study Fombrun and Shanley (1990) show that the public creates reputations based on the company's inner organizational field. Stakeholders do this by using the market and accounting signals- indicating the level of performance-, the signals of the company's conformity to social norms and strategy signals- indicating strategic posture (Fombrun & Shanley, 1990). "Since there are not only one but numerous stakeholders, it may be possible that an organization not only has one but several reputations, depending on the stakeholders." (Portmann, 2013). They do not see the effort companies put in, or what dimension they are focusing on, they see reputation as a whole. Yi and Niblack (2005) give a good example for this: "though one is generally happy about a digital camera, he might be dissatisfied by the short battery life. To the manufacturers, these individual weaknesses and strengths are important to know, perhaps more valuable than the overall satisfaction level of customers." (Yi & Niblack, 2005, p. 2).

Uncertainty still remains for all the measures proposed throughout literature (See the below table) when it comes to validity, reliability and range (Groenland, 2002). Nevertheless, Groenland (2002) considered Fombrun's and his associates (Fombrun, Gardberg, & Sever, 2000) approach to come closer to a universal applicability- see the below table. Moreover, they considered applying their so

called Reputation Quotient (RQ) (4th case from table 1.1. Reputation Dimensions) to the Dutch population. This was done within 2 focus groups. The participants from one group (N=8) consisted of consumers and the other one (N=8) consisted of business decision-makers. Though this study may not necessarily be generalizable to the whole Dutch population, the data show that the six dimensions proposed by Fombrun et al. (2000) are supported. This also shows that the RQ are not disturbed by cultural influences.

Table 1.1 Reputation Dimensions

Company/Study & Method	Attributes/Dimensions
1. Fortune’s AMAC (America’s Most Admired Companies) (Schwaiger, 2004)- 8,000 interviews (via phone or email)	Innovativeness; quality of management; long-term investment value community and environmental responsibility ability to attract, develop, and keep talented people; quality of products or services, financial soundness, and use of corporate assets
2. ManagerMagazin (Schwaiger, 2004) -Survey- 2,500 executives asked to rate the top 100 German companies on 11-point rating scales	Quality of management; Innovativeness; Ability to communicate; Environmental responsibility; Financial and economic stability; Product quality; Value for money; Employee orientation; Growth rates; Attractiveness to executives; Internationalization
3. Harris-Fombrun Reputation Quotient (RQ) (Schwaiger, 2004) - Survey	Emotional Appeal ; Products & Services; Financial Performance; Vision & Leadership; Workplace Environment; Social Responsibility
4. (Schwaiger, 2004) -desk research& expert interviews	Cognitive (competence) & Affective (sympathy) variables: Quality of employees; Quality of management; Financial performance; Quality of products and services; Market leadership; Customer orientation; Attractiveness; Social responsibility; Ethical Behavior; Reliability; Fair attitude towards competitors; Transparency and openness; Credibility
5. Australia’s RepuTex (2006) (Inglis et al. 2006)	Corporate governance; Workplace practices; Social Impact; Environmental Impact

1.4. Social Media

All structures of society: experts, public figures, institutions, companies, individuals, etc., are very influenced by Social Media being a new way of communication and collaboration (Matešić, Vuckovic, & Dovedan, 2010). It represents a set of platforms that support “people to connect, communicate, and collaborate” (Jue, Marr, & Kassotakis, 2009, p. 44). “Social media services include social networking, content producing, the distribution of services and websites that are collectively constructed by users (“wikis” such as Wikipedia), video and photo sharing services (such as YouTube and Flickr), virtual worlds (Second Life), and diary-type websites (“blogs”)” (Aula, 2010). However, the most interesting and popular social media services among corporates are: Facebook- “world's biggest social networking service”; MySpace- focused on entertainment and music; LinkedIn- career oriented; and Twitter- network service that allows users to send out messages either via computer either via mobile devices (Aula, 2010). If the network of a stakeholder is rather large and the information shared reaches other networks then organization’s reputation can be easily affected (Portmann, 2013). This emphasizes that “social networks increasingly are becoming central points of organizations” (Portmann, 2013, p. 78).

Based on the information just mentioned we can conclude that Social Media has become a phenomenon which can considerably impact the company’s sales, reputation and in the end even survival. Still, a lot of organizations decide to avoid or ignore these type of media because in most cases they do not understand what it represents, what forms it has, or how to absorb and learn from it (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011).

1.4.1. Why Social Media?

McKinsey&Company- consulting firm- identified by interviewing 4,261 executives through an online survey, the following Social Media opportunities: “exceptional advantages in terms of cutting communication costs, fast and effective access to internal and external experts and increased marketing effectiveness” (Oehri & Teufel, 2012, p. 1). Having all these advantages presented, the importance of Social Media management becomes noticeable. Companies need to take the initiative and allocate resources and support towards the adoption, implementation, use and evaluation of the Social Media tools for their businesses (Ford & Mason, 2013). To emphasize the importance of Social Media usage even further, if an organization is dependent only on traditional media elements then its communication will be asymmetric, while if both are included, traditional and social media asymmetries can be reduced to a minimum (Portmann, 2013).

To emphasizing even more the Social Media importance we will present some “interesting statistics”-from a practical article- showing why companies should take into account the social media medium (Fisher, 2009):

- “70 per cent of consumers have visited social media sites to get information;
- 49 per cent of these consumers made a purchase decision based on the information they found through social media sites;
- 60 per cent of people in the study said they are likely to use social media sites to pass along information to other online;
- 45 per cent of people who searched for information via social media sites engaged in word of mouth compared to 36 per cent who found information on a company or news site” (Fisher, 2009, p. 190).

To conclude the current subchapter, the rise of Social Media offered peoples the opportunity to access and share information and above all “to freely express their sentiment and opinions about anything more frequently than ever before” (Xianghua, Guo, Yanyan, & Zhiqiang, 2013, p. 186). Therefore, considering the dramatic increase in the usage of Social Media and as a result of online reviews, it became very difficult if not impossible for organizations to keep monitoring and analysing online sentiments manually and react in real time. Hence, the need for natural language processing and data mining techniques has increased. A tool that can address these issues and we propose for the current research is Sentiment Analysis.

1.5. Sentiment Analysis (SA)

By using Social Media, both organizations and consumers generate a huge amount of data. Users (stakeholders) interact with each other, debate over their experiences with various companies and/or their products, and more importantly, they influence each other’s opinions (Kaiser et al., 2011). Assessing all these manually is impossible considering the tremendous amount of data. Moreover, this will take long and by the time a conclusion can be drawn the discussions within the online medium might have reached a point where measures no longer can be taken to prevent a disaster. Therefore automatic tools are needed to overcome these challenges.

1.5.1. Definition and Terminology of Sentiment Analysis

“Sentiment analysis is a systematic analysis of online expressions” (Rambocas & Gama, 2013). To be more specific, SA is focusing on evaluating opinions and attitudes on a specific topic using machine learning techniques. In data mining SA can be defined from two perspectives: operational and

functional. The first centres on the operations of the techniques in the computational linguistics sub-field. The latter focuses on the practical use of the method. While the first perspective is focused on extracting and classifying text with computer programming and machine learning (Kumar & Sebastian, 2012), the second is centred on working and describing the polar classification outcome (Remondino & Boella, 2010). In spite of the differences the general description is the same: “sentiment analysis is a data mining technique that uses natural language processing, computational linguistic and text analytics to identify and extract content of interest from a body of textual data” (Rambocas & Gama, 2013, p. 4).

In short, Sentiment Analysis- also known as opinion mining and/or subjectivity analysis- is used to extract opinions, sentiments and subjectivity in unstructured text in order to identify whether the expressions are indicating positive or negative – favourable or unfavourable – opinions towards the subject in discussion (Bae & Lee, 2012). Its focus is more on detecting polarity (positive/negative), “and estimate the strength of the sentiment polarity” rather than discrete emotions (Bae & Lee, 2012; Xu, Peng, & Cheng, 2012, p.279).

Throughout the paper we will bring into the discussion quite often the concept of online sentiments that are systematically collected and analysed from a large sample in real time by Sentiment Analysis, a definition will be provided: online sentiments can be conceptualized as “human convictions or emotions expressed on the internet” (Rambocas & Gama, 2013, p. 4).

1.5.2. Sentiment Analysis approach

Sentiment Analysis can be done at different levels of granularity, namely, phrase or sentence level, document level, word level, and feature level. For example: “Document-level sentiment analysis considers the whole document as the basic unit whose sentiment orientation is to be determined.” (Kumar & Sebastian, 2012, p. 5). In the current research, SA will be done at the Sentence level. Furthermore, it will be performed in a three-step approach: language identification, part-of-speech tagging and polarity detection.

Language Identification is the first step of the process. Knowing the language gives the opportunity for more specific models to be applied in later steps. Additionally, languages that are not of interest can be excluded. Part-of-Speech Tagging- second step- is the process in which a grammatical group is being assigned to a word. Different models of tagging are used for each language; therefore it is required to know the language in advance. And the last step of the process is polarity detection. Polarity detection determines whether the message contains positive, negative or neutral statements. (Tromp, 2011)

In short, the information is being retrieved from Social Media in order to be processed. An abstraction layer is then used in order to have all the messages look the same, as the information retrieved differs in format. “This sentiment analysis process in turn takes as input an unstructured, short text of which no prior knowledge is known, not even the social medium from which it originates.” (Tromp, 2011, p. 5). With each step new information is added and a sub-problem is tackled. Finally, the outcome will tell us if the message has a positive/negative/neutral polarity.

1.5.3. The Applications of Sentiment Analysis

“Sentiment analysis has turned out as an exciting new trend in social media with a gamut of practical applications that range from applications in business(marketing intelligence; product and service bench marking and improvement), applications as sub component technology(recommender

systems; summarization; question answering) to applications in politics” (Kumar & Sebastian, 2012, p. 2).

In their study, Kumar and Sebastian (2012) categorize and briefly discuss the potential applications of Sentiment Analysis. One of them is for Business: “Potential applications would be extracting product review, brand tracking, modifying marketing strategies and mining financial news.” (Kumar & Sebastian, 2012, p. 9). They state that SA has a big potential to be used for business strategies. The reason for this, is the help it gives organizations in obtaining a real-time feedback loop about their advertisement or market strategy from the reactions of the public through blogs, posts and tweets. For example, when launching a product, through SA, companies can receive instant feedback about how the product was received.

Another application for SA is in the area of Politics. Many studies have focused on this subject (Bae & Lee, 2012; Choy, Cheong, Laik, & Shung, 2011), being one of the most common applications for Sentiment Analysis in studies. With the help of the Twitter platform Bae and Lee (2012) followed the politician Barack Obama while measuring the positive and negative influence of popular twitters. In parallel they also followed the singers Lady Gaga and Britney Spears. From both studies they found that there is a correlation between the sentiment changes of popular users and their audiences (Bae & Lee, 2012). This finding can be of help for organizations as well. A new useful finding was that in the case of Barack Obama, the negative sentiment changes influenced the changes of the real world significantly than did the positive sentiment changes. Thus, political organizations are helped to understand the voters’ opinions. In the singers’ case, the sentiment changes of the audience were the other way around. They concluded that the type of sentiment change (either positive or negative) that is associated with the real-world landscape in the end depends on the user’s (e.g. Obama, Lady Gaga) domain-societal areas, entertainment, politics etc. (Bae & Lee, 2012). Besides context, language is considered to play an important role for the SA application as well. Hogenboom, Bal, Frasinca & Bal (2013) have shown that the way natural language reveals people’s intended sentiment will differ accordantly to language. However, there are other factors as well, these are just the most studied ones and the ones which we are going to take into account in this research.

To further extend the applicability of the SA applications we need to mention the vital importance, this analysis can have for social psychologists. It allows them to take a look into the responses and psychological thinking of online communities.

1.5.4. Why Sentiment Analysis?

Sentiment Analysis is seen as a computing method for emotions and expression recognition. The affective computing technology gives measurability and objectivity to the analysis. Moreover, what increases the attention of researchers and practitioners when it comes to SA is its speed and efficiency in processing large volumes of data. “Through automatic processing, unlimited volume of opinions can be extracted in real time providing timely information to decision makers.” (Rambocas & Gama, 2013, p. 5).

Users’ discussion over public forums, discussion boards, product review boards and social network sites (e.g. Facebook) represent data source points to quires. However the data is not organized as opinions and feelings are expressed in many different ways (e.g. amount of given details, type of vocabulary used, language, context, etc.). Moreover, data from social media is dynamic and although there are not updates and frequent changes, this dimension needs to be taken into account when

dealing with data mining techniques (Barbier & Liu, 2011). If all these were to be done manually it would represent a tedious if not impossible work. (Rambocas & Gama, 2013)

One of the principal advantages of SA is that it represents a better alternative to traditional qualitative market research techniques that would be used to otherwise obtain the online sentiments of different stakeholders. In other words, SA represents a simpler, faster and less expensive alternative. Furthermore, data is collected in an entirely unobtrusive manner, assuring high objectivity (Rambocas & Gama, 2013). Though it is a relatively new subject in the research context, its advantages are sufficient to support both academic and practical attention.

1.6. Sentiment Analysis and Online Reputation Management

Sentiment Analysis is rooted in the disciplines of sociology, anthropology and psychology, based on the theory of affective stance and appraisal theory which focus on emotions in shaping cognitions (Rambocas & Gama, 2013). “Emotions are feelings generated from both conscious and unconscious processing. An emotional assessment of a situation is a general evaluation of that situation (whether positive or negative) that manifest in mental and bodily responses.” (Rambocas & Gama, 2013, p. 3). The attention towards emotions is relevant due to its influence on purchase behaviour. As some of the studies showed, there is a link between emotions and consumption, emotion and product evaluations (Mano & Oliver, 1993), and emotions and strong brands. In other words, emotions influence attitudes, beliefs, sentiment, opinions, views and perceptions, and shape brand saliency. (Rambocas & Gama, 2013).

Continuing with this line of thought, Hung et al. (2012) state: “Good corporate reputations establish customer cross-buying intentions by enhancing expected service quality of customers, reducing information costs, and increasing trust and affective commitment. In modern times, companies have to comprehend the actual standing of their products on the Web in that more and more consumers depend on online opinions when making purchasing decisions.” (Hung et al., 2012, p. 87). Anyone can post a positive or a negative comment and whether it is true or not it will still affect people’s perception regarding the entities’ reputation (Hung et al., 2012, p. 87). Therefore, organizations need to take actions to assess and monitor the online communication. As Perez-Tellez et al. (2011) state, both companies and researchers started to pay attention to analysing the content generated over the most popular online platforms, “to harvest information critical for their online reputation management (ORM)” (Perez-Tellez et al., 2011, p. 146).

However, Kietzmann et al. (2011) consider reputation as having more than one meaning when it comes to Social Media platforms. Nevertheless, reputation as a matter of trust is considered to be most common. Though the technology cannot yet determine such criteria, Social Media sites depend on tools that automatically determine trustworthiness by aggregating user-generated information. For example, trustworthiness can be determined by the number of followers on Twitter, or number of likes on Facebook, or number of endorsements on LinkedIn, etc. Nevertheless, having this information is not sufficient for indicating how popular a person is for example; or what the general opinion of that person is; or any other information that would be of help for companies. In other words organizations need to find the correct metrics (e.g. “strength (the number of times you are mentioned); sentiment (the ratio of mentions that are positive to those that are negative); passion (how often certain users talk about you); and reach (the number of different users talking about you divided by the total number of times you are mentioned)” (Kietzmann et al., 2011, p. 247)) and evaluation tools for them. To do so, we suggest in the current paper the use of SA.

Amigo et al. (2012) advocate that in the online media context, the use of Natural Language Processing plays an enabling role for the content analysis. Moreover, they state that the demand for text mining software for ORM has increased a lot. Therefore, they suggest Monitoring as an important practical scenario for ORM. They define Monitoring as the surveillance of online media, searching and analysing mentions related to the company in question. In order to determine the polarity for reputation Amigo et al. (2012) recommend the use of Sentiment Analysis. On the same perspective, Portmann (2013) puts forward the idea that automatic text content analysis may include Sentiment Analysis as “The intention is to determine someone’s attitude or the overall tonality with respect to some topic and depends often on Natural Language Processing (NLP).” (Portmann, 2013, p. 82).

To conclude, the objective of ORM is “to have stakeholders see positive mentions of an organization’s brand and speak about it in a positive sense by achieving and maintaining a positive online sentiment” (Portmann, 2013, p. 74). To this, Sentiment Analysis tools can be used in order to collect data, analyse it and determine the organizations’ overall polarity; and further, based on the outcomes of the analysis, take the necessary steps for a better Online Reputation Management.

To summarize this chapter, we first discussed corporate reputation presenting its different definitions. Following, the Online Reputation Management concept was tackled including its definition and we answered why ORM is worth implementing within companies considering the evolution of society using the online medium. Then the reputation dimensions for its measurement were presented. Social Media is the next notion addressed followed by the Sentiment Analysis chapter including its definition, approach and applications. This chapter ends by addressing the relationship between Sentiment Analysis and Online Reputation Management. Further we will address the relevance, research gaps and contributions for this research.

2. Relevance, Research Gaps and Contributions

In order to address the relevance of the research we will follow the Shrivastava’s criteria for practical usefulness of research in strategic management (Shrivastava, 1987). As specified above, companies and implicitly decision makers, are faced with the challenges given by Social Media: huge amount of data, not easy to control, the possibility of anyone sharing anything online- including negative opinions about companies that can easily be disseminated. This paper proposes the use of Sentiment Analysis tools that offer organizations the possibility of monitoring online sentiments in real time and assessing huge amounts of data fast, in order to determine the polarity of Online Reputation.

The relationship between Sentiment Analysis and Online Reputation Management has been proposed before (Amigo et al., 2012; Portmann, 2013) but has not been studied. We believe that through the current paper we can get more insights for both academia and practitioners, about this relationship and offer suggestions for practice that could be of help for decision makers. Moreover, Rambocas and Gama (2013) suggest Sentiment Analysis as a better alternative to traditional market research techniques. They “argue that through sentiment analysis market research cost and sampling error are reduced and validity and reliability of research findings are enhanced” (Rambocas & Gama, 2013, p. 2).

Moving forward we will present the research gaps the current paper will address and its contributions in the table below:

Table 2.1. Research Gaps and Contributions

Research Gaps
<ul style="list-style-type: none"> ➔ The present research sets out to identify and give suggestions for decision makers on how to integrate Sentiment Analysis in the Online Reputation Management process. No research has approached this topic before. Considering the fact that these tools have quite a few advantages (assessment of online sentiments, easy to use, real time results, etc.) they could be a good solution for managers to assess the company’s reputation. Moreover, Sentiment Analysis can be used with other purposes as well, e.g. Marketing research Benchmarking, Public Pooling, Sentiment Forecasting, etc. ➔ Another gap to be addressed is to identify what actions would employees take based on the data obtained from the Sentiment Analysis related to the Online Reputation. Many companies have become aware of the need of monitoring online conversations, opinions. As a result, they want to or they already implemented Sentiment Analysis tools. However, not all organizations know what to do with the outcomes of Sentiment Analysis or fully understand them, or have Sentiment Analysis included in the ORM process. Identifying how employees interpret and see Sentiment Analysis tools could lead to a better understanding of how Sentiment Analysis is related to Online Reputation Management in practice. ➔ In the current study we propose measuring OR with the help of SA based on the combined proposed dimensions by Fombrun et al. (2000) - more in the Methodology chapter. These dimensions were proposed and studied through surveys in which people are responding questions that include suggestions for answering. In this study we want to identify if these dimensions are existent in the communication that takes place in Social Media medium freely. Just having general results, i.e. positive/negative, might not be sufficient for assessing the company reputation. ➔ The relationship between Sentiment Analysis and Online Reputation Management has not been addressed by other researches before. Although a connection between online chatter and firm performance has been established (McAlister, Sonnier, & Shively, 2011) and Sentiment Analysis has been found to be important for analysing the online communication sentiment (Bae & Lee, 2012; Flory, 2011), no direct link has been made between the two. ➔ The literature on Sentiment Analysis related to business approach, or even to Reputation, is scarce to non-existent. Sentiment Analysis is a topic mostly addressed in the computer science field. Moreover, there is a lot of research on automatic text analysis for sentiment, however it is more focused on review articles and more general documents that include Web pages and Web articles (Yi & Niblack, 2005). ➔ Also important to mention is that reputation and reputation management in the context of online communications are concepts that are just “establishing themselves” and more research for the connection between online communication and reputation management is still needed (Aula, 2010, p. 29)- a gap that we will try to address.
Contributions
<ul style="list-style-type: none"> ➔ The current research aims at identifying and giving suggestions for decision makers on how to integrate Sentiment Analysis in the Online Reputation Management process ➔ Proving that the proposed Reputation dimensions can be assessed with Sentiment Analysis will lead to reduced time and costs for companies. The outcomes/ information retrieved could be used in order to improve the search process with the help of Sentiment Analysis. Moreover it will contribute with new insights for literature. ➔ If the interviewed companies have Sentiment Analysis tool implemented we will be able to give new understandings on how and for what purposes they use it ➔ Having confirmed the importance of Sentiment Analysis, practitioners will have found a less expensive and time consuming method of identifying online opinions. ➔ Companies/Experts in Social Media Analytics area will be able to identify the pluses and minuses for their product, if customers are interested in using it, etc. In addition the results of the

research could help them improve their Online Reputation Management Process and increase sales of their product/services.

→ Last but not least, the present paper will contribute to the Online Reputation, Online Reputation Management and Sentiment Analysis literature with new insights about the connections between these concepts.

3. Problem Setting and Research Questions

The case study part of the research was done at Adversitement, located in Uden. The company was founded in 2001. Its first focus was to provide effective analysis solutions for optimizing websites. Afterwards they extended their work area to web and mobile analytics.¹ Among the services that Adversitement provides are Social Media Analysis, Generic Tag, Search Optimization, Usability expert reviews etc.² However, their primary goal is to collect the data that helps drive strategic management information required by their clients. Innovation is a key word used within the organization, but above all, Adversitement operates by finding solutions for their customer instead of finding customers for their solutions.³

By doing so, they have identified the importance of the online communication in the Social Media medium: users (stakeholders) interact with each other, debate over their experiences with various companies and/or their products, and more importantly, they influence each other's opinions (Kaiser et al., 2011). Moreover Social Media offers unprecedented opportunities by its intrinsic capacity to spread news "virally" and globally. However, assessing online sentiments manually is impossible considering the tremendous amount of data both organizations and consumers generate. On top of that it would take a long period and by the time a conclusion can be drawn the discussions within the online medium might have gotten to a point that no measure can be taken to prevent a possible disaster. Therefore, Adversitement has developed a Sentiment Analysis tool that extracts and analyses opinions from the relatively short messages in multiple languages that are available in the online medium- see the figure below. Being able to suggest the Sentiment Analysis tool as a solution for their clients, Adversitement will have competitive advantage over their competition.



Figure 3.1. Sentiment Analysis- Conceptual idea (Tromp, 2011)

Furthermore, as specified in the previous chapter, Online Reputation, Online Reputation Management and Sentiment Analysis are topics that just emerged both in academia and practice. Companies are becoming aware of the importance of Online Reputation but do not know how to tackle the subject and in addition they are "attacked" from all directions by all sorts of "best tools"

¹ <http://www.adversitement.co.uk/en/about-us/who-we-are/>

² <http://www.adversitement.co.uk/en/services/>

³ <http://www.adversitement.co.uk/en/about-us/who-we-are/>

to analyse their Reputation with “best” and “most “reliable results”. If you Google for this you will find a lot of advice given by different “gurus”. But is this the case? More research on this is needed that could be of help for practitioners as reputation has proven to be a valuable asset that can threaten the existence of organizations (Ford & Mason, 2013; Oehri & Teufel, 2012; Portmann, 2013).

Therefore we formulate the **problem statement** as follows:

The importance of Online Reputation and Sentiment Analysis concepts has increased over the last years; however domain experts do not have sufficient guidelines on how to use Sentiment Analysis in the context of Online Reputation Management.

3.1. Research Questions

Based on the current problem setting we derive the following **main research question**:

➔ *How can Sentiment Analysis be used as a tool in the process of Online Reputation Management for a higher integration of both concepts?*

By answering the main research question we want to determine how Sentiment Analysis could be embedded in the Online Reputation Management Process. We achieve this by:

- (1) Interviewing the Adversitement’s employees and its client’s employees. Identifying their perspective will give new insights into their awareness of the relationship between Online Reputation Management and Sentiment Analysis tools, starting from the knowledge of the concepts to the usefulness of the tool for Online Reputation, do they use the Sentiment Analysis tools for Online Reputation, if they consider it useful, etc. Finally, we want to determine what actions they take in order to assess and monitor Online Reputation, is Sentiment Analysis used for this purpose, etc.
- (2) Assessing the Online Reputation of the companies included in the research (Adversitement’s clients), based in the six reputation dimensions suggested by Fombrun et al. (2000). First the data from Social Media- more specific from Twitter- will be collected with the help of the Sentiment Analysis tool and second the key words determined based on the reputation dimensions will be searched through the comments to see if they are mentioned. Also, the overall polarity for each company will be determined. All these results will be compared with the employees’ perspective on the key words and polarity of reputation based on a survey they completed.

In order to identify all the related concepts, secondary questions are formulated:

- Do employees know the concepts?
- Do they find the Sentiment Analysis tool useful for Online Reputation Management Process?
- What actions do employees take in order to assess and monitor Online Reputation? Do they use the Sentiment Analysis tools?
- What are the steps the employees take after having the result of Sentiment Analysis?
- Are the suggested reputation dimensions found in users’ opinions? Which key words/dimension(s) are most evaluated, used in discussions by users in the social media medium?
- What dimensions do the interviewed employees have in mind when assessing Online Reputation? What query do employees use for Sentiment Analysis?

4. Methodology

In order to be able to answer the above main and secondary question, the methodology contains two approaches: Key Words Frequency & Polarity of Online Reputation on Twitter and Interviewing employees from different companies-see Figure 4.1.

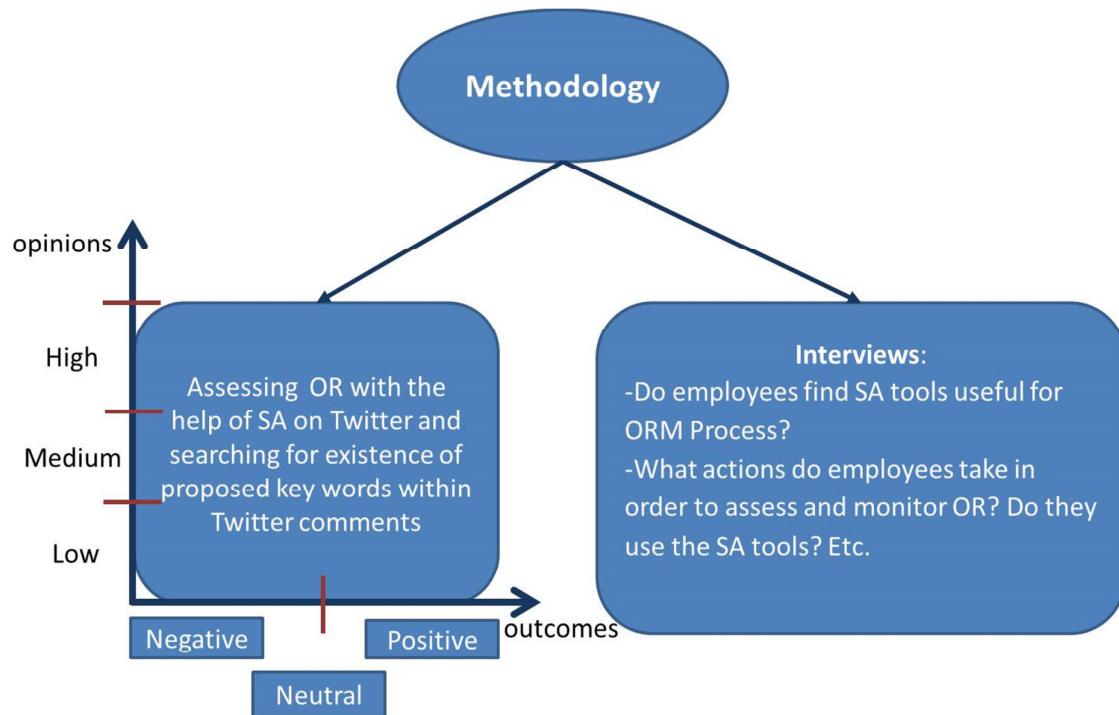


Figure 4.1 Methodology

4.1. Case selection

The companies included in the study were Adversitement's clients and Adversitement. They interviewees were chosen based on their experience with Sentiment Analysis or Online Reputation, position within company and interest on the subject. Also, the variety of industries and type of businesses was taken into account: B2B or B2C. Considering that the approach of business is different, we included in the study both perspectives in order to identify how SA and ORM are approached from both perspectives. Furthermore, the public relations and communications company included was considered to have a broader perspective on the subject and more experience in the domain considering that the concepts tackled in this research are just emerging. Also, it was taken into account the brand's strength in the sense of its establishment in the market the company operates. One company is known internationally, two of them are known at the national level while 2 of them are just establishing themselves in their operating domains.

Out of the people contacted, all of them agreed to participate in the study. Adversitement's employees were included as we wanted to analyse their perception on the relationship between the two concepts as well.

4.2. Key Words Frequency & Polarity of Online Reputation on Twitter

In the Literature Review chapter we identified different dimensions that could be used as measurement for reputation. As specified before, not only the overall opinion about the company is important, but also the sentiments of individual aspects that may help organizations to identify what areas of the business or reputation of the company need to be improved. There were many approaches in defining the reputation dimensions but we will use the ones suggested by Fombrun et al. (2000). The reason behind this is that the dimensions suggested by Fombrun et al. (2000) were also studied by Groenland (2002) on the Dutch population. Groenland (2002) considered Fombrun's and his associates (Fombrun et al., 2000) approach to come closer to a universal applicability. However, these studies did not take into account the online medium. Users might not have in mind these dimensions when stating their opinions about different companies, as in the case of surveys - having guideline based on which to rate the company. Moreover, the Sentiment Analysis offers the possibility of collecting data that contains the users' opinions, sentiments, comments that are done in an uncontrolled environment. Being able to determine which dimensions/attributes stakeholders mention when talking about companies in the online medium freely can provide organizations with new insights.

In order to check if users have these dimensions in mind when communicating in the Social Media medium, key words are needed for each dimension for the Sentiment Analysis. The key words for each category were determined based on the description given for each dimension and based on the studies identified in the Literature Review chapter (see Table 1.1. Reputation Dimensions), as can be seen in the following table.

Table 4.1 Reputation Quotient (RQ) and Key words (Schwaiger, 2004)

Reputation Dimension	Key words
Emotional Appeal (Have a good feeling about the company. Admire and respect the company. Trust the company a great deal.)	Key words-English: Feeling, Admiration, Respect, Trust, Credibility, Communicative, Loyalty, Satisfaction, Transparency, Openness, Attractiveness; Key words-Dutch: Emotional Appeal- Gevoel, Bewondering, Respect, vertrouwen, Geloofwaardigheid, Communicatief, Loyaliteit, Tevredenheid, Transparantie, Openheid, Aantrekkelijkheid;
Products & Services (Stands behind its products and services. Develops innovative products and services. Offers high quality products and services. Offers products and services that are a good value for the money.)	Key words-English: Standards, Price, Reliability, Quality ratio, Savings, Innovative, Quality, Offer, Value, Value for money, Upgrades, Supporting services, Technical support, Usefulness, Customer orientation; Key words-Dutch: Producten & Diensten- Standaarden, Prijs, Betrouwbaarheid, Kwaliteitsverhouding (prijs kwaliteit), Besparingen, Innovatief, Kwaliteit, Aanbod, Waarde, Waar voor je geld, Upgrades, Ondersteunende diensten, Technische ondersteuning (Technische hulp), Nut (Bruikbaarheid), Klantgerichtheid;
Financial Performance (Has a strong record of profitability. Looks like a low risk investment. Looks like a company with strong prospects for future growth. Tends to out-	Key words-English: Profit, Profitability, Risk, Future growth, Competitiveness, Market leader, Earnings, Indebtedness, Liquidity; Key words-Dutch: Financial Performance- Winst, Winstgevendheid, Risico, De toekomstige groei (Toekomstige groei), Concurrentievermogen, Marktleider, Winst, Schuldenlast, Liquiditeit;

perform its competitors.)	
Vision & Leadership (Has excellent leadership. Has a clear vision for its future. Recognizes and takes advantage of market opportunities.)	Key words-English: Leadership, Planning, Alliances, Vision, Market opportunity, Future, Development, Courage, Internationalization, Future prospects, Innovative; Key words-Dutch: Visie & Leiderschap- Leiderschap, Planning, Allianties (Samenwerkingen), Visie, Markt gelegenheid, Toekomst, Ontwikkeling, Moed, Internationalisering, Toekomstperspectief, Innovatieve (Innovatief)
Workplace Environment (Is well-managed. Looks like a good company to work for. Looks like a company that would have good employees.)	Key words-English: Management, Job security/security, Employees, Career opportunities, Opportunities, Motivation, Reward, Respect, Trust, Compensation, Communication, Transparency, Openness, Employee orientation, Salary, Work challenges, Job title, Job; Key words-Dutch: Werkomgeving- Management, Werkzekerheid, Veiligheid, Medewerkers, Carrière mogelijkheden (Carrière kansen), Kansen, Motivatie, Beloning, Respect, Vertrouwen, Compensatie, Communicatie, Transparantie, Openheid, Oriëntatie Medewerker (medewerkersoriëntatie, medewerker gericht), Salaris, Werk uitdagingen, Functie (functietitel, functierol, functie), Job (baan, functie)
Social Responsibility (Supports good causes. Is an environmentally responsible company. Maintains high standards in the way it treats people.)	Key words-English: Involvement, People/society treatment, Environment, Ethical principles, Ethics, Principals, Participation, Environmental support/impact, Social impact; Key words-Dutch: Social Responsibility- Betrokkenheid, Samenleving behandeling (maatschappij, normen en waarden, omgaan met de samenleving), Mensen behandeling (omgaan met mensen), Milieu, Ethische principes, Ethiek, Principes, Participatie (Deelname), Milieukundige begeleiding (Milieu ondersteuning), Milieubelasting (milieu impact, omgevingsimpact, belasting op het milieu), Sociale gevolgen;

The **procedure** for this approach was as follows: The data was collected for a period of time, depending on the company's type of business, ranging from 2 weeks to 1 month- B2B companies had fewer addressed comments than B2C. Then, the data was analysed in order to see if the key words presented above were mentioned on Twitter by users. Afterwards the overall OR was calculated for each organization based on the comments' polarity. Finally, these findings were compared with the key words companies use and intend to use and with their own information/perception about the polarity of Online Reputation. In order to obtain the information from the employees a separate online short questionnaire (See Annex III) was sent to all the interviewees- 5 out of 8 completed the questionnaire.

4.3. Employee Interviews

4.3.1. Data Collection

4.3.1.1. Quantitative vs Qualitative Approach

Employees can be approached through two distinct methods: qualitative research or quantitative research. While the first is intended to gather the subjective arguments in a less restrictive questioning manner, the second one aims to capture a more objective perspective by predetermined questioning (Jackson II, Drummond, & Camara, 2007). As we want grasp the employees' perspective regarding the relationship between the two constructs, Sentiment Analysis

and Online Reputation Management, and gather as much details about their experiences, understandings, reasoning and decisions about the constructs, we decided that qualitative research is the correct choice in the present case. The qualitative research leaves room for respondents to provoke new ideas, draw attention to matters that weren't thought before, leading to new insights (Baarda, 2010). Moreover, in order to generate data from the employees, out of the questioning formats (structured, semi-structured, unstructured) we decided on the semi-structured (in-depth) interviews- being considered a great way of collecting high quality data (Fox, 2006). The reasons are: more flexibility than other methods, possibility to elaborate the topics of interest deeper by asking how and why questions, interaction between researcher and interviewee. In other words, the less restrictive, less structured interviews the more room for natural interaction between the researcher and interviewee to cover the set of question developed about the topic of interest; the depth of the questions depending on the interaction of the two. (Baarda, 2010)

Having direct contacts with the employees of the Adversitement's clients and Adversitement employees, will give us the opportunity to get insight into how they approach ORM and SA- if they have the tool installed. In the case where the clients do not have installed the tool we intend to find out their perspective on having this tool and what are the characteristics they are looking for in a Sentiment Analysis tool. Furthermore, we want to approach employees, to get their side of the story as well and identify how they perceive the relationship between SA and ORM, the usefulness of SA; what steps do they take for assessing and/or monitoring OR etc. For further details related to the developed interview please check Annex II.

4.3.1.2. Research Validity and Reliability

As every research has its assumptions so does the present one. Assumptions leave room for the debate about the generalization and quality of the data and therefore an assessment needs to be done. There are four types of criteria that can be used for this: three types of validity: internal, external and construct; and reliability (Yin, 2003).

Validity can be defined as the degree with which the research in question measures what was supposed to measure. Construct validity refers to the extent to which the operational instrument describe what they were meant to describe. Internal validity is dependent on the quality of the quality of the conclusions on the relationships of phenomena incorporated in the reports. The external validity on the other hand will be reached if the conclusions of the study can be generalized outside the context it has been researched. Reliability is achieved when the study is being replicated by others and still leads to the same or similar results. In other words the results should be independent of the characteristics of the research in question. (Baarda, 2010; Miller, Cardinal, & Glick, 1997; Rooks, 2010)

As the quality of the research depends to a large extend to how we measure what we are set to measure: data collection (Baarda, 2010), therefore, the following steps have been taken in order to minimize biases and improve the reliability and validity of this study:

- ➔ In order to reduce the tendencies of the respondents to withhold information confidentiality was agreed upon the beginning of the study.
- ➔ Questions were developed based on the existent theory
- ➔ By including multiple respondents the biases that take place due to emotional involvements of some informants are reduced: respondents might have the tendency to give desirable answers, avoiding the negative ones (Miller et al., 1997).

- ➔ The interviews were recorded and then based on the audio recording they were transcribed into text. After having the interviews transcribed then the coding phase followed.
- ➔ The coding of the interviews was done based on a framework- see Figure 4.2 Interview Framework
- ➔ NVivo, qualitative data analysis software, was used to code the interviews. Through its facilities (gathering all materials in the same place, creating nodes, models, etc.) data was easier to analyse and look for patterns and ideas, as it was structured based on nodes. Working in a structured and step by step approach insured that interviews were analysed rigorously and that pieces of information were not left aside.
- ➔ Triangulation was used for increasing validity and reliability: being a procedure where researchers converge different sources of information to form categories or themes in a study (Creswell & Miller, 2000). As a result, the interviews were conducted with employees holding different positions within different companies from different industries. This offered us the possibility to include in the research different perspectives. Moreover, using multiple sources- informants- leads to a higher degree of generalization considering that the study research is based on qualitative research.

Validity and reliability can be improved with the help of: triangulation; explicit procedures for data collection- to increase transparency and construability-, analysis with the help of NVivo tool; and by including the use of theory for the research.

4.4. Data description

Table 4.2. Data Description- Interviews

Data description- Interviews	
No. Interviewees	8
Companies included	<ul style="list-style-type: none"> ➤ News ➤ Public Relations and Communications ➤ Electronics ➤ Budget Stores ➤ Business Analytics, Privacy and data analysis, Web analytics and mobile analytics
Type of business	<ul style="list-style-type: none"> ➤ B2B ➤ B2C ➤ Retail Sales
Length of interviews	30-70 minutes
Job Position of Interviewees	<ul style="list-style-type: none"> ➤ Junior Researcher ➤ Digital Insights & Analytics Manager ➤ Online Analyst ➤ Marketing Manager ➤ Concept Manager ➤ Data Scientist ➤ PR Consultant ➤ PR Consultant- Senior Partner
Place of interview	Interviewee's work place
Versions of interview	<ul style="list-style-type: none"> ➤ Manager- including 2 parts: I- Online Reputation; II- Sentiment Analysis- including 3 versions (knowing the SA concept and having the tool/knowing the concept of SA and not having the tool/not knowing the SA concept)

	<ul style="list-style-type: none"> ➤ Analyst- only one part: Sentiment Analysis- including 3 versions (knowing the SA concept and having the tool/knowing the concept of SA and not having the tool/not knowing the SA concept)
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Table 4.3. Data description- Twitter Collected Data

Data description- Twitter Collected Data	
No. of companies for which data was collected	5
Period of time for collecting data	2 weeks for 3 companies- B2C companies→more comments 6 weeks for 2 companies- B2B companies →Less comments, needed more time to collect data for assessing reputation
To be analysed	<ul style="list-style-type: none"> ➤ Brand Polarity ➤ Reputation Dimensions Key words- mentioned/not mentioned
Language of comments	<ul style="list-style-type: none"> ➤ English ➤ Dutch
Language of key words	<ul style="list-style-type: none"> ➤ English ➤ Dutch
No. of Twitter comments/company	<ul style="list-style-type: none"> ➤ Iota: 67008 ➤ Kappa: 17308 ➤ Adversitement: 46 ➤ Mu: 7141 ➤ Nu: 33

4.5. Data Analysis

In order to analyse the data as accurate as possible, different tools were used. For determining the key words frequency and overall polarity Microsoft Excel was used- needed only for basic statistics. Same as before, in order to analyse the data obtained from the additional questions, Microsoft Excel was used to identify the frequency of the key words which the companies use and want to use.

The interviews were transcribed based on the recording done during the interview with the agreement of the interviewees. The transcripts were sent to the employees to validate them. Out of 8, 7 replied back and confirmed. Having the validation, the coding phase followed, in order to sort and synthesize the information (Yin, 2003). This was done with the help of the qualitative tool NVivo. NVivo software supports qualitative research but also mixed method research. It facilitates its users to collect, organize and analyse content from audio, interviews, surveys, focus group discussions, Social Media data, YouTube videos and web pages. Furthermore, it offers the possibility to analyse the data using search, query and visualisation tools: “Uncover subtle connections, add your insights and ideas as you work, rigorously justify findings, and effortlessly share your work.”⁴ In short, through its facilities (gathering all materials in the same place, creating nodes, models, etc.) data was easier to analyse and look for patterns and ideas, as it was structured based on nodes. The framework used for coding and achieved after a number of iterations is the one below:

⁴ http://www.qsrinternational.com/products_nvivo.aspx

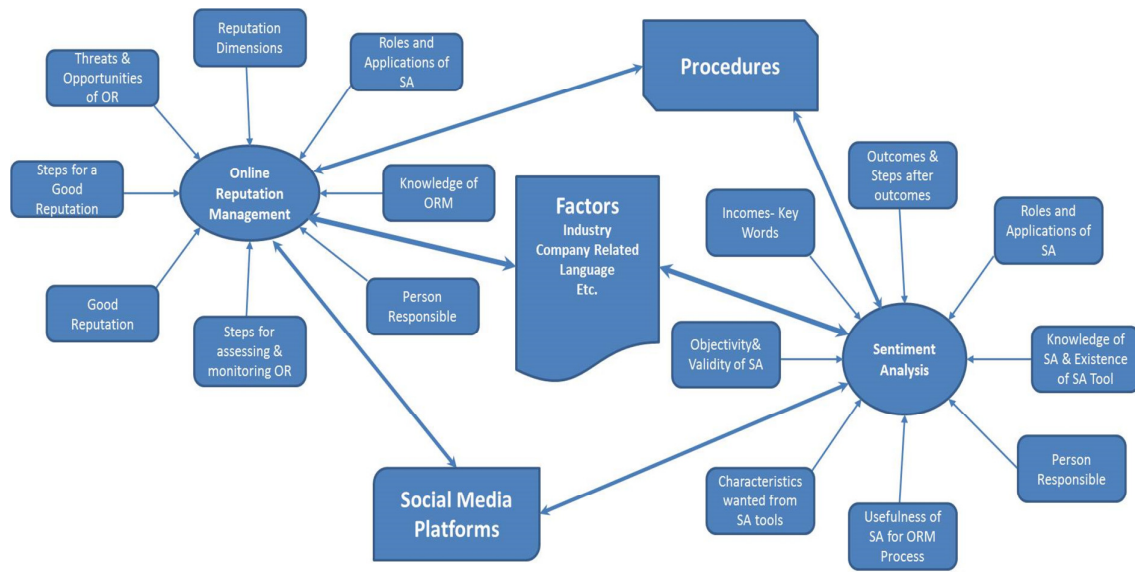


Figure 4.2 Interview Framework

5. Results

The current chapter will be structured as follows. First, the results of the interviews with Adversitement’s employees will be presented and then a cross-case analysis will be performed for Adversitement’s clients discussing general findings across 6 interviews. Then we will discuss the findings based on the Twitter comments analysis compared to the employees’ answers regarding the key words they use/intend to use.

In order to keep the confidentiality of the interviewees and the companies included in the study we are going to name them based on the Greek alphabet. For example Interview one will be called Alpha, second Beta and so on. Also, for an even higher degree of anonymity we will address all respondents with “he”. Moreover, each interviewee will receive a “Response Weight” ranging from 1-3, depending on their experience in the domain and working with the Sentiment Analysis tools. However, for Adversitement’s employees, in order to avoid biases, their weight will be decreased.

Table 5.1. Case Characteristics

Case	Interviewee	Interviewee Position	Company Industry	Years of experience in the current position	Interview version	Response Weight
Iota	Alpha	Junior Researcher	News	5 months	Analyst Version	2
Kappa	Beta	Digital Insights & Analytics Manager	Electronics: Products & Services, Health & Care	6 months	Manager Version	2
	Gamma	Online Analyst		3 years	Analyst Version	3
Adversitement	Delta	Marketing Manager	Business Analytics, Privacy and data analysis, Web analytics and mobile analytics	9 months	Manager Version	2
	Zeta	Data Scientist		7 months	Analyst Version	2

Mu	Epsilon	Concept Manager	Budget Stores	6 years	Manager Version	1
Nu Nu	Eta	PR Consultant	Public Relations and Communications	10 months	Manager Version	3
	Theta	PR Consultant-Senior Partner		2 years	Manager Version	3

The reason Alpha received a 2 on the Response Weight scale is that although the interviewee has only 5 months of experience on the current position one of his current tasks is testing different Sentiment Analysis tools existent on the market as company Iota wants to install one. Working with more than one tool gives the interviewee a broader perspective on the tool's functionality and applications.

Beta received 2 for "Response Weight" as he is new in his current position and does not work with SA. Gamma has been responsible for the SA for 3 years. Beta & Game are employees from different branches of the same company and as a result in many cases their responds will be treated separately.

The reasoning behind assigning 1 to Epsilon is that he is not directly involved either with Online Reputation or Sentiment Analysis.

5.1. Within Case Analysis: Adversitement

Table 5.2. Results Adversitement

	Online Reputation Management →Delta
Knowledge of ORM	Yes
Good Reputation	"you can judge it on your fan base[...]for a Business to Business point of view, I think you can measure it on the relationships that you have with your customers and with other stakeholders."
Steps for a Good Reputation	<ul style="list-style-type: none"> • "WHY should be well formulated" • "So I think that a good reputation means that your, why your drive is well accepted within your audience and beyond, and that's the first step. The second step is living up to that and don't do any concessions to your goal, it is kind of a massive cliché, but stay yourself" • "live up to your products and solutions" • "set yourself a reasonable goal" • Storytelling • Connect with stakeholders
Threats & Opportunities of OR:	<p>Threat: Misunderstanding- I think that from my point of view and the stories we tell, that mostly, quite specific and sometimes maybe a bit naive, and when you put those on the wrong blogs [...] that's the main threat with our stories and I think that when the damage is done on a WHY level, those are the biggest hits."</p> <p>Opportunity: Storytelling- "So if you tell a story which comes from the drives that you have in your company, it also can lead to the best and most connections."</p>
Reputation Dimensions	brand management, products & services
Steps for assessing & monitoring OR	<ul style="list-style-type: none"> • "make sure first of all that there is quite a constant stream of different content, different is an important word in that one, so that you make sure that you tell the story as a whole and don't focus on one specific part" • The "business development team that searches for a dialog" within the Social Media "and also pick up the phone and call new people just to talk, not to sell anything, but just to inquiring partners and try to find out what people are thinking"

	<ul style="list-style-type: none"> Track the sentiment on Twitter- “track what the event of our own tweets is” Check the comments on the blogs where Adversitement has posted They track LinkedIn as well Connect with stakeholders
Existence of Process	<p>Engage in conversation with different stakeholders- mainly done buy business developers</p> <p>Delta received input from management and business consultants</p> <p>Zeta: “Online Reputation Management as a whole in our company is a combination of brand monitoring, which is an automated process, and social media monitoring, which is in our case a manual process. Well it’s not just social media, we track more than that, we check blogs and forums as well.”</p>
	Sentiment Analysis → Delta&Zeta
Knowledge of SA	Delta: Yes; Zeta: Yes;
Existence of SA Tool	Delta: Yes; Zeta: Yes;
Possible Person Responsible with measuring OR	Delta: Delta Zeta: Zeta is also technically responsible
Analysing/Monitoring data/online medium-Frequency	<p>Delta: “Once a week, but mainly when we ourselves come forward with stuff like blogs or anything. We do monitor what’s happening around it.”</p> <p>Zeta: “Daily- well, daily is misleading; I do it a couple of times a day”</p>
Roles and Applications of SA	<p>Delta:</p> <ul style="list-style-type: none"> From the Marketing point of view for Adversitement a minor role Sentiment Monitoring Web Care Monitoring for actual sales opportunities Online Reputation <ul style="list-style-type: none"> Product/Brand monitoring Different topics related to the company Benchmark <p>Zeta:</p> <ul style="list-style-type: none"> Direct Business: “Because we sell it, we do it ourselves, we do it for our own company, but we also do it for others” Brand Monitoring Sentiment Event Tracking Event Improvement Direct Sales Measure anticipation Financial Markets For public safety reasons
Incomes- Key Words	Delta: Brand Name; Track own message; Zeta: Company and Brand Names (Products & Services), Events related words, key words of interest for the business (ex: “Big Data, Sentiment Analysis, Data Science, for example for our CVO, who’s really into privacy, we added privacy to the list of key words”)
Outcomes & Steps after outcomes	<p>Delta: Outcomes: a mark and plot it on time</p> <p>Zeta: Outcomes: decision-advice- “just walk up to them and give them the advice”</p> <p>Steps:</p> <ul style="list-style-type: none"> Interacting & responding

	<ul style="list-style-type: none"> ○ Create a lot of visibility ○ "...whenever you post on blogs and somebody responds: hey this is interesting! Then we forward it to our sales manager and he will contact them through LinkedIn and so."
Objectivity & Validity of SA	Delta: Yes; Zeta: "Valid yes, objective no. Is never objective, is a subjective process and this is due to lack of context. And even if it were context it would still be subjective but whenever people talk with each other, then 90% of the message comes across through intonation and through mimic, usually gestures. But you don't have that on Social Media. So you have 10% of the message, so it can never be an objective measurement. But do I consider it to be valid? Yes I do, because that 10% does give you a good hint on what is going on, especially when you can't target individuals as well, but especially if you look at the aggregated or the most prevailing sentiment, then it gives you a good indication of what is going on. "
Usefulness of SA for ORM Process	Delta: Yes; Zeta: Yes
Factors	
	Delta: <ul style="list-style-type: none"> • Language: Dutch and English. • Industry: <ul style="list-style-type: none"> ○ "Reputation Management is most important for business to consumer brands, because consumers don't have an organization they have to represent, they just shout out whatever they want to shout and when they shout hard enough other people will shout with them." ○ "But for a Business to Business point of view, I think you can measure it [reputation] on the relationships that you have with your customers and with other stakeholders" ○ "So I think that you can measure the reputation of business to consumer organization really to its fan base, how are products really expected or do they have to be pushed with a lot of marketing to get them sold; and from business to business point of view, I think you can measure it to the stakeholders"
Procedures	
	Delta: "There isn't really a procedure"; Zeta: "It's pretty adhoc. Well I do, it's not a formal – we pretty much don't have formal procedures; but we do have informal procedures with the marketing manager. So we communicate a lot on Social Media and we sit down once a week- Monday- the first thing we do, we have half an hour to discuss what happened. And that's everything we've got in place "
Social Media Platforms	
	Delta: Twitter, different Blogs; Zeta: Twitter, Facebook and LinkedIn.

Delta knows the concept of ORM, however they do not have a process in place and the management of OR is still tackled at its surface as Adversitement's brand is not yet established on the market. Even if Adversitement does not have procedures in place or a clear process for ORM they do take different steps in order to build their reputation.

Moreover, what needs to be emphasized here is the fact that the approach towards the ORM is influenced by the fact that Adversitement is a B2B type of business. This means that their focus is on sending out their stories through blogs. Moreover, their attention is focused on engaging in conversation with different stakeholders than on product reviews.

Both Delta and Zeta know the concept of SA. Furthermore, they both agree on it being a useful tool for assessing and monitoring Online Reputation. While Delta considers SA as being both objective and valid, Zeta considers the tool as being valid but not objective due to the subjective process SA has and the lack of context for the online opinions retrieved. What needs to be emphasized in this case is that they are not using the SA tool very often for assessing their OR due to the lack of comments surrounding their brand. Furthermore, the existence of the SA within their company has more the role of a product than of a tool to be used in their processes.

5.2. Cross-Case Analysis- excluding Adversitement

Table 5.3. Results Adversitement's Clients

Interviewee	Code/Key word
	Online Reputation Management
	Knowledge of ORM
Kappa	Beta: Yes
Mu	Yes
Nu	Eta: Yes ; Theta: Yes
	Good Reputation
Kappa	Beta: "It's a two way conversation. Don't just transmit what you want to say and turn around and walk away; you need to listen to the responses because those responses will ultimately define which way your company will go in term of products, in term of services."
Mu	Good Reputation: "A good reputation means that you are well valued by your customers [...] if it is based on the three peelers of Hema, which is: quality, design, for a good price; if these are somehow in the reputation then for me that's good."
Nu	Eta: Agrees with Theta; Theta: "it's a mixture [...] it's a balancing act in the companies. . It's about magnetizing the company. You should be attractive to all the stakeholders."
	Steps for a Good Reputation
Kappa	Beta: <ul style="list-style-type: none"> • Listening- put tools into place • Encourage people to share their opinions • Find out what people say about you on SM and join the conversation However, Beta considers that "when I think taking steps, the biggest hurdle is: Time and Resources"
Mu	Organization well organized- everything related to your online reputation is covered with focus on customer satisfaction
Nu	Eta: "Every piece of the company should contribute to your values, mission, and vision" Theta: <ul style="list-style-type: none"> ○ "You should be very clear who you want to be for who you want to be, what's your story?" ○ "You should have a vision" ○ "For me it's total branding, it should be harmonized, the sentiment, the feeling that you want to awake should be the same. [...]You build a brand like touch points."
	Threats & Opportunities of OR
Mu	Threat: <ul style="list-style-type: none"> ○ Not fast enough ○ Fan rolled- "you get these stakeholders which can get a lot of pressure, which I think is good in one sense but can also be a little bit like not well thought of; and just because it's a hype then everybody is going into the hype."

	Opportunities: You can manipulate and turn a negative aspect into a positive one
Nu	<p>Eta:</p> <p>Opportunity:</p> <ul style="list-style-type: none"> ○ Benchmark: “looking at other similar companies, so competitors most of the time.” ○ “being an authority on a certain subject” <p>Threat:</p> <ul style="list-style-type: none"> ○ “in the online world is really hard to measure a conversation [...]I think it’s a problem for most of the companies to keep that cantered and monitored” ○ do a rapid response or make a statement to online comments <p>Theta: “People are always scared about what other people will say about them and then, maybe they want to push it under the carpet, that’s a reaction, so that’s always fear. [...] if you don’t tell them who you are, somebody else will define who you are. So you should be having stories and messages and action deeds from this company, you should behave, you should live your brand; and I don’t think there are big threats; and then it’s all an opportunity: if you are transparent and you know what you are doing, you know why you are there for and you believe in then there are no threats. [...] But now, most of the companies don’t have a story, really, they don’t want a story, they think the WHAT is enough and they don’t even bother about why are we here and why should they choose for us, etc. They really believe it’s enough. And then it’s all a threat.”</p>
	Reputation Dimensions
Kappa	Beta: Sentiments, Brand, Products
Mu	“I am not the one to answer this question.”
Nu	<p>Theta:</p> <ul style="list-style-type: none"> ○ Financial Situation ○ Emotion: “It’s more about introvert, extrovert thing, I think, maybe it’s one of the axes, and the other thing could be ... how responsive companies are, how flexible they are, how they are trying to control it and that’s also an axes that I would use with culture, to measure, to assess company culture, culture is also important” ○ Conversation – The most important ○ Brand- Brand Activation
	Steps for assessing & monitoring OR
Kappa	<p>Beta:</p> <ul style="list-style-type: none"> • Actively monitor Social Media Platforms • Collect NPS data • Indirect: “we do around 4/5 un-moderated usability test per month with up to 130”
Mu	<ul style="list-style-type: none"> • Check what is said • Facebook testing actions
Nu	<p>Eta:</p> <ul style="list-style-type: none"> ○ For them: “track the website and send newsletters weekly or biweekly [...] Well, assessing, not really” ○ For their clients: “Depends on our clients. For rapid responses we constantly monitor. Every day we get notifications about where the client is discussed or where the competitor is discussed and in that way we can quickly develop a rapid response. So now they (customers) get a summer offer to gain insights on how visible they are now, where their chances and opportunities are, where their threats are, where their competitors are. So something we use to really show them the opinions. So it really depends, we use it in several ways the monitoring.” <p>Theta:</p> <p>For them: “Nothing, what do we? © But we do a lot about Corporate Reputation. We start with the identity, with the mission, with values, etc., we have a new website, that’s what we did. But we didn’t measure the sentiment, for example, or the awareness. We activate our identity. We do a lot of blogging.”</p>

	Why they did not focus up until now on assessing for their company: Eta: “Because, it’s like kind of something new still. No, but we should, we should really do it. “; Theta: ““Nobody does!” ☺”
	Existence of Process
Kappa	Beta: <ul style="list-style-type: none"> • They do not have a clear Online Reputation Management Process: However they became aware that actions need to be taken concerning Social Media and as a result “there are people being hired, even as we speak, to monitor and control what happens in the Social Media environment” • They engage in conversations with stakeholders
Mu	“I am only working with these people who do it. But I have to address 3 different people, 4 different people in the company to get things done if I really want the multi-channel approach. But that’s more managerial job than it I do it myself on Facebook.” Engaging with stakeholder: “No, not really. It depends a little bit. If it’s a customer I try to accommodate to the customer. And when is student for the Design Contest then I am also involved, but I think it’s not good to react that much on Facebook itself, but then try to contact these person in a different way. “
Nu	“We provide content every day on Facebook, on Twitter, on Google+ and we take care of the reactions polite, we take care of questions, so that’s really what we do, so we arrange the Web Care and provide customers with answers” → Including for their clients Engage in conversation with stakeholders: Yes
	Sentiment Analysis
	Knowledge of SA
Iota	Yes
Kappa	Beta: Yes; Gamma: Yes
Mu	<i>Initially a definition was provided</i>
Nu	Eta: Yes; Theta: Yes
	Existence of SA Tool
Iota	No, they are just testing
Kappa	Beta: No, they do the analysis manually Gamma: Yes- externalized: “Within the company we have a dedicated social community managers or corporate brand managers, or so- but these guys get enabled by the tools outside. So they pick the vendors- third party- so they deliver custom made to our needs.”
Mu	“As far as I know, no.”
Nu	Yes, already one installed and testing a new one.
	Consider implementing SA within company
Iota	Yes; Reasons: “Are people talking about us on Social Media? On what platforms? What is it about? Is it positive or negative? [...] We want to keep the feeling with our public. We want to know if we can, maybe change... Also, when asked if he were to be the person responsible for implementing the SA tool Alpha said he would.
Kappa	Beta: “Yes. We are big brand, we are global brand and I think there’s a lot of discussions going on about Kappa and Kappa products and then up to now we only have social listening tools and I just don’t think that there are Sentiment Analysis features in there” Gamma: “Yes, because you are too slow if you don’t follow this trend and you need to capture what is out there otherwise you are just old school Company and your target age group just ages with you.”
Mu	“I think I would”

(Possible) Person Responsible with measuring OR	
Iota	Alpha and his colleagues.
Kappa	Beta: "I think that would be our new Social Media manager but then together with myself." Gamma: "in my case since I do the digital part I take the digital subset of the brand image measurement as a project/side project not as a pure focus area."
Mu	"If there is one part of the organization which is involved, it's going to be marketing which is much more involved with what we put on Facebook, or what do we on Social Media, or in Pinterest or whatever."
Nu	Eta: "So, we are working on it and everybody contributes to it, but we are especially getting in to it right now."; Theta: "She is, we both are. There's no responsibility once we use the tools to measure something, so everybody is responsible. We are trying now to make the next step."
Analysing/Monitoring data/online medium-Frequency	
Iota	At this point they analyse their data manually once or twice per month and when something happens. For Alpha's department there is no need to do it more often. For editors it would be useful a daily monitoring of Social Media for improvements of homepage.
Kappa	Beta: They monitor the SM environment on a daily basis but more at a junior level person but they intend to switch to a more senior level Gamma: "In the countries much more frequent obviously, so Care and Communities daily, Campaign is mostly weekly and seasonal, and product is more monthly, most quartile, to semi-annually, even to annually-So depends on the project."
Mu	"I look every day"
Roles and Applications of SA	
Iota	The role SA will have within his company is for monitoring different Social Media platforms to determine if the posts are positive or negative. Moreover, as Iota is a news company for reasons of Reputation Management, they want to determine the impact their presenters/anchors have on their image. Another identified role that SA could have in their company is for Quantitative Research for determining the polarity from the open ended questions.
Kappa	Beta: <ul style="list-style-type: none"> • "Determining the urgency of possible problems that are showing up within the online community on products or the effects on your brand." • To improve our NPS • Improving the experiences on the website Gamma: It is Project Based <ul style="list-style-type: none"> • "Care– so it can give you exactly how to manage your consumers' reactions: response time is important for that - so quick agencies, quick Sentiment Analysis- that's one. We can see which content works best, which content goes viral, and also audience mapping; you can see cloud score, which is the most influential audience, that helps community managers to target the content in the right time, right place to the right people" • New product ideas • Campaign Tracking • "you can also change your seeding your content marketing communications strategy" • Review sites • Reputation Management: <ul style="list-style-type: none"> ○ Benchmark ○ total sentiment vs. competitors

	<ul style="list-style-type: none"> ○ your buzz, share of buzz, trend line of buzz, social buzz ○ amplification factor of each influential source
Mu	<p>Eta: Reputation Management</p> <ul style="list-style-type: none"> ○ “sale position and everything online” ○ To see the polarity <p>Theta:</p> <ul style="list-style-type: none"> ○ For customers: “We measure it once when we start, that’s the big idea- the sentiment is this, it is positive or negative- one of our goals is to get more positive sentiment and also the right words, the right associations.” ○ For Nu: For corporate reputation-Sentiment Monitoring: “the quality of sentiment, not only the quantity of sentiment that’s important”
	Characteristics wanted from SA tools
Iota	<ul style="list-style-type: none"> ● Simple Dashboard ● Possibility to set a date for accessing the date- from time x to time y ● Graph representation (be able to click on high and lows and get an overview of why is high/low) ● Easy way to set the key words ● Language option ● To be able to see the tweets
Kappa	<p>Beta:</p> <ul style="list-style-type: none"> ● Multilanguage- “I think language is the most important.” ● connection with CRM ● identify potential buyers ● Identify possible types of consumers <p>Gamma:</p> <ul style="list-style-type: none"> ○ Hybrid approach, so not fully automated ○ Languages ○ “having a local person in that country that can cover”
Mu	<ul style="list-style-type: none"> ● Easy to use and understand ● Objectivity ● Language option
	Incomes- Key Words
Iota	While testing the tools, the incomes, key words they are using are the company, presenters, anchors and main stand-uppers names. Also, there will be other key words for when something happens. Person that will be responsible with determine the key words: Alpha and Management.
Kappa	<p>Beta: “I would look for swear words, I would look for complementary words, I would look for all CAPS, I would look for comparison with competitors- crucial one, and also competitors’ products and more for threatening attitude [...] where people say they might take action and look into the competitors, key words based on pricing as well (ex. People finding too expensive) - anything that has to do with customer service- basic complaining.”</p> <p>Gamma: “So you need to connect these campaign managers’ content caliber, or local guys’ media planning creative, to the agency key word searching, if the tool is automated. So basically you need to make the key word correlation based on the stakeholder and based on the project. If it is a Care project you go to the data set of all these FAQ (Frequent Asked Questions) and trouble shooting, all the logs of past complains, so you can pull this word cloud of key words, then you can use it for that purpose.” Person Responsible with determine the key words: “Again the country, if it is a country project, if it is a central project whoever owns the project: if it is campaign then campaign manager, if it is local then campaign tracking media buyer; the project owner, the stakeholder in the company.</p>

Nu	Eta: Brand name, People working at their clients, subjects they want to be associated with, words based on word clouds ; Responsible with determine the key words: “We decide, based on the values of the company, of course. So in a way it is defined by the company but we design it.”
	Outcomes & Steps after outcomes
Iota	The outcomes from SA should be sent first to the communication department and then to communication advisors for further decisions. Also Alpha expects the results to be sent to the CEO and management team and also all the Editor Chiefs.
Kappa	Beta: “I would send the results with recommendations but I wouldn’t be the one initiating action on it.” Person to send the results to: “To the people responsible for the products or the different parts of the websites: B2B, B2C- for people responsible for the content and experience there. “ Gamma: Outcomes: <ul style="list-style-type: none"> ○ Reports that include tracks of the brand score, campaign impact, digital sentiment index ○ Delta and why is the Delta plus or negative Steps <ul style="list-style-type: none"> ○ “You can change your campaign creative completely, [...] if you make like television commercials- you can change completely your creative phase on that, you can change your products based on the product feedback, you can change the way you respond to your community or the way you deploy viral content. You even do your lay out of your consumer care site based on the most frequent feedback- so almost everything is dependent on the project.” Sends the results received from the agency to different stakeholders- dependent on the project
Nu	Outcomes: Reports Steps: <ul style="list-style-type: none"> ○ “We discuss them” ○ Give rapid responses “weekly reporting of your endorsers”
	Objectivity& Validity of SA
Kappa	Beta: “I would manually check it again- well, to a lesser extent than actually manually analysing. [...] Automation is great, but you are talking about feelings and emotions of people and to a certain extend you cannot rely on automation 100%.” Gamma: Valid than objective. He would still check manually.
Nu	Eta: “With regard to sentiment, not really because it’s not extensive in pinch line our tool”; Theta: “Not very reliable. What I want to say is that you need sentiment to be KPI, I think, when is not a KPI you don’t measure on it.”
	Usefulness of SA for ORM Process
Iota	Yes
Kappa	Beta: Yes Gamma: Yes
	Factors
Iota	Industry/Company Specifics: <ul style="list-style-type: none"> • “we are news organization so every day a problem...but it’s mostly for the editors down stairs for on daily base because the website and how reactions on social media can affect the way we work on our home page” • “many things happen out of the blue” Language: Language is important for them. They need the SA tool that identifies the language correctly for eliminating the unnecessary data- Company name is a Spanish word and as a result they get a lot of other mentions when searching for mentions.0020Their

	focus is mainly on Dutch.
Kappa	Language: Beta: Consider that language is important for SA Gamma: They are focusing on 5-6 languages: “Chinese is important, although it is really tricky because they have a firewall, so that’s the trickiest one; Japanese, German, Spanish, French, English and Dutch-Dutch is not that much. “ – Global Company
Mu	Language: English-not that much, Dutch, French Industry: “Hema is also a brand, but if you are like Philips, or Heineken or Amstel then your contact with your customer is different than our contact, because we are indirect contact. I see every day what I sold yesterday, since Heineken has still the pubs, or Albert Heijn- it’s a continuous process. So there’s the shop which is involved, you know, so that’s difficult.”
Nu	Industry: Eta: “The story is really important and especially for companies who work B2B, it is important to have your story straight, and have people knowing that story, and being an investor and telling the story. Because, some companies do provide complex products, or not even products but services, so it’s really a challenge to get that story straight. “ Theta: “I think it’s relatively easy to use, both of them, but it’s also a little rigid, for the market B2B. For consumer brands you could use it more.”
	Procedures
Iota	<ul style="list-style-type: none"> • Iota does not have procedures into place yet • Iota does not have an Online Reputation Management Process • Iota identified the need to take actions for Social Media
Kappa	Beta: They do not have clear procedures: “It is very ad-hoc at the moment and there are no real guidelines or flowcharts for certain issues.” They are trying to set up communication between departments Gamma: They have communication between departments, how to establish the key words, where the results of the Sentiment Analysis go, how and what to measure, delivery of outcomes, steps after outcomes- everything being dependent on the project.
Mu	“Yes, there are procedures. But that’s a reason also why I don’t respond that much to these things and there are these 3 or 4 people who are responsible and they have to address what’s going on. In the beginning, it was like, even in the weekends they had this, you get questions, all kind of things, but now it’s much more organized. So they do the remarks. I think that it’s also that you have these experience people on these groups for various social media, so that helps I think. “
Nu	Eta: <ul style="list-style-type: none"> ○ “Yes we do (for the customers). So, for the companies that we work we do have, like documents which state in case of crisis communication or otherwise, if it’s not in these documents we have direct contact with clients to solve the problem, or pose a question, and ask them for an answer.” ○ “create a document with Frequently Asked Questions ourselves [...]if it’s something we are not sure of, which tone it should be, most of the times we do, but then we check it directly with the company that we work for.” Theta: Yes, for our customers, but not for ourselves
	Social Media Platforms
Iota	Facebook, Twitter, Google+ at the moment
Kappa	Beta: Facebook, Twitter and YouTube at the moment; Gamma: Twitter, Facebook and YouTube
Mu	Facebook (2 Facebook pages), Twitter, Pinterest
Nu	Facebook, Twitter, Linked, YouTube- not really actively

Online Reputation Management

For the **Online Reputation Management concept**, we have 5 respondents that provided a definition. In this case, the provided descriptions vary accordingly to the type of business. There is the approach for B2B context where reputation is associated in most of the cases with the story that is being shared with stakeholders. Then there is the case of B2C where reputation is most of the time expressed in terms of product reviews, customer reviews, etc.

When asked to define a **good reputation** most respondents see this from the perspective of stakeholders receiving the right message/story/image related to the organisation. However, Beta also emphasized that not only sharing the story matters, but also being active and communicating with users: "It is a two way conversation". This perspective (sending the right message to stakeholders) is also reflected in the **steps they consider taking for a good reputation**-See the figure below. Again, Beta emphasized listening as being an important step. Moreover, some of the respondents drew attention to the importance of being congruent in the messages that are being communicated to different stakeholders- actions need to be well organized and coincide to the story being shared.

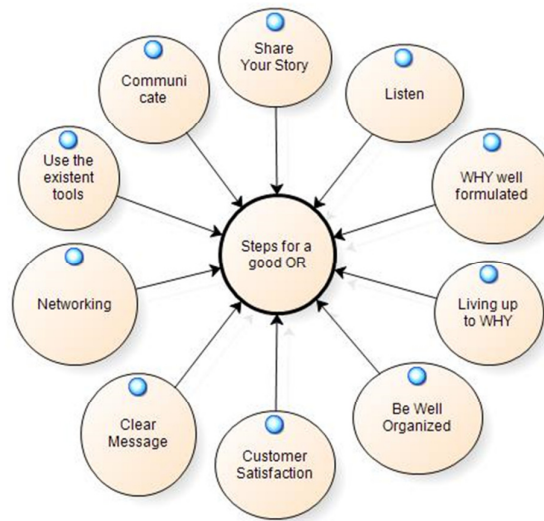


Figure 5.1. Steps taken by employees for a good OR

Among the **Reputation Dimensions** that employees identified were brand, products/services names, financial performance and emotional appeal. The last two were defined only by Theta while the rest were common to all respondents that answered this question.

What can be seen regarding the **steps for assessing and monitoring Online Reputation** is that at this point this is done either manually, or with the help of SA tools- if the companies have the tool installed. In Nu's case, they do use the Sentiment Analysis but for their clients' OR assessment-nevertheless the steps were included in the figure below. Gamma on the other hand in order to assess or monitor the Online Reputation has to contact the agencies they are working with. The agencies are doing the analysis for Kappa and then they deliver the results in the format of a report.

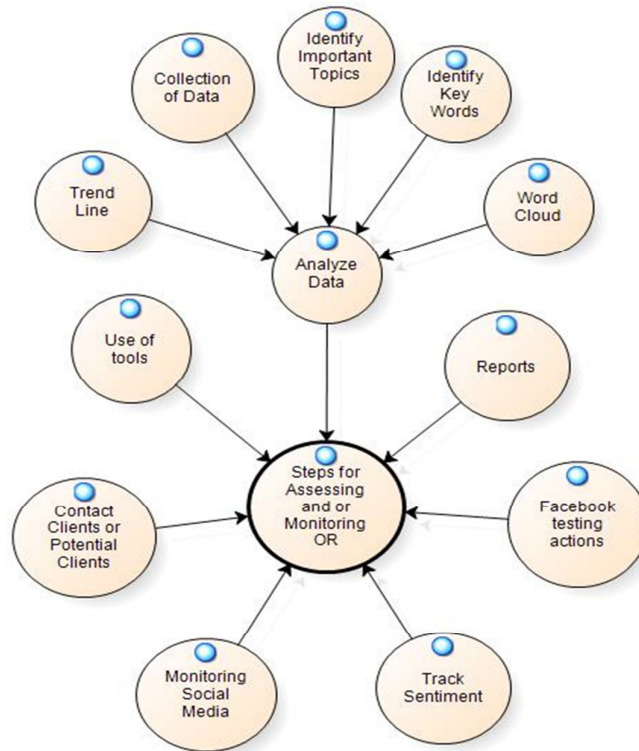


Figure 5.2. Steps taken by employees for Assessing & Monitoring OR

The respondents that answered the Manager Version of the interview do not have an **ORM process** in place. They do take actions concerning Online Reputation but they do not follow a process or procedure. They do engage in conversations with their stakeholders but not based on guidelines. An exception here would be Nu. They do not communicate frequently in the online medium with their stakeholders but they do this for their clients. Additionally, they have a procedure in place (FAQ- Frequently Asked Questions- document based on which they guide their communication) for how to answer to comments but for their clients. Although Gamma answered the Analyst Version of the interview, stated that they have a process in place. They have clear guidelines for whom is responsible with establishing the key words that are sent to agencies as income for their analysis, they know where the results of the Sentiment Analysis needs to be send to, how and what to measure and what steps to take after outcomes.

Sentiment Analysis

Sentiment analysis definitions vary from simplistic explanations like “to see whether it is positive or negative” to “A brilliant technique” to “understand the consumer voice”. As a reminder, one respondent did not provide a definition for this concept as he does not have experience with Sentiment Analysis at all. An important aspect that needs to be specified here is that all interviewees were asked to provide a definition of the Sentiment Analysis concept.

Out of the 5 companies (please keep in mind that Kappa is represented here by two divisions that are treated as two different companies but under the same brand and of course Adversitement is excluded at this point of analysis) 3 companies **have a SA tool implemented**, out of which one has the process externalized working with a number of agencies: “we get enabled by the tools outside”. Also, Nu is testing other SA tools as they want a more extensive one. The companies that **do not**

have the tool on the other hand, consider implementing the tool in the future- one of them is already testing tools (Iota).

Concerning the **person responsible with monitoring/assessing Online Reputation** we identified that respondents consider that the responsibility should fall on Analysts, Social Media managers or Marketing department. There is an exception in Nu's case where no one is responsible in the end as they do not take these actions for themselves yet.

The **monitoring/assessing of the online medium** is mostly done on a daily basis, as specified, mostly manually. Gamma on the other hand, as he works with agencies, stated that this is dependent on the project and it can vary from daily monitoring to annually assessment.

Seven respondents out of 8 considered Online Reputation as one of the **Roles and Applications of SA**. Other Applications/Roles mentioned are: New Product Ideas, Qualitative Research, improve NPS & experience on the website, etc.- see the figure below.

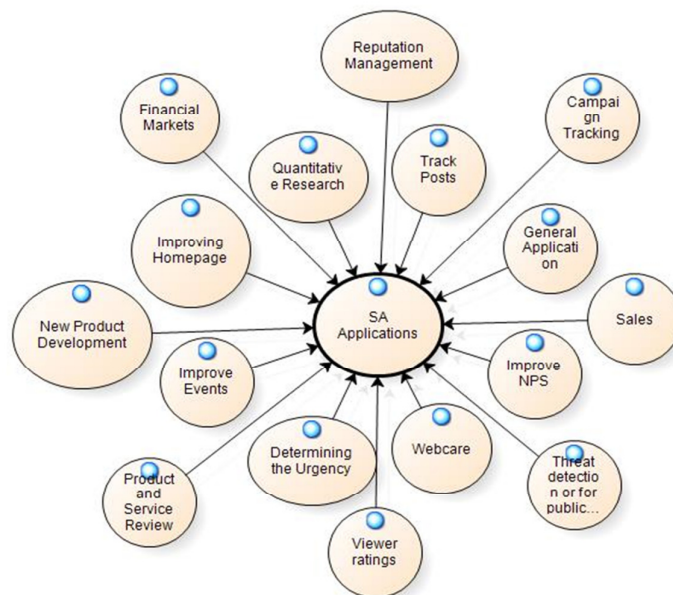


Figure 5.3. SA Applications Identified by Employees

Among the **characteristics wanted from SA** by the employees that do not have a Sentiment Analysis tool are: an easy to use tool (including to set key words as easy as possible), to be as objective as possible, to have the possibility to set the date for accessing data according to date, to include the option of trend line of the polarity, including date in order to access the data easily and to be possible to identify potential types of consumers. A common wanted characteristic is the language option. Two of the companies were interested in more languages than English and Dutch. Also, one company wants the possibility of a hybrid approach for SA- not to be fully automated.

Regarding the **key words (incomes) for SA** all respondents at this point use at least brand and products/services name as key words. Gamma uses other key words too, depending on the project and FAQ. Eta also added that the key words that they use, for their clients, are the ones that they want to be associated with. In Alpha's case, as Iota is a news company, they also use the names of the anchors and presenters as key words.

The **Outcomes** of SA are formulated in most of the cases through reports- where SA exists. Then they are sent to different departments or colleagues responsible for the action points that need to

be taken based on the situation reported. There is also the situation where the respondents themselves need take actions in case it is their responsibility to do so- eg. Nu takes the necessary steps for their clients. Other action points the interviewed employees take can be seen in the figure below.

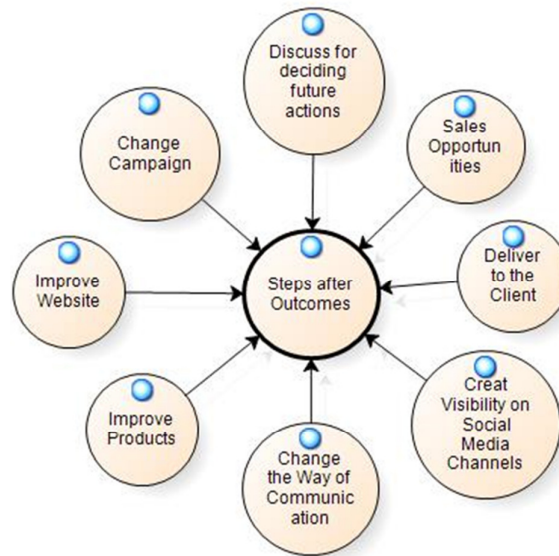


Figure 5.4. Steps taken after SA Outcomes

All employees find SA as being **useful**, excluding Epsilon to a certain degree as he does not have sufficient information or experience with SA. However, some of the respondents do not consider Sentiment Analysis sufficient if the results/outcomes are just positive/negative.

Finally, the **objectivity and validity of SA** perceived by employees is that mostly it is seen as being more than objective, due to the nature of the text analysed- feelings and emotions. As a result most of them check or consider checking when having the tool manually as well.

Factors

The factors identified as having impact towards the approach of ORM or SA are the following. Iota being a news company needs access to data and results sometimes really fast as many things happen “out of the blue”. Also, because their company name is a Spanish word their process of gathering data based on the brand name becomes difficult if the tool used does not have the language option in order to avoid the Spanish comments that would not be relevant for them. For Kappa, the language option for SA is very important as the Kappa brand is known internationally and they need to monitor comments in multiple languages. Another factor is the type of industry they are operating in. B2B companies focus more on sharing their message while B2C focus more on receiving feedback about their products- product reviews.

Procedures

3 out of 6 companies (Kappa-Gamma’s organisation; Mu, Nu) have procedures in place of how to respond to users. 2 (Kappa- Gamma; Nu) out of 6 have procedures establishing the key words. In Gamma’s organisation there are clear procedures where and to whom to send the results. In the case of Nu, they contact their clients to deliver results or to ask for questions. On the other hand Nu does not have procedures for their company when it comes to Online Reputation Management Process. For the rest of the companies there are no procedures.

Social Media Platforms

The most used platforms by the interviewed companies are Facebook and Twitter, followed by LinkedIn. YouTube is used as well but to a lesser degree. Google+ and Pinterest were mentioned too but are used to a lesser extent, not being considered that important at the moment as they are not yet so popular.

5.3. Key words frequency

In the figure below you will be able to see the frequency of key words found on Twitter per company. Compared to the key words list presented in the methodology chapter here were included only the key words that had at least been mentioned once in Twitter comments. Adversitement and Mu were excluded from the figure because Adversitement had only one key word found which is Quality- mentioned 4 times- and Mu none.

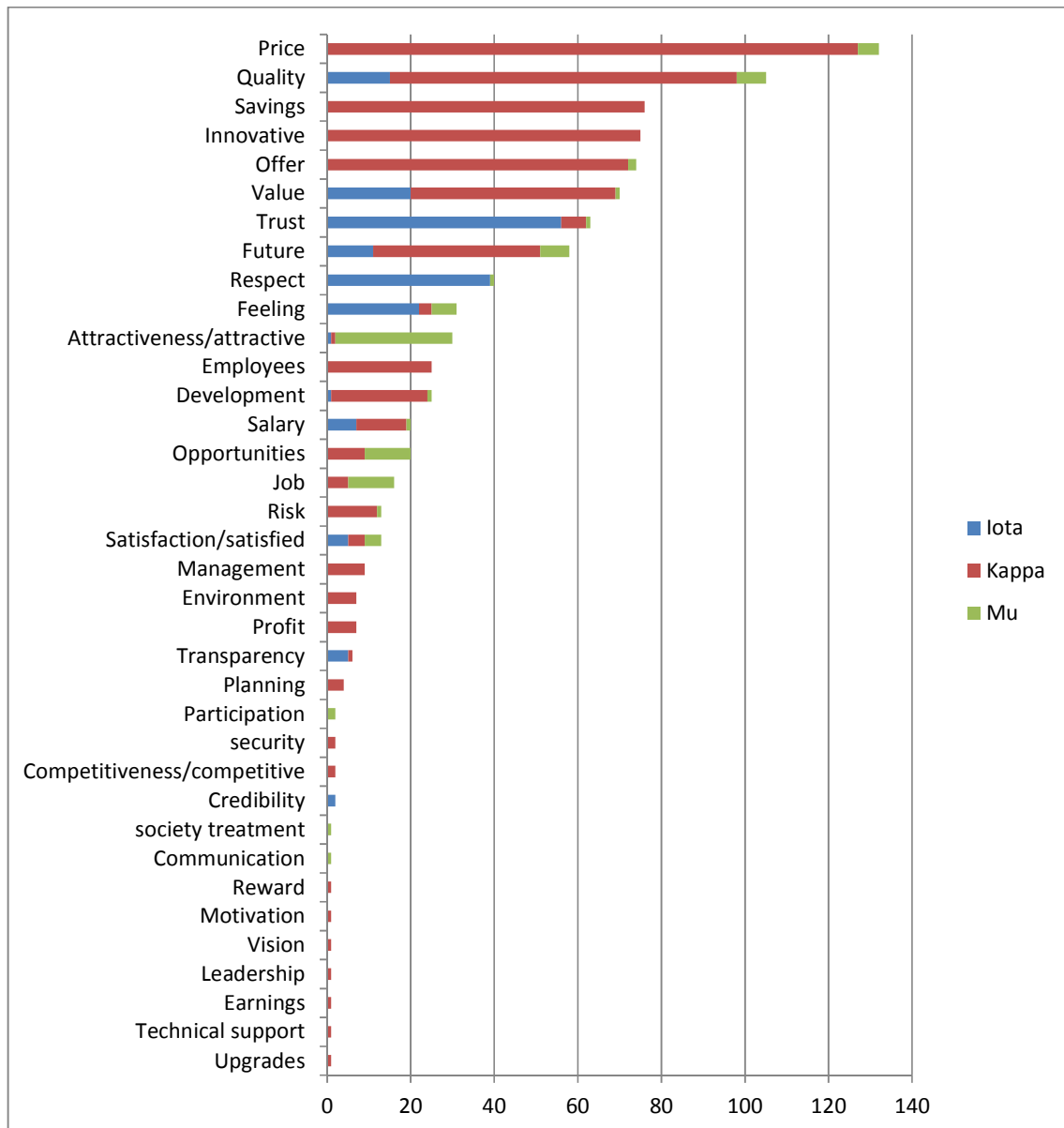


Figure 5.5. Kew Words Frequency per Company found on Twitter

In the figure below you will see the key words employees consider using in the future.

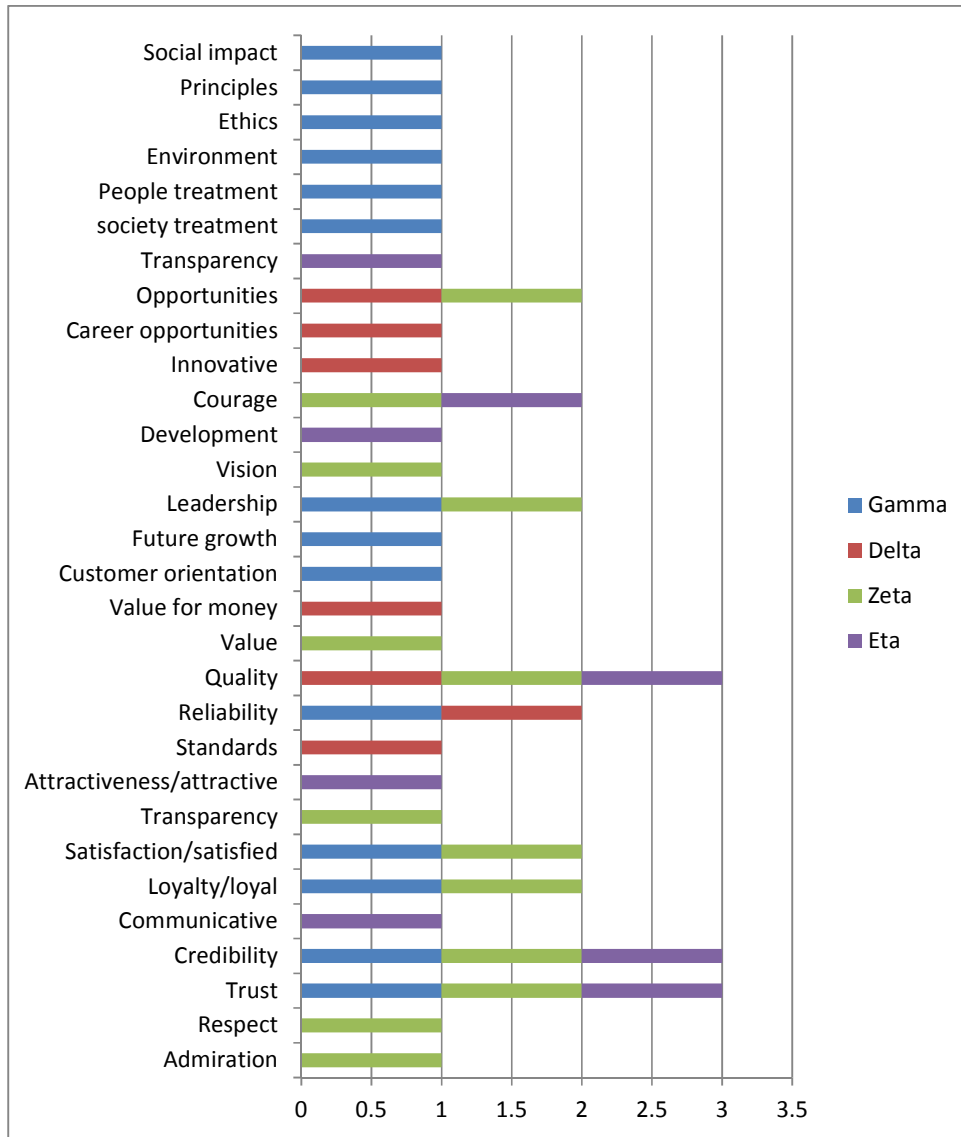


Figure 5.6. Key Words considered to be Used in the Future

From the key words that were found in Twitter comments not all of them were part of the messages send by users. There are a lot of comments that are made by the company in question or by retailers. Below you will find a table including the total amount of mentions per word and in parentheses how many were not done by users.

Table 5.4. Key words found within Twitter Comments/Company

Company	Key words found within the Twitter comments (Number of mentions/ Comments made by the Company in Question-Including Retailers) (the words found in this case were both in English and Dutch but the English version will be written here)
Iota	Feeling (22/0); Respect (39/0); Trust (56/0); Credibility (2/0); Satisfaction/Satisfied (5/0); Transparency (5/0); Attractive (1/0); Quality (15/0); Value (20/6); Future (11/0); Development (1/0); Salary (7/0)
Kappa	Feeling(3/0); Trust(1/0); Satisfaction/Satisfied (4/0); Attractive (1/0); Price (127/114); Savings (76/75); Innovative (75/50); Quality(83/40); Offer (72/56); Value

	(49/18); Upgrades(1/0); Technical Support (1/1); Profit(7/1); Risk(12/0); Competitiveness/ Competitive(2/0); Earnings(1/0); Leadership(1/0); Planning(4/0); Vision (1/1); Future(40/7); Development(23/3); Management(9/3); Security(2/0); Employees(25/0); Opportunities(9/0); Motivation(1/0); Reward(1/0); Trust(5/0); Transparency(1/0); Salary(12/0); Job (5/5); Environment(7/7)
Adversitement	Quality(4/0);
Mu	Feeling(6/0); Respect(1/0); Trust(1/0); Satisfaction/Satisfied (4/0); Attractive (28/27); Price (5/0); Quality(7/0); Offer (2/0); Value (1/0); Risk(1/0); Future(7/0); Development(1/0); Opportunities(11/9); Communication(1/0); Salary(1/0); Job (11/4); Society Treatment(1/0); Participation(2/0);

With reference to the key words that are suggested in this paper for analysing the OR, we can conclude that users do not use them so much when they express themselves in the online medium, specifically on Twitter. Comparing the key words employees consider users discuss about or mention to the key words that were found within our analysis we can see that there is not really a match- those words are not mentioned so much.

Table 5.5. Topics/Key words considered to be used in Social Media by Employees

Company	From their experience/ received information, the most used topics or frequent used words (based on a word cloud for example) about their company within the Social Media
Iota	"We, for example, use our company name and the names of our anchors."
Kappa	Reliable, innovation, durable, ethical, honest, technology
Adversitement	Zeta: transparency, privacy and 'sentiment analysis' (since it's our product); Delta: Analytics, big data
Mu	No Reply
Nu	No answer for this question

Finally, in the table below the overall polarity per company based in Twitter comments was included. For comparison the evaluation made by employees for their overall polarity in the online medium was included also.

Table 5.6. Polarity per Company

	Iota	Kappa	Adversitement	Mu	Nu
Polarity based on Twitter	0.032339 ≈ 3%	0.081638549 ≈ 8%	0.173913 ≈ 17%	0.139476 ≈ 14%	0.060606 ≈ 6%
Polarity based on employees evaluation	No tool in place for them to give an answer	Positive high (above 50%)	Positive (0-50%)	No Reply	Positive (0-50%)

Comparing how they evaluate their reputation and what the result were after analysing the data, we can see that in most cases it was a match, except on case where they stated that their reputation is positive – above 50% and the polarity based on the comments from Twitter it was below 50%.

6. Discussion of the Results and Conclusions

6.1. Discussion

Online Reputation Management

What can be concluded from the interviews is that respondents know the **concept of Online Reputation Management**. As specified in the Results section, definitions vary according to the business type. Also the steps they take for a good reputation or assessment are dependent on the business. While B2B companies are focused more on sending out their message/story, B2C companies are more oriented towards listening to their customers' products review.

This can also be seen when employees were asked to define a **good reputation**. While respondents active in the B2B type of business are more focused on sharing their story (that can and should include the company's mission, vision and values), the respondents active in B2C are focused more on products reviews-listening to their stakeholders.

Unlike the knowledge of the ORM concept, employees do not have a clear perspective for the **Reputation Dimensions/Components**. In general, online reputation is reduced to brand and products/services names. For brands that are just emerging this might be sufficient for the moment, but for the future in order to be able to measure reputation identifying what its dimensions/components are- which can vary to industry/company/business specifics- is crucial. Nevertheless, not having a history of success, small business managers should strengthen their market status in a very short time by creating a positive corporate reputation. But before deciding on a reputation building strategy, companies should first be aware of the different concerns of various stakeholders by identifying the reputation elements that are sought by key stakeholders (Goldberg et al., 2003). For more insights concerning this please check Annex VI.

Concerning the existence of **process** related to Online Reputation Management, Alpha and Beta said that they do not have any process in place. Adversitement has a beginning to a process but informal at the moment. One of the steps they take is to engage in conversations with stakeholders in the online medium. Zeta stated that "Online Reputation Management as a whole in our company is a combination of brand monitoring, which is an automated process, and social media monitoring, which is in our case a manual process". In Mu's case, there are people responsible who can be contacted related to Online Reputation Management. Same as Adversitement, Nu engage in conversation with their stakeholders, and they provide content on Social Media every day. Although companies do not have clear processes they are aware of their shortcomings and they have the intention to change this: to monitor and be present in the online medium. It can be said that at this point their actions are more based on learning by doing.

Sentiment Analysis

As specified in the Results chapter, 7 out of 8 interviewees defined the **concept of Sentiment Analysis**. Definitions varied from simplistic explanations like "to see whether is positive or negative" to "A brilliant technique" that helps you "understand the consumer voice". Definitions varied according to their experience and direct contact with the tool. Those who have an extensive experience with these types of tools gave a more comprehensive explanation and more details than those who had less.

Companies that do not have the tool are aware that doing Online Reputation assessment and/or monitoring manually is very difficult and time and resources consuming. This shows that with the

increase of online medium importance the need for automatic tools like Sentiment Analysis is increasing in order to help employees to overcome the challenges they are facing.

For the **roles and applications of Sentiment Analysis**, it is clear that Adversitement's employees have a broader perspective than their clients. This means that Adversitement should improve their strategy for selling/promoting their tool. Nevertheless, what is also important to mention here is that Adversitement's clients do consider that Sentiment Analysis tools are **useful** and can be used for the assessment and monitoring of Online Reputation. However, one respondent does not have sufficient information and his responses were based on the definition provided at the beginning of the interview. The usefulness of the SA tool ranged from useful to use its output as input for image research, useful for categorizing comments, for possibility to collect data in an unobtrusive way, useful to take quick actions in the online medium because of the real time results. However, respondents were aware of its limitations and among them were that SA has a more engineering/technical than business acumen. Also, they considered that just having an outcome of positive/negative is not sufficient. Of course, their responses are dependent on the tool they have installed and the functions it has. A similar perception can be seen from Zeta. He considers that just using a simple SA outcome of positive/negative is not sufficient but it can be used as a start. Delta on the other hand considers that the advantage of having a tool that offers results in real time is of great importance as rapid responses are needed for the online medium. Further, Adversitement has a broader view for their product but they should make sure that their clients have the same perspective. Iota and Nu are testing their tool at this point but their understanding of the tool does not seem to be the same. Additionally, Adversitement's clients consider that for a Sentiment Analysis to be of more help for Online Reputation Management more options are needed-see subchapter 5.2.

Factors

An important aspect that differentiated itself from the interviews was that the usefulness of the tool for Online Reputation is higher for B2C than for B2B. And for this, there can be a few reasons. "If you think about it, Reputation Management is most important for business to consumer brands, because consumers do not have an organization they have to represent, they just shout out whatever they want to shout and when they shout hard enough other people will shout with them."- Delta. In other words, when users represent a company they cannot just post anything without some backup because they can impact the organization's credibility they represent. This leads to fewer comments within the online medium for B2B business and more for B2C. Also, companies using review pages for different products will end up with extensive data and having a tool could be of great help. Last but not least, it was identified that most of the communication, especially the sharing of "company story" is done on blogs, addressing other companies. However, all these might be because the two B2B companies included in the study are at the point of building their reputation- so not strong enough brands yet-, unlike one of the companies that is known internationally and the remaining two being known nationally.

Another factor that should be mentioned here, although determined indirectly, would be the company size. If we take into account Kappa's case, the two branches included in the studies are not approaching Online Reputation Management in the same way. While one has clear procedures and makes use of Sentiment Analysis- though the analysis is done through agencies, the other one is just starting to take steps towards a process. Based on this we could assume that big companies have difficulties to adapt as fast as small ones to new changes and within all divisions.

Procedures

Except Gamma's organisation (a Kappa division) all the other interviewed companies do not have procedures in place to deal with Sentiment Analysis and Online Reputation Management. An additional exception would be Nu when they assess online reputation for their clients. Same can be said about Adversitement. At this point things go adhoc or there are informal steps that they take, but they are considering changing this.

In short while some companies had procedures and a clear process for Online Reputation Management, some did not. Nevertheless, the employees were aware of the Social Media importance and the necessity of a process, trying to identify what steps they can take, how they can be impacted by them and last but not least, how to justify their investments (Alpha, Gamma, Beta). Therefore the management team should be proactive should monitor their employees, help them structure their actions while recording their experiences for future reference.

Key Words Frequency

With reference to the key words that are suggested in this paper for analysing the Online Reputation, we can conclude that users do not use them so much when they express themselves on Twitter. In the Iota case, for the English words there is a lot of noise and in almost all the cases they were not related to the company in question. For Kappa, the most prominent finding is that they have a lot of the key words used by the company employees or retailers while users do not use them so often. For example, for the Innovative key word out of 75 comments 50 are made by employees or retailers. As a result, they are sending the message towards their customers, but they do not perceive it at the same intensity. Moving to Mu, there is a similar situation to Iota, for English comments there is a lot of noise in the sense that there is another known person and company with same name. For Adversitement there was only one word used while for Nu none; but this might be for two reasons: very few comments and type of business: B2B.

Furthermore, only a few of the key words employees intend to use in the future were found as being used within the online medium. In Nu's and Adversitement's case, there were not found key words within the online medium- except for the Quality key word for Adversitement mentioned 4 times. Therefore, we can conclude that either these key words do not apply to the investigated companies; or companies do not send the right message or do not communicate sufficiently with their stakeholders; or the key words chosen for these dimensions were not the best choice; or in the case of Adversitement and Nu this happened because their number of comments was too low. Also, when asked what key words/topics they believe users are using/ talking about in the online medium only Adversitement and Gamma answered. This might be because companies do not have sufficient experience or because they do not have sufficient information. Moreover, from the topics/key words given by the respondents that replied, only a few were found to coincide: in Kappa's case a few and none in Adversitement's case. The reasons might be that respondents referred to the whole online medium and we analysed only the comments on Twitter. Also, another reason might be that the image companies have in mind is not the same with the image perceived by stakeholders.

As seen at the Results section there was a case when the polarity of the reputation on Twitter was not the same with the polarity evaluation the respondent gave: Kappa stated that their reputation is above 50% and the polarity based on the comments from Twitter was below 50%. Again, this might be due to the fact that interviewees evaluated their overall online reputation.

6.2. Conclusions

The current paper wanted to respond to the following research question:

- ➔ How can Sentiment Analysis be used as a tool in the process of Online Reputation Management for a higher integration of both concepts?

In order to answer the question, based on the interviews and Portmann's (2013) representation of process of integrated Reputation Management- the figure below- we suggest a few action points for each stage. These steps aim for the integration of Sentiment Analysis in the Online Reputation Management process. We hope that this will be of help for decision makers.

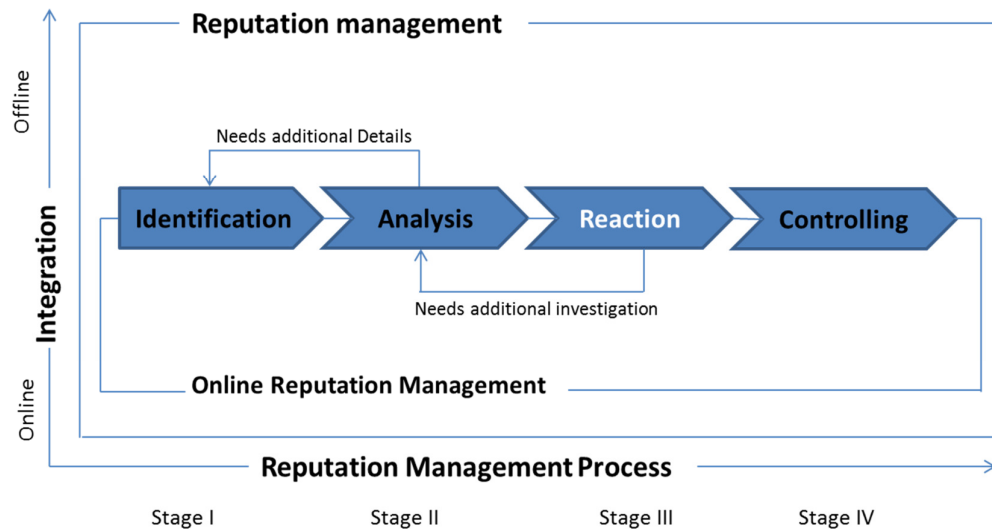


Figure 6.1. Process of Integrated Reputation Management (Portmann, 2013)

Identification: For this stage a clear goal should be established containing what the purpose of the process is in order to be able to identify the issues that need to be searched for and determined. The Sentiment Analysis could be used here for scanning and monitoring the online content by using either the company name as a key word for identifying new words or key words/sentences related to the issues already identified. Word clouds done with the help of Sentiment Analysis based on the online comments could also contribute to identifying relevant key words that stakeholders use and discuss about.

Analysis: Sentiment Analysis could be used to analyse the data gathered by determining the polarity, trend line, word clouds and other, depending on how extensive the tool is. However, it should be kept in mind that this might not be sufficient. Other assessments might be necessary if the Sentiment Analysis is not extensive enough (Portmann, 2013). However, the interpretation of the data gathered in the previous step cannot fully be based on computers as comments are subjective and "interpretation depends strongly on human sensitivity, experiences and the power of finding associations" (Portmann, 2013, p. 82). Nevertheless, a quick scanning of the online medium of dangerous information can give organizations a competitive advantage (Portmann, 2013).

Reaction: Sentiment Analysis will not have a direct role. Based on its outcomes different steps need to be taken for the development and implementation of appropriate actions for business strategies. Among the steps identified within the interviews are: change the campaign in case it was not successful; discuss outcomes for future actions and for creating more visibility on Social Media

Channels; improve products; improve Website. Of course, actions are dependent on the outcomes of the Analysis stage and on the company/industry/business specifics. Also, at this step a document including all the taken actions- similar to a FAQ document- can be made and edited when different situations appear (eg. Guideline how to answer to users in different situations) and can be used as guideline for the future.

Controlling: Sentiment Analysis tools could be used for the evaluation of the steps taken previously, by determining their effect and impact on stakeholders' perception towards the organization's reputation.

An important aspect that needs to be emphasized here is that the above process needs to be iterative for continuous improvement and maintenance (Portmann, 2013).

But before starting building the process itself employees need to be aware of the importance of Online Reputation by making the values, mission and vision clear (Cravens & Oliver, 2006). Like Eta states: "Every piece of the company should contribute to your values, mission, and vision." The reason behind this is that if employees do not value the reputation and do not know why they are doing what they are doing, then they are not the right people to communicate with the organisation's stakeholders. Also, the messages being sent out need to be consistent with all stakeholders and based on the concepts that were just mentioned (Portmann, 2013). This was also supported by the interviewees Epsilon, Eta and Theta - "Of course, not everybody will agree with you, but if you are congruent, [...] your heart and head do the same thing; then there's no threat."

Besides the above, companies should be proactive and engage in communication with their stakeholders. They should not be reluctant to do this and not hide, because if they will not build their own reputation then someone else will do it for them:" People are always scared about what other people will say about them and then, maybe they want to push it under the carpet, that's a reaction, so that's always fear. And I don't believe that's necessary [...] it starts inside out. I always say: if you don't tell them who you are, somebody else will define who you are."-Theta

Furthermore, having a direct and interactive communication through Social Media platforms with customers, colleagues and business partners can lead to "important impetus for business processes" (Oehri & Teufel, 2012, p. 1). Encouraging open dialog among employees (regardless of their hierarchical structure), customers and partners will lead to increased customer retention and loyalty, collective consciousness among employees (better working environment and motivation) and more personal and durable relations with partners. Said differently, through open, flexible communication customers (stakeholders in general) will be encouraged to address first the organization rather than criticize it publicly (Oehri & Teufel, 2012). Not considering the disadvantages and not taking the necessary actions to avoid and/or eliminate them, or even more, not being involved in Social Media at all, organizations are prone to risk.

In addition to the above suggestions/recommendations, several contributions are made through this study. First we hope that the above stepwise approach will be a useful input for decision makers. Second, the current research wanted to address the existent gap in literature concerning the relationship between two concepts: SA and ORM. A clear point from the interviews is that employees are aware of the importance of Online Reputation Management and the usefulness of Sentiment Analysis tools for monitoring and/or assessing Online Reputation; however, further research could strengthen this relationship. Third, from the interviews we identified how, when and for what SA is used for and some of its pluses and minuses. This could be useful to companies/ social media analytics experts. Forth, by addressing the relationship the paper attempted to decrease the

gap in literature concerning the research for Sentiment Analysis business approach and existence of studies for Online Reputation, as both are just “establishing themselves”.

Fifth, through the analysis of Twitter comments we identified that users do not express themselves that much in terms of the suggested Reputation Dimensions. Some of the suggested key words were found representative for the Reputation Dimensions, but not all and in addition their frequency is not that high. Nevertheless, there was one dominant dimension, Products and Services, and most of the comments are associated to Kappa- see Figure 5.5 and table 4.1. A conclusion that can be drawn is that users talk about their products, which is a positive aspect for Kappa. Furthermore, employees are not really aware of these dimensions either. However, more research on this based on a higher sample size and data volume including more online platforms could extend the available information so far.

Further, Managerial Implications followed by Limitations and Future research will be discussed. Regardless of the limitations it is clear that the online medium plays an important role in our society, both personally and professionally, and organizations need to take actions as “There are not a lot of rocks to hide behind for companies anymore: bad services, bad products- people will talk about it on the internet.”-Beta.

7. Managerial Implications

Sentiment Analysis can have the biggest role in the ORM process suggested in the above chapter within the Identification stage: “to identify potential changes for a positive and risks for a negative reputation” (Portmann, 2013, p. 69). However, in order to use Sentiment Analysis to its full potential key words are of highest importance. Therefore, a first step that could be taken would be to establish what the Reputation concept represents for organization and to identify the key issues (positive/negative) that might impact the company. This could be done by splitting the reputation concept into dimensions (components) - see Literature Review/Methodology chapter- that are company/industry/business specific. A starting point for decision makers can be to identify what would be the points they would want to be discussed by their stakeholders about their organization. Into consideration can be taken what stakeholders look for when evaluation entities’ reputation as well. The table from Appendix VI could be used as a starting point. Secondly, a scanning of the online medium should take place and then based on the data gathered it should be identified what are the current discussions around the company’s brand, industry, business. However, manually it should be checked if the comments where the key words of interest were mentioned are written by employees or by stakeholders. And last but not least, competition should be scanned: “For Online Reputation Management, the first thing you need to do is to size it up, Benchmark is crucial, as in Social Sentiment nothing in isolation works.”- Gamma. If companies do not react before their competitors do, they might even lose their current market share. In addition, a Benchmarking can give a good indication of the current state of the organization in the market or what can be the next moves the competition intends to make. This may represent an opportunity to take actions and be ahead. Having access to data from Social Media- Twitter for example- and a Sentiment Analysis tool implemented this could be done easier than before the ICT technology advancements. In short:

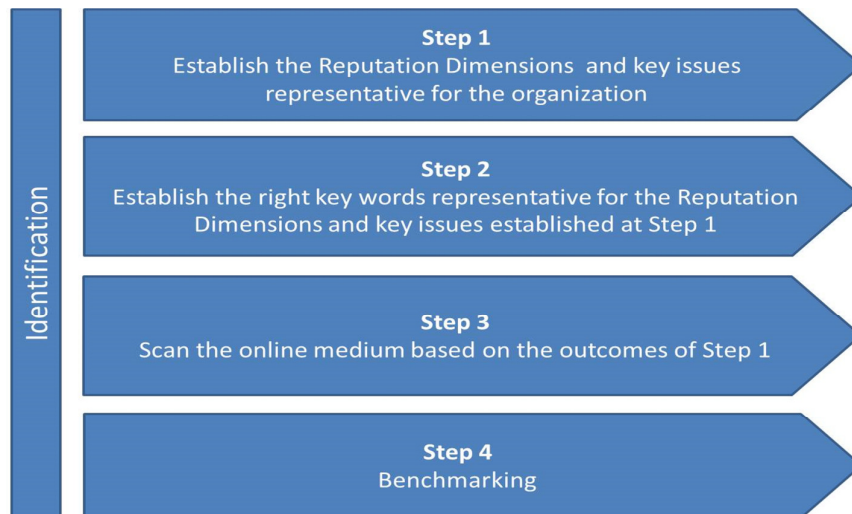


Figure 7.1. Steps Suggested for the Identification Stage

As identified previously, the approach of companies towards the ORM is dependent on the type of business: If they are B2B their focus is more towards sharing their stories in order to appeal to their stakeholders; and if B2C, organizations are inclined to emphasise more on receiving feedback for their products through product reviews. But regardless of the type of business and stakeholders the communication in the online medium should be both ways. Decision makers should be aware of this and send their message/story throughout the online medium, but they should also listen and respond to users. Communicating with stakeholders and getting close to them, not just sending information is very important, as in the end this is what the online medium, social media medium offers: a medium to interact. Moreover, as specified above, through open, flexible communication stakeholders will be encouraged to address first the organization rather than criticize it publicly, giving companies the opportunity to avoid negative events/comments/opinions/ etc. getting viral. And a negative reputation may not remain only in the online medium. Studies showed that there is connection and influence between the online medium and traditional media (Bae & Lee, 2012).

A recommendation for Adversitement would be to communicate clearer to their clients the numerous applications of the Sentiment Analysis tool and its options. They could also take into account the above suggestions when proposing SA for Online Reputation Management to their clients. Another recommendation would be for them to include in the Sentiment Analysis the characteristics identified from the interviews for a better applicability of the tool. Further I would recommend adding a Key Words Frequency option- as a graphical representation- combined with the polarity of the comments the key words are being part of-it can be similar to Figure 5.5. Through this option employees can get a better perspective about the issues they are interested in and would be more specific than a word cloud representation.

8. Limitations & Future Research

The present research is subject to limitation. Regardless of its advantages, qualitative research has its limitations. First, the interviews are prone to biases starting from the questions formulated to the respondents' inclination to give answers that will satisfy the interviewer. Second, the number of interviews is low and even though there are different sources it is difficult to generalize. This limitation shows that the score on the external validity is not very high. (Yin, 2003)

Moreover, the list of key words proposed to check their presence in the comments of users on Twitter was done based on theory and not on companies' input. The words are not adapted to the company's specific, which might be a reason for the low mentioning rate. Also, the number of mentions among the ones used is not so high. Another explanation might be the fact that Twitter is not very popular at the country level, although it has a high percentage at the global level.⁵ Furthermore, the translation from English to Dutch might not be perfect, which might have influenced the number of words found. More research on this based on a higher sample size and data volume including more online platforms could extend the available information so far. But not only a higher sample would contribute to stronger results but also a sample including respondents with more experience and knowledge of Sentiment Analysis and Online Reputation Management- a limitation that needs to be specified for the present study.

Another limitation of the study that can be taken into consideration for future research would be not to limit the context for Sentiment Analysis and Online Reputation to Social Media. People are talking all over the online medium and Social Media is only a part of it.

For future research, as one of the study limitations was the key words chosen, would be to further investigate what key words could be used based on company/industry/business specifics. Likewise, for stronger results, including more respondents and more industries could bring new insights. Maybe a better differentiation between B2B and B2C can be done and better managerial implications will result. Moreover, further research addressing the Sentiment Analysis for other business applications, even in connectivity with ORM, like Customer Relationship Management-Customer (Web) care, Marketing Research, etc., will increase the business acumen of the Sentiment Analysis.

⁵ <http://www.appappeal.com/maps/twitter>
<http://www.sysomos.com/insidetwitter/#countries>

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Annexes

Annex I- Interviews

Version 1: Management

Introduction

- Brief introduction of myself and research

I am a Master student at TU/e (Technology University of Eindhoven). In the current research we want to analyse the relationship between Online Reputation Management and Sentiment Analysis in the Social Media Context. Definitions will be provided and do not hesitate to ask me in case the used terminologies in the following questions are not familiar to you.

- Purpose interview

The purpose of the interview is to determine how you and your company approach the mentioned concepts: Sentiment Analysis and Online Reputation Management. This will provide us a better and practical understanding over the relationship between the two and will permit us to give further suggestions

- Permission to record

I would like to ask your permission to record our conversation. I will assure that the record will not be used outside the research purposes.

General Questions

1. Could you please tell me what is your current position? How long have you been in this position?
2. Could you describe in short a typical day at your office?

Part I – Online Reputation Management

1. How would you define Online Reputation Management?
2. How would you define a good reputation?
3. What are, according to you, the primary general steps that need to be taken in order to achieve a good online reputation?
 - a) Can you elaborate on those steps?
 - b) What do these steps implicate for you as a practitioner?
4. What are, according to you, the biggest threats and opportunities for Online Reputation?
5. What actions do you and your colleagues take in order to assess online reputation?
 - a) Are you using any tools? Why? Why not?
6. Do you and your colleagues monitor Social Media channels? Why? Why not?
7. What are the most used channels/platforms?
8. Do you and your colleagues engage in conversations with stakeholders? Why? Why not? How often?

9. Do you/they have procedures how to respond to different opinions (negative/positive)? Why? Why not?
10. What would be the dimensions/components/attributes defining Online Reputation Management?
 - a) Which of them would you consider to be of most importance? Why? Why not?
 - b) Why do you consider these dimensions/components/attributes to be essential?

Part II – Sentiment Analysis

1. How would you define Sentiment Analysis? –Provide definition if they do not know the concept
2. Do you have a Sentiment Analysis tool implemented within your organization?

Version I- They know what SA is and have a Sentiment Analysis tool implemented within their organization

1. Who is the person responsible with using the Sentiment Analysis tool?
2. What role does Sentiment Analysis play within the organization? If also the role for Online Reputation/Online Reputation Management then 3a- if not 4a-
3.
 - a) What are the applications of Sentiment Analysis for Online Reputation Management?
 - b) Do you consider it a useful tool for monitoring and/or assessing Online Reputation? Why? Why not?
 - c) How often do you/your colleagues run the analysis for assessing and/or monitoring Online Reputation?
 - d) What elements (incomes) are being incorporated within the analysis? Why?
 - e) Who decides the elements (incomes) that would be incorporated within the analysis, i.e. key words?
 - f) What are the deliverables from Sentiment Analysis that you receive?
 - g) What are the steps, taken after having the Sentiment Analysis outcomes/results?
4.
 - a) Do you consider that Sentiment Analysis can be used for other purposes too? What would those be?
 - b) Do you consider the analysis a good application for assessing/and or monitoring what different stakeholders are saying in the online medium? Why? Why not?
5. Do you consider Sentiment Analysis as valid and objective analysis? Why? Why not?
6. Do you consider it an easy to use tool? Why? Why not?

Version II- They know what SA is and do not have a Sentiment Analysis tool implemented within their organization

1. What roles/applications do you think Sentiment Analysis can have? If also the role for Online Reputation Management then 3a- if not 4a-
2.
 - a) Do you consider it a useful tool for Online Reputation Management process? Why? Why not?
 - b) What would be the applications you would use SA for in the context of Online Reputation Management Process?
 - c) Would you consider Sentiment Analysis a useful tool for monitoring and/or assessing and/or monitoring what different stakeholders are saying in the online medium? Why? Why not?
 - d) Would you consider implementing Sentiment Analysis within your organization? Why? Why not?
 - e) What online platforms would use as the main source for assessing and/or monitoring Online Reputation? Why?
3.
 - a) Would you consider Sentiment Analysis a useful tool for monitoring and/or assessing what different stakeholders are saying in the online medium? Why? Why not?
 - b) What online platforms would use as the main source for assessing and/or monitoring Online Reputation? Why?
 - c) Would you consider implementing Sentiment Analysis within your organization? Why? Why not?

Version III- They do not know what Sentiment Analysis is

1. Based on the definition provided would you consider Sentiment Analysis a useful tool for monitoring and/or assessing Online Reputation? Why? Why not?
2. What online platforms would use as the main source for assessing and/or monitoring Online Reputation? Why?
3. Would you consider implementing Sentiment Analysis within your organization? Why? Why not?

Version 2: Analyst

Introduction

- Brief introduction of myself and research

I am a Master student at TU/e (Eindhoven University of Technology). In the current research we want to analyse the relationship between Online Reputation Management and Sentiment Analysis in the Social Media Context. Definitions will be provided and do not hesitate to ask me in case the used terminologies in the following questions are not familiar to you.

- Purpose interview

The purpose of the interview is to determine how you and your company approach the mentioned concepts: SA&ORM. This will provide us a better and practical understanding over the relationship between the two and will permit us to give further suggestions

- Permission to record

I would like to ask your permission to record our conversation. I will assure that the record will not be used outside the research purposes.

General Questions

3. Could you please tell me what is your current position? How long have you been in this position?
4. Could you describe in short a typical day at your office?

Sentiment Analysis

3. How would you define Sentiment Analysis? –Provide definition if they do not know the concept
4. Do you have a Sentiment Analysis tool implemented within your organization?

Version I- They know what SA is and have a Sentiment Analysis tool implemented within their organization

7. Who is the person responsible with using the Sentiment Analysis tool?
8. What role does Sentiment Analysis play within the organization? If also the role for Online Reputation/Online Reputation Management then 3a-i if **not** 4a-b
9.
 - a) What are the applications of Sentiment Analysis for Online Reputation Management?
 - b) Do you consider it a useful tool for monitoring and/or assessing Online Reputation? Why? Why not?
 - c) How often do you/your colleagues run the analysis for assessing and/or monitoring Online Reputation?
 - d) What elements (incomes) are being incorporated within the analysis? Why?

- e) Who decides the elements (incomes) that would be incorporated within the analysis, i.e. key words?
- f) Would you consider the elements used appropriate for monitoring and/or assessing Online Reputation?
- g) What are the steps, taken after having the Sentiment Analysis outcomes/results?
- h) What are the outcomes from Sentiment Analysis that you deliver forward for management?
- i) What are the most common online platforms used as the main source for assessing and/or monitoring Online Reputation? Why?

10.

- a) Do you consider that Sentiment Analysis can be used for other purposes too? What would those be?
- b) Do you consider the analysis a good application for assessing/and or monitoring what different stakeholders are saying in the online medium? Why? Why not?
- c) What online platforms would use as the main source for assessing and/or monitoring Online Reputation? Why?

11. Do you consider Sentiment Analysis as valid and objective analysis? Why? Why not?

12. Do you consider it an easy to use tool? Why? Why not?

Version II- They know what SA is and do not have a Sentiment Analysis tool implemented within their organization

4. What roles/applications do you think Sentiment Analysis can have? If also the role for Online Reputation Management then 2a-e if **not** 3a-c

5.

- a) Do you consider it a useful tool for Online Reputation Management process? Why? Why not?
- b) What would be the applications you would use SA for in the context of Online Reputation Management Process?
- c) Would you consider Sentiment Analysis a useful tool for monitoring and/or assessing and/or monitoring what different stakeholders are saying in the online medium? Why? Why not?
- d) Would you consider implementing Sentiment Analysis within your organization? Why? Why not?
- e) What online platforms would use as the main source for assessing and/or monitoring Online Reputation? Why?

6.

- a) Would you consider Sentiment Analysis a useful tool for monitoring and/or assessing what different stakeholders are saying in the online medium? Why? Why not?

- b) What online platforms would use as the main source for assessing and/or monitoring Online Reputation? Why?
- c) Would you consider implementing Sentiment Analysis within your organization? Why? Why not?

Version III- They do not know what Sentiment Analysis is

- 4. Based on the definition provided would you consider Sentiment Analysis a useful tool for monitoring and/or assessing Online Reputation? Why? Why not?
- 5. What online platforms would use as the main source for assessing and/or monitoring Online Reputation? Why?
- 6. Would you consider implementing Sentiment Analysis within your organization? Why? Why not?

Annex II- Additional Questions

Additional Questions

Your answers will be confidential and I assure you that they will not be used outside the research purposes.

Thank you for all your help and support!

Company Name:

[Click here to enter text.](#)

Please fill in your first and last name:

[Click here to enter text.](#)

1. Evaluating your Online Reputation, which of the categories below would you consider applicable for your company?

- Positive high (above 50%)
- Positive (0-50%)
- Neutral (close to 0)
- Negative
- Other (Please Specify): [Click here to enter text.](#)

2. Which of the words below do you use as key words for the Sentiment Analysis when assessing and/or monitoring the Online Reputation in the Social Media Medium?

- | | |
|---|--|
| <input type="checkbox"/> Feeling | <input type="checkbox"/> Alliances |
| <input type="checkbox"/> Admiration | <input type="checkbox"/> Vision |
| <input type="checkbox"/> Respect | <input type="checkbox"/> Market opportunity |
| <input type="checkbox"/> Trust | <input type="checkbox"/> Future |
| <input type="checkbox"/> Credibility | <input type="checkbox"/> Development |
| <input type="checkbox"/> Communicative | <input type="checkbox"/> Courage |
| <input type="checkbox"/> Loyalty | <input type="checkbox"/> Internationalization |
| <input type="checkbox"/> Satisfaction | <input type="checkbox"/> Future prospects |
| <input type="checkbox"/> Transparency | <input type="checkbox"/> Innovative |
| <input type="checkbox"/> Openness | <input type="checkbox"/> Management |
| <input type="checkbox"/> Attractiveness | <input type="checkbox"/> Job security/security |
| <input type="checkbox"/> Standards | <input type="checkbox"/> Employees |
| <input type="checkbox"/> Price | <input type="checkbox"/> Career opportunities |
| <input type="checkbox"/> Reliability | <input type="checkbox"/> Opportunities |
| <input type="checkbox"/> Quality ratio | <input type="checkbox"/> Motivation |
| <input type="checkbox"/> Savings | <input type="checkbox"/> Reward |
| <input type="checkbox"/> Quality | <input type="checkbox"/> Respect |
| <input type="checkbox"/> Offer | <input type="checkbox"/> Trust |
| <input type="checkbox"/> Value | <input type="checkbox"/> Compensation |

- | | |
|---|---|
| <input type="checkbox"/> Value for money | <input type="checkbox"/> Communication |
| <input type="checkbox"/> Upgrades | <input type="checkbox"/> Transparency |
| <input type="checkbox"/> Supporting services | <input type="checkbox"/> Openness |
| <input type="checkbox"/> Technical support | <input type="checkbox"/> Employee orientation |
| <input type="checkbox"/> Usefulness | <input type="checkbox"/> Salary |
| <input type="checkbox"/> Customer orientation | <input type="checkbox"/> Work challenges |
| <input type="checkbox"/> Profit | <input type="checkbox"/> Job title |
| <input type="checkbox"/> Profitability | <input type="checkbox"/> Job |
| <input type="checkbox"/> Risk | <input type="checkbox"/> Involvement |
| <input type="checkbox"/> Future growth | <input type="checkbox"/> People/society treatment |
| <input type="checkbox"/> Competitiveness | <input type="checkbox"/> Environment |
| <input type="checkbox"/> Market leader | <input type="checkbox"/> Ethical principles |
| <input type="checkbox"/> Earnings | <input type="checkbox"/> Ethics |
| <input type="checkbox"/> Indebtedness | <input type="checkbox"/> Principals |
| <input type="checkbox"/> Liquidity | <input type="checkbox"/> Participation |
| <input type="checkbox"/> Leadership | <input type="checkbox"/> Environmental support/impact |
| <input type="checkbox"/> Planning | <input type="checkbox"/> Social impact |

Other (Please Specify): [Click here to enter text.](#)

3. From your experience/received information, what are the most used topics or frequent words (based on a word cloud for example) about your company within the Social Media?

[Click here to enter text.](#)

4. Which of the following words would you consider using as a key word when assessing and/or monitoring your Online Reputation on Social Media (which word would you consider relevant/that applies for your company)?

- | | |
|---|--|
| <input type="checkbox"/> Feeling | <input type="checkbox"/> Alliances |
| <input type="checkbox"/> Admiration | <input type="checkbox"/> Vision |
| <input type="checkbox"/> Respect | <input type="checkbox"/> Market opportunity |
| <input type="checkbox"/> Trust | <input type="checkbox"/> Future |
| <input type="checkbox"/> Credibility | <input type="checkbox"/> Development |
| <input type="checkbox"/> Communicative | <input type="checkbox"/> Courage |
| <input type="checkbox"/> Loyalty | <input type="checkbox"/> Internationalization |
| <input type="checkbox"/> Satisfaction | <input type="checkbox"/> Future prospects |
| <input type="checkbox"/> Transparency | <input type="checkbox"/> Innovative |
| <input type="checkbox"/> Openness | <input type="checkbox"/> Management |
| <input type="checkbox"/> Attractiveness | <input type="checkbox"/> Job security/security |
| <input type="checkbox"/> Standards | <input type="checkbox"/> Employees |
| <input type="checkbox"/> Price | <input type="checkbox"/> Career opportunities |
| <input type="checkbox"/> Reliability | <input type="checkbox"/> Opportunities |
| <input type="checkbox"/> Quality ratio | <input type="checkbox"/> Motivation |

- Savings
- Quality
- Offer
- Value
- Value for money
- Upgrades
- Supporting services
- Technical support
- Usefulness
- Customer orientation
- Profit
- Profitability
- Risk
- Future growth
- Competitiveness
- Market leader
- Earnings
- Indebtedness
- Liquidity
- Leadership
- Planning
- Reward
- Respect
- Trust
- Compensation
- Communication
- Transparency
- Openness
- Employee orientation
- Salary
- Work challenges
- Job title
- Job
- Involvement
- People/society treatment
- Environment
- Ethical principles
- Ethics
- Principals
- Participation
- Environmental support/impact
- Social impact

Other (Please Specify): [Click here to enter text.](#)

Annex III- The concept of Sentiment Analysis defined by interviewees

Interviewee	Definition of Sentiment Analysis Concept
Alpha	"How would I define Sentiment Analysis is to have an idea of what people say on Social Media and whether is positive or negative and how it can affect our organization. But Sentiment Analysis is just to see whether is positive or negative. I see it like that. "
Beta	"Determining the degree of positive or negative commentary on your brand or product."
Gamma	"Sentiment Analysis for us started more than 3 years back (even for me) and the idea behind Sentiment Analysis is that you want to understand the consumer voice, that's the whole idea [...] But with Sentiment Analysis it comes much more natural- it is unprompted- because the people posting are mostly anonymous, they can talk anything about the company which might be sometimes more genuine- because of unprompted. When coming across sentiment it became a big buzz because you get much more genuine comments from people and also not in an isolated environment but in a multitude of touch points- we can see them talking on review sites, we can see them talking on e-commerce sites, we can see them talking on forums, blogs, you name it. So this also gave us layers of different value of sentiment because of the social nature of this listening – so it becomes as an even more strong social data for us. "
Delta	"A brilliant technique, Sentiment Analysis would be, in the way we presented to our customers, one clear view of number/dashboard to see in one moment of what your audience thinks of you. And of course, the model has to be accurate, but when you come to 80-90% accuracy you can make the right decisions, so making the opinion of your audience actionable. I think that's mainly what Sentiment Analysis is all about and what its core existing value is."
Epsilon	Definition was provided
Zeta	I would define it as deriving private stands from human written texts. And usually is an automated process but it doesn't have to be.
Eta	"Tracking everything being said about it and scoring it on the levels you think are relevant for your company. I think that's it! And also, if your story is being told."
Theta	"When I think about sentiment, I think that's not enough. Sentiment is more about positive and negative. That's it! What you do is try to connect...sentiment is just plus or minus. You need more qualitative data; you really need a word cloud or something like that as well. Where there is quality, do they say quality as well? Where they say innovation, do they talk about innovation as well? Maybe they use other words, but you can group them as well. If we say we have very good service, do they say it as well, do we really help them? You need that, is good insight, is not only about positive or negative, it's also about the same words. So you should be very clear what words, maybe 5, 10 words you want to hear in the market place."

Annex IV- The concept of ORM defined by interviewees

Interviewee	Definition of Online Reputation Management Concept
Beta	<p>“With the collection of customer feedback that a lot of companies are doing these days, I think it’s crucial to detract brand reputation trends from customer feedback. A lot of people speak their mind, people will not always say what they do, there even sometimes some threats: in customer feedback- about buying with the competition or never coming back to the website. Luckily enough through web analytics we can see that they do come back and they do buy. But I think it’s very crucial to continue breaking down the barriers between the company and the customer, the internet has already done that. There are not a lot of rocks to hide behind for companies anymore: bad services, bad products- people will talk about it on the internet. So I think, by collecting customer feedback through the various tools companies have on the website companies need to proactively analyse that and taking action on that. So, Brand Reputation, I think is crucial [...] If you are on YouTube, Facebook, Twitter, don’t just be there, but mingle.”</p>
Delta	<p>“Well, from my point of view, luckily I am in the position that we can build a brand and that means that we are building a brand ourselves. So we are building our reputation instead of really protecting it and so in the future when Content Factory goes as it should, it becomes more and more important but we do monitor the comments we get or when we are mentioned, we have several feeds tracking every message where Adversitement is mentioned, basically searches the internet for places where we are mentioned and luckily we haven’t had the situation where we had to act on something really escalating. But it could always happen. We have several kinds of stories, we have really factual stories about how to conduct a test or something, but we also have from our Chef Visionary Officer who launches visionary articles [...] But those articles are the best expected to be misinterpreted (visionary), so those are the risky articles, and when they appear I always really dive into the comments and see if anyone is responding or people say this is rubbish [...] So making sure that stories don’t lead to negative comment about us, so that’s basically what reputation management is for us, and that’s mainly for Adversitement. [...] Of course, the bigger the brand gets the more you have to devote yourself to Reputation Management. So that’s quite a challenge for the future also, but you can’t start early enough.”</p>
Epsilon	<p>“In this changing world where we live in, old ways of communication do still exist but are not that important anymore, in my opinion, since the introduction of the social media but also all the possibilities customers have to review our items. Almost immediately you get feedback, so it is a totally different world we leave in, compared with 2, 3, 5 years ago- it is totally different. So you have to react much quicker. It’s asking a lot from us, but also a lot from the way of thinking, so the way of thinking is switching, I think. I mean you can benefit from it, I think, if you are smart enough as a company to do so.”</p>
Eta	<p>“Online Reputation Management should be the extension to what you want people to tell about you. And to measure it, to anticipate on it, to make it like a round circle- that’s the easiest way, the most challenging on, but that’s the easiest way to align your goal with customers with endorsements. The story is really important and especially for companies who work B2B, it is important to have your story straight, and have people knowing that story, and being an investor and telling the story. Because, some companies do provide complex products, or not even products but services, so it’s really a challenge to get that story straight.”</p>
Theta	<p>“Is about managing the conversation, a brand is what people say that it is, what do they say and how can we manage that- that’s your reputation, that’s your image and identity. [...] That’s also reputation and a good one; I think the stories are there for emotional appeal. They make it simpler, you can understand it, and you can attract people. Every company needs a story. There’s always a story, nowadays it’s about images and stories.”</p>

Annex V- How employees see the usefulness of SA tools for OR

Interviewee	Usefulness of SA tools for assessing and/or monitoring Online Reputation
Alpha	<p>“Yes, I would consider it useful but I think you should always remember it is only Twitter population, Facebook population; and that’s not the whole population and we make our programs for the whole population. So that’s what I think is, you have to keep in mind, but I also think that Twitter and Facebook, I say those two but there are more, are very influential- so that’s why you also have to.” “when it comes to Reputation Management, it would be very useful because we are doing image research and then we would have input. And then: what do you think of that and then we know the topics people are talking about and know where the gap could be. It would be a good think for reputation.”</p> <p>For monitoring/assessing what different stakeholders say in the online medium: “Yes, of course, to know what the topics are. Also in particular what the spontaneous topics about us are. Yes we would like to know, trending topics on the” Iota</p>
Beta	<p>“Yes, I think that especially for a company like Kappa who is focused on becoming a more favorable brand in terms of becoming a more sustainable company, a company that thinks with its customers in terms of innovation; innovation also comes from knowing what problems people are running into their daily lives and how can Kappa as a Lighting company or as a Health Care company, playing active role in solving those problems. So right there, that’s the opening, the only opening you have, by talking with your people, talking with consumers.”</p> <p>For monitoring/assessing what different stakeholders say in the online medium: “Not the stakeholders, the consumers: being able to categorize and putting in different buckets for different business groups within the company.”</p>
Gamma	<p>I think it is, because of the anonymous nature of people posting, creates more much buzz and is much more genuine. Some people might have privacy posts so you will never get their Facebook posts because they are not public so obviously you will not get the big picture, but still the anonymous nature of other sources will give you a much bigger size- that is one. For positive: being genuine and unprompted. But for negative: maybe disadvantage vs. the traditional way because the thing with social, are all digital tracking, is moving so fast, growing so fast, and all these agencies and all these tools are picked up by engineers or analytics or econometrics or modeling- guys with these professions, backgrounds; but all the traditional way of doing things actually, if you take marketing communication guys, with 20 years of experience, PR person for reputation with 20 years of experience, so the business acumen is huge in traditional, so everything is build up with these guys with marketing intelligence companies and all these tracking set in stone by really well established questionnaires and scientifically control. Since digitally is moving so fast and led by more modeling and engineering and less business acumen people, so more in the tooling and technology but not in the business part, they simply crack to make it as robust as traditional- so that’s the big challenge with these things, so you need to find a way to connect these dots, because these guys will always going to bypass the traditional guys and you will miss the robustness and data quality of traditional- that will be the disadvantage.</p>
Delta	<p>“Yes, mainly because it is really actionable. You get real time view of what’s happening, so it doesn’t have a processing time, so you can act instantly, so that’s really of essence when it comes to online reputation management, I think- being able to respond quickly and of course and in a decent and a good way, but mainly the real time of it is absolutely valuable.”” But, being able to see in a mark what people think is rather great outcome I think. And of course, we have the opportunity to plot it on time, so you could see that, wow, we had to be there, so that’s quite useful, but of course the real time is very important in online reputation. So I think that that’s the best outcome it has.” “It’s very useful because we put it in a dashboard which makes it possible for every non-technical</p>

	<p>person to understand it. So it is really applicable for the marketer. And you don't have to dive in the technology or develop new skills in order to adapt to your strategy to it. So it is very hands on."</p>
Epsilon	<p>"I would like to know a little bit more about it. [...]And, I think that is a smart way of working but I would like to know how you do that. Because it's like you have a whole big mass of information, how you can get that together into something which could work at the end for your product concept, stores, whatever. So that's, I think, difficult.</p> <p>It seems for me very useful if you know what to look for. You need people who are very well into search on the web. You need to know what you want and how to put it, a very good web research. But still, if somebody else is searching the web it's different."</p>
Zeta	<p>"I think it's by far the most important tool you can use. While I do think that typical Sentiment Analysis people do nowadays, namely going up to polarity (positive/negative/neutral) is not sufficient. And that's my view, because it also depends on what you do with it, but it's too superficial to say something is positive or negative, it gives you a first step but then, again some human needs to be involved to actually make the real distinction, but you can also imagine certain domains, or applications, where it really matters who the person behind the expression is. For example if I say something bad about T-Mobile is probably not as impactful as a celebrity in the Netherlands, and if I am a big fan of Pepsi- for example, and people that I know already know this, so everybody on Twitter who follow me know that I am a fan of Pepsi, then whenever I say something bad about Pepsi they will probably wonder; hey, what's going on here? ; Instead when I am just random guy saying something bad about Pepsi, then they probably don't care. So you really need to know the person as well. It is too limited as it is usually done." "But likewise you can also start seeing what people will do next using anticipation for example, and anger; if you find both anticipation and anger then you have an aggressive person- probably somebody you want to track. So there you go to the individual level and that's something that could be very useful for threat detection or for public safety reasons.</p>
Eta	<p>"Yes, definitely." "And what we face with the elements tool is that is really adhoc, so you can see the sentiment as it is right now, real time. That could be really useful, but it's not the only tool we need because you also need to report and need to make the balance, for us it is useful, but not for our clients, we need more."</p>
Theta	<p>"Yes, we told you." "Bigger and bigger every day. I think it's in different shades when you do that job well. I don't think many PR agencies are doing this.</p> <p>Is it clear that we use it more and more for our customers? We measure it once when we start, that's the big idea- the sentiment is this, it is positive or negative- one of our goals is to get more positive sentiment and also the right words, the right associations.</p> <p>For us the purpose (the use of SA) – for the use Sentiment Analysis- is for corporate reputation.</p> <p>But I think sentiment, is maybe, the most important thing. A lot of our customers, and everybody in world that talk about functionality or something like, they say: oh, it's very good, it saves costs, etc. But if I don't want you, I don't love you if there's not another positive sentiment, I don't even want to hear it. I am not open for it. And I think there's a mistake in communication, but the gate is closed, you should open the gate and is open by emotion. So give them a heart, a soul, etc. because the choice is via the human way not via facts and figures, nobody trusts facts and figures. You want to build trust, trust is important. So that's why sentiment and what sentiment: the quality of sentiment, not only the quantity of sentiment that's important."</p>

Annex VI - Reputation Elements Sought by Key Stakeholders

Reputation Elements Sought by Key Stakeholders (Goldberg, Cohen, & Fiegenbaum, 2003)

Stakeholder

A. Investors

1. Internal Dimension

a. Short-term perspective

Strong earnings, high profit, low indebtedness, liquidity as asset

b. Long-term perspective

Product is innovative

Strong management team and organizational capabilities

2. External Dimension

Alliances with major corporations

Strong ties to customers

Future prospects

B. Customers

1. Internal Dimension

a. Short-term perspective

Product attributes: availability, low price, value/savings

b. Long-term perspective

Reliability of delivery, Capable of providing future technical support and upgrades

2. External Dimension

Supporting services

Alliances with major corporations

C. Employees

1. Internal Dimension

a. Short-term perspective

Compensation: salary, job title

b. Long-term perspective

Compensation: options, work challenge

Job security, career opportunities

2. External Dimension

Alliances with major corporations
