As organisations seek legitimacy in a fast-moving, interconnected and changing world, how do public relations help them to manage their identity, responsibilities and impact on society? In a more interactive society, organisations need to align their actions with social demands and values. If the main role of public relations is to build trust and influence opinionmakers, media, the public and the political agenda, what are the constraints and limitations at play here, and what is the impact on ethical principles?

The published research shows the profession is facing crucial changes: the existence of new organisational structures better aligned with social demands; the emergence of new techniques for interacting with organisations in a more trustworthy manner; and growing pressure by social groups acting both for and against particular social values, ideas and identities.

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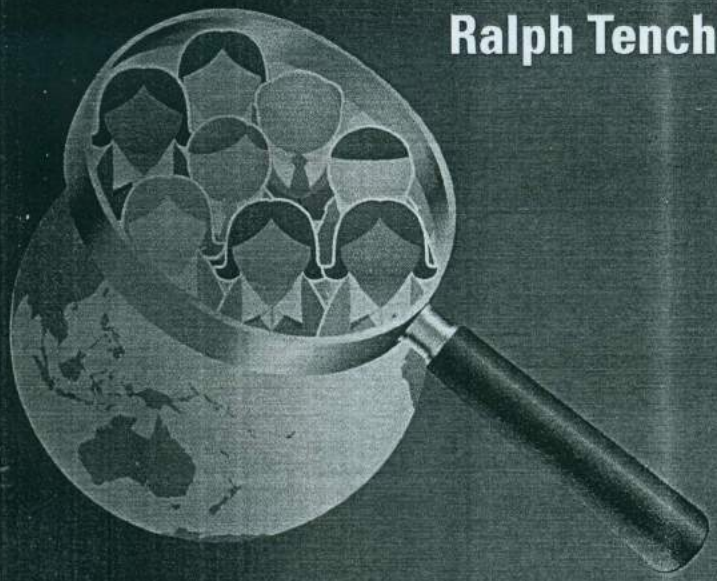

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This book is dedicated to our dear friend and colleague Adela Rogojinaru. Dr Adela was a full professor at the University of Bucharest and former Board member of EUPRERA. She made a valuable contribution to the Barcelona Congress as well as to EUPRERA over many years. She is fondly remembered for her friendship, academic contribution and professionalism.

A Reputation Measurement Model for Online Stakeholders

Concepts, Evidence and Implications

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In today's global markets, corporations are daily competing for visibility, investments, brand positioning. Reputation plays a key role in these aspects, as a favorable corporate reputation attracts investors, customers, suppliers, employers and consumers. Reputation is an exclusive and rare intangible asset and by cultivating it companies can attain competitive advantage over competitors (Peteraf & Barney, 2003), and ultimately affect financial performance (Roberts & Dowling, 2002). While reputation per se is not a controllable asset, some elements that compose it can be. Among these, communication is considered a crucial element for the development of a good reputation. Beyond informing stakeholders on institutional, strategic and market contents (Fombrun & Shanley, 1990), organizations are more and more using communication as a way to convey corporate identity and values as well as to engage and manage stakeholder relations. Van Riel and Van Halderen (2006) argue that the main functions of communication are enhancing so-called corporate expressiveness, boosting organizational transparency and sincerity, and contributing to the maintenance of coherence across corporate activities. Yet, because of the deep collective and social nature of reputation, through the use of communication, organizations

can influence the collective and social definition of corporate reputation by employing specific relational cultivation strategies and stakeholder engagement processes (Romenti, 2010). Reputation can be conceived as a meta-construct formed at a collective level through social relations, rather than a set of perceptions possessed by individuals. In other words, communications among individuals in the form of conversations construct a collective understanding of a corporate reputation.

Around the world, the increasing spread of social media for private and professional uses challenges the management of corporate reputation because corporate messages are not only generated by organizations but also by online influencers that, through the use of social media, can converse with current and potential stakeholders about corporate behaviors, products and services. The volatility of today's markets and the presence of cyclical crises have enhanced the amount of online conversations and rumors among stakeholders, and that can rapidly lead to the formation and sharing of erroneous opinions and attitudes towards organizations which can easily spread outside digital environment. Thus online conversations can have significant impact of corporate reputations, and on companies' performance. Most previous research on corporate reputation has focused on how offline reputation can be effectively measured. What is less known, however, is a solid framework for online reputation measurement that provides relevant indicators, sampling criteria and scales' assessment of online reputation.

The scope of this paper is to offer a theoretical framework based on offline reputation measurement models, theories of stakeholder relations and social network analysis (SNA) with the aim of offering a practical framework for online corporate reputation measurement. Starting from a discussion on what can be learned from the offline environment for what concerns the measurement of reputation and which the crucial implications for online environment are, we discuss existing models of online reputation measurement, their strengths and weaknesses and propose stakeholders' identification and segmentation as a pivotal element for measuring online reputation. Following this, we offer a practical approach to measure online reputation with some examples of large corporations.

Stakeholder-To-Stakeholder Conversations and Corporate Reputation

Definitions of what constitute corporate reputations abound, including diverse understandings of reputation as brand reputation, organizational reputation and stakeholder reputation. What scholars agree is that a reputation is something an organization can earn, but

cannot impose. Organizations can create and communicate specific images of themselves to their internal and external stakeholders, yet, whether those images will lead to specific reputations depends on what organizations do, and above all on what stakeholders expect from those organizations.

Communication plays a pivotal role in the construct of symbolic meaning around what an organization does and therefore, corporate communication has become an important managerial function in organizations. Because corporate reputation is a construct defined by stakeholders and not by the organization, traditional linear communication approaches of sending and transmitting information and communications to stakeholders are less effective in influencing stakeholders' opinion on organizations. Stakeholders, on the other hand, seem to be mostly influenced by opinion leaders' or peer-to-peer communications. Individuals form their opinion on the basis of social interactions and influences (Rashotte, 2006) not only on personal experiences with an organization, expectations, PR activities, ratings, or authority advice. There is a well-documented body of knowledge on opinion leaders, starting from the established two-step flow of information theory developed by Katz and Lazarsfeld (1955) that posits that certain individuals considered opinion leaders can influence the perceptions that others have on an organization, individual or event. Literature on word-of-mouth (WOM) marketing, for instance, is grounded on the idea that certain individuals are more likely to influence others' opinions, attitudes and even behaviors through conversations from one to another, i.e. the WOM expression. Consumer research and WOM studies show how individuals often take decisions because of outcomes of interactions with peers. These can be so powerful that individuals can make "real changes to their feelings and behaviours as a result of interaction with others who are perceived to be similar, desirable, or expert" (Rashotte, 2006: 4426).

Reputation as a construct of what 'others think about me – organization' is thus interlinked with discursive processes of meaning creation and interpretation and can be highly influenced by opinion leaders and peer-to-peer communications. Balmer and Gray (1999) argue, in fact, that word-of-mouth and relational networks between an organization and its stakeholders have an important role in corporate reputation management. Stakeholder-tostakeholder conversations are, thus, a way of giving sense to organizational behaviors and actions not only on the basis of stakeholders' own experience with an organization, but on informative and value-based signals received directly from the organization and other social actors. Reputation is thus the result of what Weick (1995) defines as 'collective sensemaking' and is formed

externally to an organization, among stakeholders' informal relational networks. Dentchev and Heene (2004) corroborate this idea by empathizing that a corporate reputation is the outcome of a complex network of relations between organizations and stakeholders and among stakeholders themselves.

The advance of information and communication technology and the rise of digital environments in the last years have increased stakeholder-to-stakeholder conversations. Specifically, social media and social networking sites, such as Facebook, Twitter, LinkedIn, have become a major Internet service for people to communicate with each other (Ye & Wu, 2013). Conversations form around issues and tend to navigate across networks through a mechanism of sharing relevant content, what it is known as information propagation (Ye & Wu, 2013; Zhao *et al.*, 2012). Scholarly work on information flow theory and information propagation has emerged around two major lines of approach: the Linear Threshold model and the Independent Cascade model (Guo *et al.*, 2009; Kempe *et al.*, 2003; Zhao *et al.*, 2012). Granovetter (1978) was among the first developing a threshold model which basically explain the behavior of people in a network based on the behavior of others. His idea was applied to social networking sites to look at the likelihood of a specific content to spread from one individual to another. Leskovec, McGlohon, and Faloutsos (2007) examined linking propagation patterns from one blog post to another, and develop a cascade model that basically explain how certain contents navigate the web and reach very different stakeholders. Other studies on this phenomenon exist contributing to a better understanding of how contents are shared across networks and of the patterns of user interactions (Li *et al.*, 2010; Shen *et al.*, 2012). What clearly emerges from scholarly findings in information technologies is that the propagation of messages is often something outside an organization's power and message propagation on social media could follow different paths as a same content could be shared on multiple social media devices. The message propagation on social media could follow different paths as a same content could be shared on multiple social media devices. The following figure 1.2. illustrates the message propagation of a content related to the organizations BMW, that has been conveyed first through blog and at a later stage shared on other social media (Twitter, Forum and Facebook).

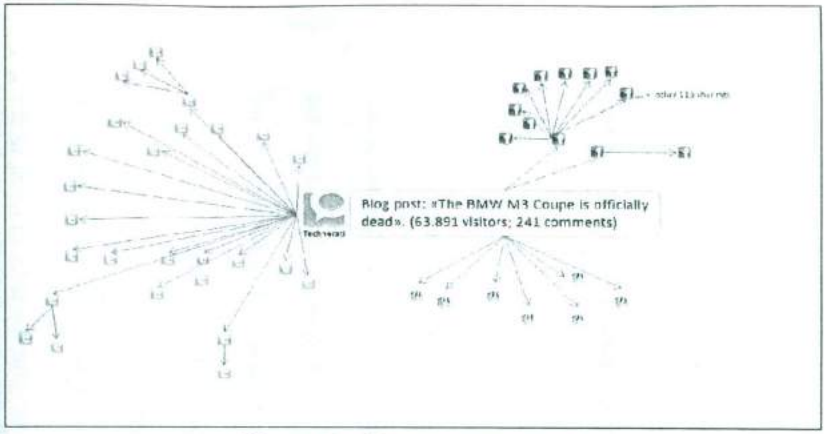

Figure 1.1. *Message propagation.*

The content concerning BMW published on an influential blog (Technorati authoritu: 785) has been shared by 26 Twitter accounts (I and II connections levels), by 7 forum accounts; by 127 facebook accounts (I and II connections levels). Hereby, if corporate reputation represents what stakeholders think and expect about an organization over time and if stakeholders' opinions are affected by stakeholder-tostakeholder conversations in social media, then corporate reputation should be also measured in the digital environment. Before presenting and discussing existing models for measuring online reputation, we briefly review and discuss main tenants of literature of 'offline' reputation measurement, since these provide important elements for assessing main assumptions, criteria and scales for online reputation measurements.

Measurement Models: What does Offline Reputation Teach Us?

Reputation measurement is one of the most debated subjects among scholars and professionals, rich of multidisciplinary approaches, fertile and ever-green (Caruana, 1997; Wartick, 2002; Chun, 2005). Models shift from unidimensional, where respondents are asked to rate the reputation of a company from poor to good (Goldberg, Hartwick, 1990), to multidimensional ones. Qualitative methods, describing personality traits of a company, or quantitative ones, allowing comparisons among competitors, are both used. Quantitative approaches, such as reputation ranking measures, provide useful data over an extended period of time and the sample size, but they have limitations as the results offer little insights for developing and improving managerial processes. Companies seem to use these results as a way to enhance their corporate media

visibility by offering news media information on how they are ranked in their industry. These results are not used to improve their internal and external corporate practices mostly because they can limitedly provide information on the quality of management. In the qualitative approach, corporate character scale, for example, assesses how external perceptions have been influenced by what happened inside an organization (Chun & Davies, 2006) and, this represents a better formative evaluation tool to correct areas of mismanagement. There is no agreement among scholars and practitioners on which instrument is the best for reputation measurement. In many debates concerning the measurement of corporate reputation, the following elements have been taken into considerations: choice for what is measured (judgment versus beliefs), on whom (the pivotal role of stakeholders), and how (the use of reflective versus formative measures).

What is measured: judgment or beliefs?

The great amount of measurement models of offline reputation reflects the equivalent abundant number of existing definitions. Reputation is conceptualized differently in in the six main academic disciplines identified by Fombrun and Van Riel in the opening issue of the Corporate Reputation Review (1997): accounting, economics, marketing, organizational behavior, sociology and strategy. While scholars agree on the perceptual nature of the construct, divergences exist on which type of perceptions need to be taken into consideration and therefore on the correct instrument for measuring reputation.

One of the most cited definitions refers to reputation as "the overall estimation in which a particular company is held by its various constituents" (Fombrun, 1996, p. 37). This definition starts from the assumption that reputation is an evaluative judgment and assessment. Hereby, measurement instruments developed on the basis of this definition seek for ratings through the use of Likert scale of the perceived quality of an organization's reputation. Other important features of the construct of reputation identified by different scholars and used for developing measurement instruments are: reputation as a belief (awareness) and reputation as a financial asset. Measuring beliefs means assessing the level of agreement of respondents about the accuracy of statements about an organization. When reputation is conceptualized as a financial asset, measurement instruments use economic formulas to transform stakeholders' assessments into an economic value measurement. In other words, the use of different reputation constructs (based on judgment, belief, asset) implies different methods of measurement. In many aspects, researcher's choices often seem more influenced by his/her disciplinary background, alias assumption about what reputation is, rather than by a

detailed benchmark among existing techniques (Van Riel *et al.*, 1998; Chun, 2005; Stacks *et al.*, 2013).

Another important conceptual distinction which can be reflected into the choice of measurement models is between reputation and image. Reputation has historical accumulated meanings, because it is the product of a consistent performance over time, coherent behaviors and communication strategies focused on what organization does and what organization is. On the contrary, stakeholders can form an image of an organization without having any experience with or specific knowledge of it (Gray & Balmer, 1998). Communication activities such as advertising campaigns and sponsorships can enhance image attributes, without influencing the level of reputation. Since reputation is stable and enduring, its measurement should be based on longitudinal studies rather than snap shots of a company's perceptions in relation to one or more of its communication and marketing activities.

The pivotal role of stakeholders

Stakeholders have always been considered pivotal elements for defining the concept of reputation and related measurement models. Chun (2005), for instance, identified three main approaches about reputation measurement on the basis of which types of stakeholder group are involved. These are evaluative, impressional and relational approaches. The evaluative one measures the financial value of reputation and consequently assesses reputation among stakeholders who are interested of financial attributes of the firm, such as shareholders, CEOs or investment advisers. America's Most Admired Corporation (AMAC) social ranking model promoted by *Fortune* is an example of this approach. This model relies primarily on a narrow categorization of stakeholders possessing specific resources, like for example senior executives, financial administrators and financial analysts. Because of this too narrow stakeholder categorization, this model has been criticized (Fombrun & Shanley, 1990; Deephouse, 2000; Fryxell & Wang, 1994), given the particular sensitiveness of interviewees on financial performance which can lead to biased outcomes.

The impressional approach defines reputation as a collection of impressions made by a wide group of different stakeholders including employees, suppliers, clients, community and investors. Here, reputation is considered a collective sum of single impressions. Finally, relational approach compares perceptions of internal stakeholders with those of external stakeholders in order to evaluate whether an organization has been able to effectively express its identity and core guiding values internally and externally. For instance, the model elaborated by

Davies *et al.* (2004) conceives reputation as a reflection of corporate identity and consequently as an expression of corporate personality. To measure reputation the model proposes to employ a survey to be conducted on a sample of employees and customers in order to understand how employees' behaviors and word-of-mouth mechanisms can influence customers' opinions about an organization (Davies *et al.*, 2004). The model offers five main dimensions of corporate personality (agreeableness, enterprise, competence, chic and ruthlessness) and two secondary features (machismo and informality).

Previous studies indicate that each stakeholder group has self-serving interests that influence own perceptions of an organization's reputation. Thus, it is important to have different stakeholder groups equally represented in the sample when measuring reputation. Fombrun proposes "sampling a representative set of stakeholders on a conceptually relevant set of evaluative criteria" (1998: 338), which comprise emotional appeal, quality of products and services, quality of working place, financial solidity, clear vision and leadership and social responsibility criteria. More specifically, Reputation Quotient (2006) and RepTrack (2009) are examples of sample-based rankings developed by the Reputation Institute and includes managers, investors, employees and customers who have some familiarity with the organization. If we accept the premises that each stakeholder group privileges certain criteria over others to construct own assessment of an organization's reputation, an aggregate measure such as the one proposed by the *Reputation Institute* simplifies and sacrifices specific information on each stakeholder group's reputation assessment. All in all, previous research seems to point that the way in which stakeholders are selected and the choice for methods used to collected data can lead to significantly different outcomes in terms of what is actually measured of a corporate reputation. Taking as a point of departure this discussion, we argue that previous considerations are equally important for measuring online reputation. We wonder whether existing literature provides definitions for online reputation, whether any underlying assumptions on measurement methods exist and how stakeholder groups are defined within the online environment. In the following section, we explore these and other questions before presenting our theoretical framework for measuring online reputation.

Implications for Online Reputation Measurement

Several studies on online reputation focus on the influence of offline seller reputation on online auctions (Standifird, 2001; Melnik & Alm, 2002; Obloj & Capron, 2011) as well as the brand reputation management

in an online environment (Veil *et al.*, 2012). Only a few studies deal with the topic of measurement of online reputation, and these cover primarily the tourism management area (Crotts *et al.*, 2009; Inversini *et al.*, 2010; Horster & Gottschalk, 2012). Inversini *et al.* (2010) developed a "Destination Online Reputation Model" starting from identifying topics (through interviews to a representative sample of stakeholders) to be considered when evaluating online reputation of a tourism destination. These scholars, as well as Crotts *et al.* (2009), propose to search in the online environment for the identified topics, which are assumed to be the drivers of online reputation, and to evaluate the connotations (positive, neutral and negative) through a sentiment analysis.

Horster and Gottschalk (2012) suggest that online reputation should be measured following threats of discourses among relevant web users across different digital platforms. Through Content Analysis for Web (CAW), a qualitative method, the authors argue that the starting point to measure online reputation consists of identifying relevant web users (relevant nodes of networks). "Once the sources are identified and the process [of analysis of conversations] has been run through several times, important topics can be grouped into categories. These categories include main keywords, which can be used to restart the whole process" (Horster & Gottschalk, 2012: 235). In other words, the first step of CAW method consists of identifying which organizational topics are the most debated among the most connected subjects in the network, and the second step implies the analysis of tone and volume of these topics.

Professional services and consultancies offer a wide array of different measurement tools to measure reputation testifying that the concept is considered highly relevant for the online environment. Starting from the existing measurement instruments we can deduct three major assumptions on how reputation is conceptualized for the online environment. These assumptions are highly influenced by how social media are conceived. Accordingly, online reputation is defined either as the quantity and quality of coverage of different organizational issues in the digital environment, as threats of online discussions among relevant nodes of networks, or as a reflection of real (offline) reputation.

Online reputation as the quantity and quality of online coverage of organizational issues

When social media are conceived as a form of media, measurement models are similar to those used for measuring media reputation. These models, such as the measurement model proposed by Inversini *et al.* (2010), focus on volume of comments posted on the company and sentiment (alias tone) attributed to these comments. Volume is calculated

by the number of times a company is mentioned in a social network site, that is, the number of comments posted on blogs, Facebook posts and comments, and tweets. Beyond the quantity, comments are analyzed in order to understand which aspects of the brand, product or service people focus their attention on. Hence, volume measures online corporate visibility and indicates the most relevant corporate aspects for online stakeholders' conversations with the limits of a quantitative approach. Schawbel (2009) mentions at least ten tools available to companies that measure companies' online visibility: Google Alerts, Blog Post, Blog Comments, Social Comments, Discussion Boards, Twitter, Friend Feed, Social Search, Interactive Search and Own Network.

Sentiment concerns the likeness (emotional dimension as discussed before) towards companies expressed by people and is measured through tools like *SentiMeter*. *SocialMention* is another well-known platform that analyses emotions in the online user-generated contents. *SocialMention* monitors more than 100 social networks, e.g. Twitter, Facebook, YouTube and main bookmarks, and analyze them through the use of keywords. This tool provides values on people's opinions according to four parameters: "strength", "sentiment", "passion" and "reach". A critique towards online reputation measurement tools based on sentiments is that emotions alone can provide little insights into organizations that seek to assess their level of likeness among primary stakeholder groups in the core dimensions of corporate performance. McCordinkdale (2011) argues, in fact, that because online stakeholders like something this may not translate into anything of value such as behavior or attitude and, sometimes the expression of likeness is not related with their personal opinion, since a person may feel pressure from friends who recommend the "like".

Online reputation as the sum of threats of online discussions among relevant nodes of networks

The second group of measurement models considers social media as a new environment characterized by sharing, relations, networks. In this environment, measuring online reputation means identifying salient people, who speak about an organization, on the basis of their social network behavior. The CAW model proposed by Horster and Gottschalk (2012) is an example of this measurement model. Other instruments, such as the *Social technographics/Webnography* proposed by Forrester Research, start by assessing the social relevance of a social network actor (Allen, 2010) on the basis of a classification of social network actors by sociability criterion. Depending on whether they have a more active (creating, posting, and sharing) or passive (consuming) behavior (Pagani *et al.*, 2011), they can be classified as: Creators, Critics, Collectors, Joiners, Spectators and Inactives actors (Allen, 2010, December 25). Yet,

these models do not provide specific information on the criteria used to measure online reputation once key online stakeholders are identified among the most prominent social network actors.

Online reputation as a reflection of offline reputation

Finally, some tools recognize online reputation as a reflection of the offline one. Tools such as *The Coefficient of Reputation Risk* calculates the gap between what the organization does and what the online stakeholders talk about in order to identify the areas of disalignment on which the company should concentrate its future communication efforts.

The Negativity Actually Ascribable (NAA) model evaluates which factors, exogenous or endogenous, real or virtual, can be the causes of negative comments posted online about a brand or a company. In other words, the model calculates which concrete actions or management practices caused the development of negative online discussions.

Online environment presents both strengths and weaknesses for the measurement of reputations. Formative as well as reflective approaches to reputation measurement are feasible. Evaluative criteria can be coded before analysis (reflective) or inducted from the analysis of online dialogues and conversations (formative). While in the online environment it is certainly easier to conduct longitudinal studies in order to assess the consistency of reputation over time, it is also more difficult to identify stakeholders' groups due to privacy barriers and fictitious identities. A high level of privacy setting means that contents are limitedly or not at all public, and this can create some problems when organizations are searching for relevant online contents. Whereas fake online identities can compromise an organization's efforts in mapping key online stakeholders. Our paper proposes a model, rooted into social network analysis theory, which permit stakeholders' segmentation on the basis of their positions in the conversational networks around organizational topics and their degree of centrality.

A Conversation-Based Measurement Model of Online Reputation

Our model starts from the premises that in social media what matters the most is the size of the network and interconnectivity between social network actors. Contents pertaining organizations travel faster and reach large groups of individuals if the source of the content is an opinion leader, i.e. a social media influencer, since this individual will most likely be followed by a larger number of individuals that are interested in his/her opinion as an expert. Based on social network analysis theory, Sedereviciute and Valentini (2011) have developed a model for

identifying and segmenting online stakeholders based on the stakeholder salience model (Mitchell *et al.*, 1997) which classifies stakeholders according to three types of resources they can possess (legitimacy, power and urgency) and on social network analysis (cf. Rowley, 1997), which explains relations among individuals, i.e. nodes. In Sedereviciute and Valentini (2011)'s model legitimacy is measured on the salience of the posted content. Social media actors that post content relevant to an organization acquire legitimacy. Urgency is related to the frequency of posting; the more a social media actor post relevant content, the more he/she has urgent claims in relation to the organizations. Power is gained through a social media actor's position in the network. Specifically, a social media actor needs to have a high level of centrality for becoming a powerful stakeholder (Sedereviciute & Valentini, 2011). Based on these elements, Sedereviciute and Valentini (2011) identified four key groups of social media actors (unconcerned lurkers, unconcerned influencers, concerned lurkers and concerned influencers). Luckers are social media actors with limited centrality in a network and thus are not by definition considered opinion leaders and not very influential from an organization's point of view. Influentials, on the other hand, have a strong centrality and clearly can affect the image and reputation of an organization by levering their network relations and spreading specific contents. Among these, the concerned influentials are those individuals that are already engaging in online conversations on a given organization and thus the one, we argue, that should be closely monitored. These social media actors have a stake in the organization since they are interested in posting salient contents. We argue that the concerned luckers are those social media influentials that organizations should measure their corporate reputation. As Sedereviciute and Valentini (2011) state the clustering of social media actors in these four groups is something that needs to be done cyclical, since networks may change in time and interest for posting on organizations too. In the following section we explain in more details how we propose to measure online reputation of an organization and provide few examples of its practicality.

Implementing the conversation-based model of online reputation measurement

As shown in the figure 2, we propose a three-step process to measure an organization's online reputation which is based on the above presented model. The three steps comprise: a) gathering online content; b) segmenting online stakeholders; c) measuring online reputation.

Figure 2. *Online reputation measurement process.*

Source: own elaboration

a. Gathering online content

By using specific social media search engine, such as Technorati, Blogmeter, Social Mention, Whostalkin, online contents mentioning the chosen organizations and dealing with topics linked to the key dimensions of the reputation concept can be gathered. To do this, we propose a three step procedure. First, organizations need to define what exactly they want to measure of their online reputation construct. Literature on reputation measurement suggests the following specific areas related to the reputation pillars: *emotional appeal, products and services, vision and leadership, workplace environment, financial performance, social responsibility*. Other or different areas, however, could be included. Second, in order to retrieve information, keywords pertaining those key areas of reputation should be used in combination with the name of selected organization and entered into the search engines (e.g. Organization ABC + workplace environment; Organization ABC + financial performance). As reputation is a long-term concept and it is closely related to the process of time, online measurements need to be cyclically calculated. Finally, as a result of this first step, a reputational content list can be created, that is a tabulation of contents posted by online stakeholders on different social media such as Facebook, Twitter, Blog and Youtube. At this point, a data cleaning procedure is necessary to leave out contents posted by the organizations' own social media accounts as these invalidate the analysis of stakeholders' opinions. The reason is that online reputation is increasingly based on narrative processes, information and meaning exchanges among online stakeholders who share their personal experiences, opinions, attitudes and sentiments with regards to companies' activities (Aula, 2011). Official accounts of private or public organizations on social media are inclined to mirror official organizational positions. Furthermore they aim more to gain prominence and visibility according to propagandistic, advertising or informational principles rather than to stimulate comparisons, critiques

and opinions. For this reason their impact on organizational reputation seems to be lower than the impact of stakeholders' generated contents. The inclusion of official accounts into the analysis could increase the quantity of conveyed content on one hand, but reduce their relevance for organizations, on the other hand, by necessarily altering results.

b. Segmenting online stakeholders

From those online contents we propose to identify key online stakeholders on the basis of dimensions suggested by Sedereviciute and Valentini (2011)'s holistic stakeholder mapping model, that are: *power*, that is related to stakeholders' connectivity and position within the network; *urgency*, concerning with the online posting frequency (content shared); and, finally, *salience*, that is the relevance of the posted content for organizations. Stakeholders' connectivity and position of Sedereviciute and Valentini (2011)'s model are closely related to the stakeholders' centrality within a network. According to Social Network Analysis, various measures of centrality exist: degree centrality, closeness centrality, betweenness centrality, eigenvector centrality (Borgatti, 2005). In social media, centrality is represented by the number of users' connections or ties. The following table (1) synthesizes the different kind of connections according to social media tools that are available to be measured by using search engines.

Table 1. Connections example within social media

Social Media	**Ties/Connections**
Blog	Blog's subscribers + authors' subscribers
Twitter	Following + Followers
Facebook	Friends
Youtube	Channel Subscribers
Social Media	**Ties/Connections**
Blog	Blog's subscribers + authors' subscribers
Twitter	Following + Followers
Facebook	Friends
Youtube	Channel Subscribers

Source: own elaboration

Closeness centrality defines the individual capability to reach unrestrictedly all other members of the network (Freeman, 1979) and this measure is concerned with the distance between an actor from other individuals of his network. Betweenness centrality assumes the viewpoint of an intermediary actor who is positioned between other actors (Rowley, 1997). Individuals with high degree of betweenness centrality act as a bridge between two members who are not directly connected (Cross

& Cummings, 2004). Finally, eigenvector centrality takes into account different adjacent networks. It measures one member's relevance compared with other individuals belonging to his network who have high number of connections (Bonacich, 2007).

To our knowledge, no specific SNA program is currently available to collect data from all social media, with regards, for instance, to specific indicators such as the centrality of a member within a network. To measure these indicators and thus define the power of a stakeholder in a social media network, the collection of information concerning stakeholders' connections is needed. As previously indicated, the availability of such information depends on privacy levels that usually are set by online users and that can be restricted to a nondisclosure of information outside own network.

The stakeholders' posting frequency depends on the number of Tweets, blog posts, video posts, Facebook posts published by stakeholders through their personal accounts during a certain period of time. Even concerning this measure, the privacy issue assumes relevance in relation to collect data, since several social networking accounts are protected against monitoring activities implemented by actors who are not included in the stakeholders' personal networks. For this reason, organizations have increased difficulties in tracing and gathering online contents. Finally the interest of the shared content is related to what extent it can be considered relevant for organizations.

To sum up, the stakeholders' segmentation procedure is represented by three subanalyses. The first one consists in the identification of online stakeholders through their posting frequency. This means to select those stakeholders that have high scores in terms of number of Tweets, blog posts, Video posts, and Facebook published posts. In this first stage it is necessary to set a threshold, a value over which frequency degree can be considered high. Such value can be identified by each organization according to the selected social media and the level of organizational brand awareness. Different social media presume different scores of frequency posting according to their technical features and use opportunities. For instance Twitter eases higher frequency posting compared with other social media tools such as Youtube or blogs, where the process of content creation requires more stakeholders' time and energy. Organizations with higher brand awareness are at the center of stakeholders' discussions more often than organizations with lower brand awareness simply because they are more visible across different channels and touch points. Because of these, a threshold value may vary across organizations. From this analysis two classes of stakeholders result: high-frequency or low-frequency stakeholders.

In the second analysis, the two groups of stakeholders are examined in terms of connectivity and centrality within their networks. Current analysis software tools, for instance NodeXL, allow getting information about user's online networks and generating data concerning connectivity and centrality of each online stakeholder in an automatized manner. Once performed this analysis, the final step is to group stakeholders into the four clusters as indicated by Sedereviciute and Valentini (2011)'s model: *concerned influencers; concerned lurkers*; *unconcerned influencers*; and, finally, *unconcerned lurkers*. Once stakeholder clusters are created an organization can start its analysis of online reputation.

c. Measuring online reputation

The measurement of online reputation is a long-term activity that should be conducted continuously by the implementation of the proposed steps. First, once identified the different online stakeholders groups, an initial analysis of retrieved reputational content published by stakeholder clusters can be conducted. The unit of analysis consists of single post published by each stakeholders and it can be analyzed by the means of qualitative content analysis in order to pinpoint topics at the center of discussion, tones used by stakeholders, their attitude towards organizations (Neuendorf, 2002).

Second, a continuous monitoring of online key stakeholders' conversations should be carried out. Conversational relationships can be maintained and cultivated for long period. Furthermore opinions conveyed and shared through such conversational relationships can change over the time. For this reason organizations should keep high attention to the selected stakeholder cluster.

Finally, periodical content analysis of online key stakeholders' conversations should be activated through reputational measures, that means to use reputational parameters or indicators to analyze the collected content in order to find out if, how and to what extent conversations can impact organizational reputation.

Amongst the different stakeholders' categories organizations need to mostly take into consideration the conversational activity of *concerned stakeholders*. In the following example the blogger has published a post reviewing the quality of a product.

> *"Canon EOS 70D: Yet Another Incredible Video DSLR From Canon", Blogger Mario Aguilar on Gizmodo, 7/02/2013.*

The blogger has an average of 7 posts per day (high frequency posting) and the published content has had 45,944 visitors and 128 comments; furthermore it has been shared by 323 users on Facebook

(high connectivity). The blogger has to be considered influential by the mentioned organization as his opinion is subjected to the viral mechanism and affect organizational reputation.

Monitoring continuously online stakeholders allows organizations preventing risks and taking appropriate measures to deal with different stakeholders' categories, that means other stakeholders' clusters have not to be underestimated.

The following example shows a content published by one of the *unconcerned influencers*:

> *BMW report profits jump due to #china sales. As reported in economist recently, luxury European producers have excelled at winning in China, Twitter account @Robimbew, 9/03/2012.*

The Twitter stakeholder has a high number of connections (16,156 followers; 2,195 following), but a low degree of frequency posting (1 Tweet in one year). The shared content deals with the pillar of "financial performance". An increase in stakeholders' frequency posting could make the considered stakeholder able to become more visible and consequently to gain legitimacy and relevance within his network, with consequences for organizational reputation.

Conclusions

The scope of this paper is to offer a theoretical framework based on offline reputation measurement models, theories of stakeholder relations and social network analysis (SNA) with the aim of offering a practical framework for online corporate reputation measurement.

Our proposed model for measuring online reputation is an effort to integrate existing knowledge on reputation measurement literature, social network analysis and theories of stakeholder relations into a comprehensive, yet practical model that can help managers in analyzing online reputation in a meaningful manner. Specifically, we want to provide managers responsible of corporate reputation with a model that can be used not only for monitoring online conversations but also identifying those key online stakeholders that are considered opinion leaders. We believe that when organizations are capable to identify their online social media influencers, i.e. opinion leaders, and understand their communication behaviors, they can better plan actions to correct specific activities that are considered bad or increase those that are perceived as good. They can also develop specific stakeholder relations actions that aim at engaging them. Our proposed model can help organizations to discover potential influential online stakeholders that could be engaged in corporate communications by levering on their position and centrality

in the network and thus making those online influential stakeholders as organizational ambassadors. Further adjustments of the construct of our theoretical framework are required, and more specifically to redefine the implementation procedure. New softwares and programs better equipped to perform an SNA analysis as identified before may develop in the future and this obviously will change to some extent our proposed procedure to measure online reputation.

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