

## *Alternative measures of corporate performance, reflecting the evolving influence of multiple stakeholders*

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### **Abstract:**

Social Media today is rapidly a developing sphere, mostly all population under 30 years use one or several networks in their day to day life. Companies and consultancy firms have initially seized this “explosion” for marketing purposes, but more recently they have seen the great potentiality of the big data generated by social media for managing their performance. Notwithstanding this interest, academic research is still scan and at the infancy stage, claiming for explorative studies in this field. This paper sits in this area, and aims to analyze the use of social media for performance measurement. A multiple case was carried out in eight companies providing two areas of results. First, the study highlights the metrics adopted, how they are collected and analyzed and the specific competences required to manage the data. Second the paper evidences the use of social metrics by manager positioned in different departments of the company.

### **Introduction**

In current fast changing reality managers and heads of companies have to face new challenges and difficulties, for maintaining relations with stakeholders, improving their competitive positions and companies’ performance. Social media is entered this business life becoming an important source of communication and information, making the market even more turbulent and sensitive respect to the past, but also creating new opportunities. This new reality of the business is forcing to answer these calls, leading enterprises to implement new tools, seeking for new resources of information with the final goal to reach a competitive advantage through Social media. In specific, SM is “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content” (Kaplan, Haenlein, 2010, p. 61). Observation and analysis of SM activities generate “big data” that could be used for diverse purposes starting from marketing to customer relationship management and even more for collaboration between customers and companies, helping research & development departments to deliver on the market tailored products and services. In order to support these various uses, developers of SM tools have created specific instruments that help to analyze results achieved. All this information and tools have huge potentiality in helping firms to improve their performance, reach new markets and achieve their goals.

This opportunity, stemming from SM, is so far overlooked by performance measurement literature, although the big amount of data generated by SM could be used by companies for the main functions of PMS: supporting decision making and leading employees and managers' behavior. The decision-making process based on information derived from SM is considered on the general level by Kaplan and Haenlein (2010) in their studies of different SM implementation practices. Other researches provide a more focused perspective of social media information usage, such as predicting market situation or behavior of another player (e.g. Mislove, Viswanath, Gummadi, Druschel, 2012). Motivation perspective of social media usage has been studied by Owers, Pitt, Tuckerennett (2009) that showed the importance of social networking and necessity of implementing these systems internally to improve communication and relation between employees. Moreover, Brzozowski (2009) have explored how these social media instruments are changing employees' perceptions of their workplace, making them feel more connected to each other and to the company, as well as redistribution of employees' attention outside their own departments. As well as, external accountability issues are overviewed in several studies building social media and information and communication technologies into their structures to promote collaboration with stakeholders and monitor these activities for transparency and brand reputation improvement (Bertot, Jaeger, Grimes, 2011; Emerald survey, 2012; Byrd, 2012).

In this context the aim of this research is to analyze the use of social media for enriching performance measurement systems. Specifically the study highlights the metrics adopted by the companies, paths of the information collection and analysis and the specific competences required to manage the data. As well as, the paper evidences the use of social metrics by managers positioned in different departments of the company and interaction with multiple stakeholders.

The research was carried out with a case study methodology (Stake, 1995); eight cases have been analyzed using multiple source of information: documentation, web analysis, internal reports and face to face interviews with key actors involved in processing and using social media data.

The paper is organized, as follows: section 2 provides with the overview of the existing literature of the performance management system, social media literature overlook and it's interaction with the PMS; section 3 proposes the extended framework of integration of social media and PMS; the section 4 explains the methodological approach used for investigation and adaptation of the framework; consequently the section 5 provides the results of the case-studies, the section 6 discuss the r research results and gives overall conclusions.

## **Literature review**

The review of the scientific articles provides an overview on the performance management system (PMS) and its development through the lens of social media information boom and 2.0 business adoption. PMS boundaries are referred to Chenhall (2003) and Malmi, Brown (2008), conceptualizing PMS as a control package, which has two essential functions: supporting decision making and leading employees and managers' behavior. According to Malmi and Brown (2008) PMS package is structured around five elements: planning, cybernetic, reward and compensation, administrative and cultural controls. Recently researches have made some efforts in investigating management systems employing social media. The following overview of previous contributions is divided in two major parts: first we recount the uses of social media more generally for the managerial processes; second, we analyze contributions more focused on control and measurement issues.

Regarding the managerial use of social media, publications open a variety of possibilities ranging from external relationship, market and communication, human resource, internal communication and research & development. One of the most common uses of social media is to maintain and improve external relationship and communication, with final purpose to enhance their market position. Dutta (2010) suggested that social media provide company and their executives with powerful tool for “branding, engaging in conversations with stakeholders, and learning from new sources” that becomes essential part of company’s presence on the web based on real examples and interviews made with CEOs of the Fortune 500. Haefliger, Monteiro, Foray and Krogh (2011) made several case studies focusing on social media usage as a strategic element for foster special relationships with community members outside firm boundaries, as well as analyzed strategies for integrating users into essential business processes and overcoming internal resistance.

Some other researches give more focused perspectives on the usage of social media information in managerial processes. Social media were studied as a tool for predicting market situations or behavior of other players (Mislove, Viswanath, Gummadi, Druschel, 2012). Jackson (2011) and Bruhn, Schoenmueller, Schafer (2012) studied how information on social media can influence the brand value and share value of the company, together with making comparison with the traditional media. Moreover, Jin, Lin, Matsuo and Ishizuka (2012) proved on the experiment study existence of correlation between dynamic social media evolution and value creation of the company. Booth and Matic (2011) have investigated how to map and leverage influencers in social media to shape corporate brand perceptions, concentrating on identification of the stakeholders that require significant attention and responses online. Furthermore, several studies in different business areas (banks, companies and government) discussed the use of social media to promote collaboration with stakeholders and monitor these activities for transparency and brand reputation improvement (Bertot, Jaeger, Grimes, 2011; Emerald survey, 2012; Byrd, 2012). While Bradbury (2011) in his article “Data mining with LinkedIn” highlights the power of social media platform - LinkedIn, and other professional social media platforms, that gather information about companies competitive intelligence and employees profiles and competences highlighting the most successful i.e. an self-developing ranking system.

A further and rich area of studies is related to human resource management (HRM), encompassing all the phases from the selection to the internal management. The adoption of social media for selection, talent management and succession planning was evidenced to be depending on the contexts and the environment systems, so the management of social software becomes an ongoing task that involves user’s role and adapts the strategy according to the nature of the work and activities (Leonardi and Barley, 2010). Doerflinger investigated how the key performance indicators derived from social media platforms could be employed in HRM especially tackling recruitment function and benchmarking of the knowledge over the firms (2012). Another important usage of social media for HRM is motivation of the personnel. Based on case studies, Owers, Pitt, Tuckerennett (2009) show the importance of social networking and necessity of implementing such systems internally to improve communication and relation between employees. Brzozowski (2009) have explored how these instruments are changing employees’ perceptions of their workplace, making them feel more connected to each other and to the company, as well as redistribution of employees’ attention outside their own departments.

A final area of managerial use found in literature is innovation. Kumar, Lease and Wang concentrate their attention on social media implementation for research and development, starting from the e-learning process, applying to the workplace or organizational environment (Wang, 2009) and directly to co-creation of the products and services through crowdsourcing and/or specific platforms (Kumar, Lease, 2011). Bughin (2008) introduces the 2.0 enterprise characterized by implementation of collaborative technologies directly inside the companies. In addition, Javenpaa and Majchrzak bring up very important issue of trade-off between such co-

creation and protection of companies knowledge assets shared with consumers and external users for safe and fruitful collaboration (2010).

The second significant part of the literature is instead focused on researches more directly addressing social media and performance measurement: metrics, technical aspects, processes and risks. Several researches have investigated how a system design and tools employed could help to implement and measure social media inside the company and what is output of these implementations. O'Reilly (2007) provides overview of the Web 2.0 enterprise, its design patterns, business modes and employment principles by investigating current software as a continually-updated service, consuming and remixing data from multiple sources, including individual users, creating network effects through an "architecture of participation," based on new social media platforms. Kumar and Lease (2011) focuses on how to best use crowd sourced relevance judgments for company management and calculate its efficiency through specific indicators. Murdough (2009) have done a research to understand measurability of the social media potential for marketers, whether the attractive audience segments are starting to amass and whether it has already reached the marketing medium, which is a critical component of success.

Researches developing metrics have mounted in most recent years in the attempt to make sense of the huge amount of information generated by the social media. Some studies have focused their attention on the problem of measurement of social media information and development of the social media metrics for understanding the role of social networks in information diffusion (Bakshy, Rosenn, Marlow, Adamic, 2012); quantifying influence on Twitter (Bakshy, Hofman, Mason, Watts, 2011); problem of document ranking on the search engines, by comparing different metrics and measuring multiple objective functions (Svore, Burges, Volkova, 2011); allocation of workflows utilizing social network metrics (Bajaj,Russell, 2011). Joshi, Bartolini and Graupner (2012) have designed a system for effortless and instantaneous sharing of enterprise knowledge through routine email communications and harvesting of such enterprise information using text analytics techniques and measures. Furthermore some of the researches have concentrated their effort on specific measures, such as return on investment (ROI) attempting to measure social media return on investment, for non-profit organizations (Romero, 2011). In contrary others concentrate their effort on understanding how social media tools should be implemented in the company and what steps should be taken to do it in right way in order to avoid damage for company performance on the market (Champoux, Durgee, McGlynn, 2012).

The opening of the company outside with social networks however has also negative aspects, creating additional risks. Thus, it have been studied the implications of patterns of information revelation in online social networks and their privacy issues (Gross, Acquisti, 2005). Gross and Acquisti (2005) have made a wide analysis of information published on the Facebook and identified the main risks that it brings for user and for provider, as well as brought up important of this information. Slovensky and Ross (2011) have investigated the managerial and US legal issues associated with using social networking web sites such as Facebook for personnel selections. Doyle, Heslop, Ramirez, Cray (2012) have explored the issue of the trust and reliability of the social media information itself by identification of salient trust-related blogger and blog characteristics and identifying a domain-specific trust-development process from one side. From another side Abdesslem, Parris, and Henderson (2013) tried to better understand reliability of social network data collection and user behavior in these networks.

This state of the art provides a broad overview of the SM current usage and measurement to support managerial processes. However these papers do not provide a coherent, holistic view on performance measure and use in the social media age. The multidimensional use of the SM has been discussed in a fragmented way focalizing on specific aspects, but neglecting necessity to adopt SM as new variable of PMS structure, based on the real case studies exploration.

## Framework

According to the literature review the social media information and instruments could be a good alternative source and support for the performance management system. The framework introduced below is proposed for the in-depth analysis of the case studies for highlighting the similarities and differences between usage of social media and variety metrics and indicators applied.

The framework of analysis is composed by two main parts: the first is related to use of the social media instruments and information in PMS. While the second part is devoted to the methodology of measurement allowing to classify innovative metrics and key performance indicators.

The first component of the framework regards the uses of social media indicators in the control cycle. The usage of social media can be evaluated in relation with the main stages of the control cycle: planning, variance analysis and feed-back. The indicators are grouped with the information purposes and usage (external relationship, market and communication, human resource, internal communication and research & development), underlining the main differential with the classical approach and providing explicit examples.

	<b>Purpose</b>	<b>Use</b>	<b>Differences</b>	<b>Examples from literature</b>
<b>Planning</b>	Benchmarking	Market & communication Human resource	Complementary information that give an higher degree of precision	Number of "Fans" on the Facebook page Number of "Followers" in Twitter
	Scenario analysis Simulation	Research & development	Introducing of new crucial variables in the creation of a model	Clusters of ideas generated on SM Features selected according the polls
<b>Variance analysis</b>	Trend of characteristics	Market & communication Human resource Research & development	Higher timeliness of information.	Monitoring number of fan upon time
	Changing in patterns	Market & communication Human resource Internal communication		Monitoring the polarity of comments related to the object of analysis
<b>Feed-back</b>	Actions on specific object (i.e. internal or external actors)	Market & communication Human resource Internal communication	Corrective actions timely, sometimes anticipative in the prediction of a problem.	Create attractive contents to increase the number of fans and brand loyalty.
	Corrective actions towards model variables (internal purpose)	Internal communication		Improving the match of requirements

Table: Impact of SM KPIs on the control cycle

The second component is the measurement and in particular indicators, which are the main representation of this information, synthesizing it in numbers. To define indicators the first step is to define a control object, than according to literature (Borgatti, 2011; Hanna, Rohm, Crittenden 2011; Wasserman and Faust, 1994), we can adapt two main characteristics of Social media data to classify the KPIs:

- Nature of contents, dividing indicators in punctuated (quantitative analysis) and text-derived (qualitative analysis: sentiment and content analysis).

- Source of information, which can be from Paid (advertisements on web-sites, paid promoters and etc), Owned (companies' web-site, accounts on Facebook, Twitter) and Earned (word of mouth, forums, blogs).

Thereon the types of KPIs are defined, that could be obtained from the desired sources, and the framework of their measurement, evaluating the performances of these indicators compared with the traditional ones.

	<b>Punctuated</b>	<b>Derived</b>
<b>Paid sources</b>	Number of articles Views	Rank in search engines/ Popularity Frequency of keywords terms
<b>Owned sources</b>	Number of subscribers Traffic generated (number of active actions)	Rank of features Frequency of most used terms
<b>Earned sources</b>	Number of users Number of comments	Number of new ideas Sentiment of discussions

Table: KPIs classification

As regards, to overall impact of such indicators on company performance, the information is correlated to different components of NCF of NPV depending on the indicator chosen, for instance the analysis of likes will impact on the brand value. In addition the information is correlate to the risk and time of NPV as well, in fact it allows to mitigate the risk with good timeliness and gives complementary information to create a more reliable model.

Actually the KPIs generated by Social media data can influence and support each phase of the cycle of control, in fact they can be useful in scenarios analysis, simulation and benchmarking and once analyzed the variance also in the corrective actions, but mostly affecting planning and feedback phases of the management control cycle.

## Methodology

The empirical study of the usage of the social media inside organization is based on the case studies, allowing to investigate the complexity of such phenomenon in the real-life context (Yin, 2003). The research interview is one of the most important qualitative data collection methods and has been widely used in conducting field studies and ethnographic research (Goldman and McDonald, 1987; McCracken, 1988). The descriptive case studies have been chosen as research engine in order to study in depth phenomenon of using social media information as supplementary to the traditional information and implementation of the social media scorecard section, or alternative instruments of the management control systems. Research also focuses on the level of usage of such techniques in different companies.

Following Alvesson's framework in our empirical studies it has been used mixed approach for the structured and semi-structured interviews, with the precise choice of the questions and significant analysis of the interviewee that is required for conducting qualitative research interview process (Doyle, 2004). All the interviews were recorded and transcribed, and each transcript was immediately analyzed separately by each author before jointly discussing the results; additional information often had to be elicited through phone interviews to clarify competing interpretations. The participants of the interview are the companies that are actively using at least 3 social networks and have significant numbers of "likes", "comments", "shares", as well as have their own blog and/or forum. The interviews could be divided into two parts:

1. Interviews with active users of the social media for business purposes (6 interviews)
2. Interviews with the companies consulting about usage of the social media (2 interviews)

#	Company	Department	Position
1	American International Consulting firm	Marketing and business development	Specialist
2	American Multinational Computing corporation	Digital Lead, Marketing organization	Head
3	Data intelligence company		Business Expert
4	Multinational Manufacturing firm	Digital Media	Director of Digital Media
5	Italian Spirits company	Marketing and Advertising	Assistant Brand Manager
6	British Multinational Telecommunications company	OnLine Consumer Division	Specialist
7	Italina Consulting company	Public Relations and Communications	Content & Community Manager
8	Multinational Computing and Communications corporation	Laboratories	Research Manager and Principal Investigator

Table: Case studies summary

A case study approach was chosen to gain a deeper understanding of the actual impact of Social media on company performance and relationship with stakeholders through use and metrics. Adoption of a case study approach is also consistent with recent claims made for this type of investigation in performance and management control systems (Masquefa, 2008; Chenhall, Kallunki, Silvola, 2011), and with studies on social media management (Worrell, Wasko, Johnston, 2011; Haeffliger, Monteiro, Foray, von Krogh, 2011). The access to sensitive data not usually available to the public was possible thanks to good relationship with the interviewed companies.

## Results

The results of the case studies were analyzed according to the framework stated and aim to provide with a synthetic overview of the current role of social media for PMS and possible applications of such tools, as well as current usage, represented in two issues:

- Possible uses for management purpose
- Measurement of performances

The finding of the paper provided two main areas of results, which are related to the starting issues and goals: the present use of social media data in companies; the challenge of the integration within management cycle; the misalignment between the theoretical potentiality and actual implementation.

The first area of result is related to the actual use of social media in the planning and control cycle. The following table summarizes the cross-case analysis on four dimensions: the objective, indicators (according to the framework classification), the owner of social media analysis, the role of controller.

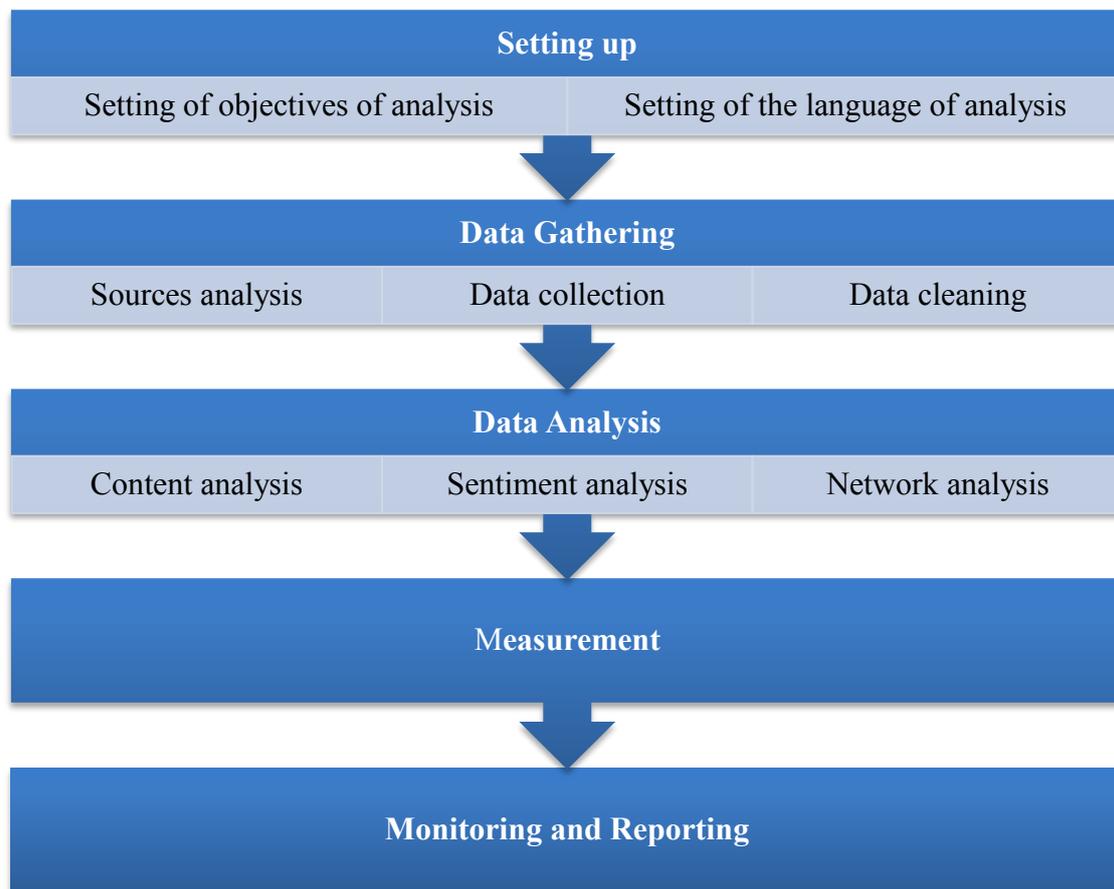
Case #	Metric		Use	
	Objective	Classified KPIs	Owner	Controller
1	Sales forecasting Benchmarking	Number of comments Traffic generated Views Number of users Number of subscribers Number of articles Sentiment Popularity	Market & communication	Marketing Country manager
2	Product promotion Public awareness	Traffic generated Number of subscribers Frequency of most used terms	Market & communication	Marketing
3	Product co-creation Product promotion Customer service Recruitment Benchmarking	Traffic generated Number of subscribers Sentiment Frequency of most used terms Number of new ideas	Market & communication Human resources Research & development Internal communication	Specialists Managers Department's head
4	Product co-creation Product promotion Listening platform Customer service Recruitment	Traffic generated Number of subscribers Sentiment Frequency of most used terms Number of new ideas	Market & communication Human resources Research & development Internal communication	Specialists Managers Department's head
5	Sales forecasting Listening platform Recruitment	Traffic generated Number of subscribers Sentiment	Market & communication	Marketing
6	Product co-creation Product promotion Listening platform Customer service Recruitment Social BPM	Traffic generated Number of subscribers Sentiment Frequency of most used terms Number of new ideas	Market & communication Human resources Research & development Internal communication	Specialists Managers Department's head
7	Customer service Sales forecasting Product promotion Listening platform	Number of comments Traffic generated Views Number of users Number of subscribers Number of articles Frequency of most used terms Frequency of keywords terms	Consulting Market & communication Human resources Research & development Internal communication	Customer Specialists Managers Department's head
8	Marketing Communication	Sentiment Frequency of most used terms Frequency of keywords terms Number of new ideas Rank of features Popularity	Market & communication Research & development	Marketing Management

Table: Cross-case analysis

Overall, the case studies show that social networks are used in the marketing department, followed by sales and human resources. The companies use them to monitor marketing online activities, represented in the reports that are composed by KPIs. The metrics are highly diversified, each firm uses its own version linking KPIs to company's object, still we can see that the usage and the nature of indicators are tending to cover the same areas. For instance, in case 7 data coming from Social media are gathered and analyzed separately for each platform according to the tools of data analysis (for some social platforms software integrated i.e. "Twitter" and "Facebook", otherwise such as tools as "Crowdbooster" and "Topsy" are used, or for several others platforms analysis is performed manually i.e. "Pinterest" and "Instagram"). The results of analysis are performed a qualitative benchmarking on competitors profiles to get new ideas on marketing campaigns and contents communication. The reports of this analysis are basically divided into two types: ordinary activities, which is done monthly and gives basically information about content trend in Social media and extra-ordinary activities (i.e. marketing campaign for a product), which is done at the end of the activities giving indication about the sentiment of the users about the activity performed. The major users of this information are marketing and product department. The first one is able to drive the selling with low costs, promoting the company on the web, while the second one provide design and services up-to-date especially in teasing activities and digital PR. The main advantage of the adoption of platforms is to have data about sentiment and opinions of the user of the web with a good level of integration with data analytics tools, on the other side there are loads of interesting data up other platforms that are unparsed due to the lack of universal analysis tools. In addition Web 2.0 is 24/7 service, this means high effort in crisis management and coordination among departments. This is why we preserve the possibility to implement to general methodology which could permit to improve and enlarge the usage of social media KPIs specifically on the managers' level is so important and valuable by the companies.

The second area of results is instead related to technical implementation of the process. Based on the information collected during the case studies, it has been found that the social media information analysis', dealing with specific type of data and big amount, is requiring peculiar competences and tools. For this reason there is an evident comparative advantage of companies, which have internal IT areas, while the other firms prefer to outsource this type of analysis. Actually the case studies show how multinational company with IT background starts the implementation of internal solution focalized on needs of each department. However, it is also noted the discrepancy between the implementation of specific social media solutions and its integration with the whole performance system. In consultancy and manufacturing cases the social media is used for the communication and marketing purposes, but still not included in the R&D department, though the usage is limited and implemented like a new source of information for all departments. Even in the ICT and telecommunication cases this information is hardly used by controllers.

There is no a unique methodology to get sustainable data. This is why it is necessary to implement patchwork approach to ensure the reliability of data (Abdesslem, Parris, Henderson; 2011), but summarizing the approaches implemented in the analyzed companies it could be represented in the following schema. This schema is patchwork of the approaches implemented inside of 8 case studies, for example most of the case use the third step and make content and network analysis, instead the steps of setting clear objectives and usage of different source of analysis, data collection and cleaning are represented in cases 3, 4, 6 and 8, partially in case 7. The level of measurement procedure also depends on the instruments implemented inside of the company, the simple measurement could be done through the social media tools (Google Analytics, Twitter for business and etc.), as well as monitoring and reporting activities. However, the complete dashboard for analysis of all social media activities and gathering all platforms presented only in cases 6 and 8.



Schema: Methodology of data analysis

Summarizing results of the case studies the two dimensions of the framework has been analyzed qualitatively. The “use” part can be synthesized in three main categories of adoption of social media: random use, representing company which have a presence in social media without a precise reason or strategy; object oriented, referring to firms that link the presence and use of social media to one or more objects (company, issue, product, service); refined use, referring to companies to employ social media in a more integrated a process for the process of control. Instead, the indicators are evaluated regarding the nature of contents, which is the one of classification characteristics of social media. This feature is the most critical concerning measurement procedure i.t. the reliability of the indicators; in fact the measurability of KPIs is strictly correlated with a correct definition of data analysis and consequently metric definition. The firms can decide to monitor the activities with undetermined metrics, punctuated metrics or the combination of punctuated and text derived metrics. The last level covers the all the data coming from social media providing complete pictures of overall performances.

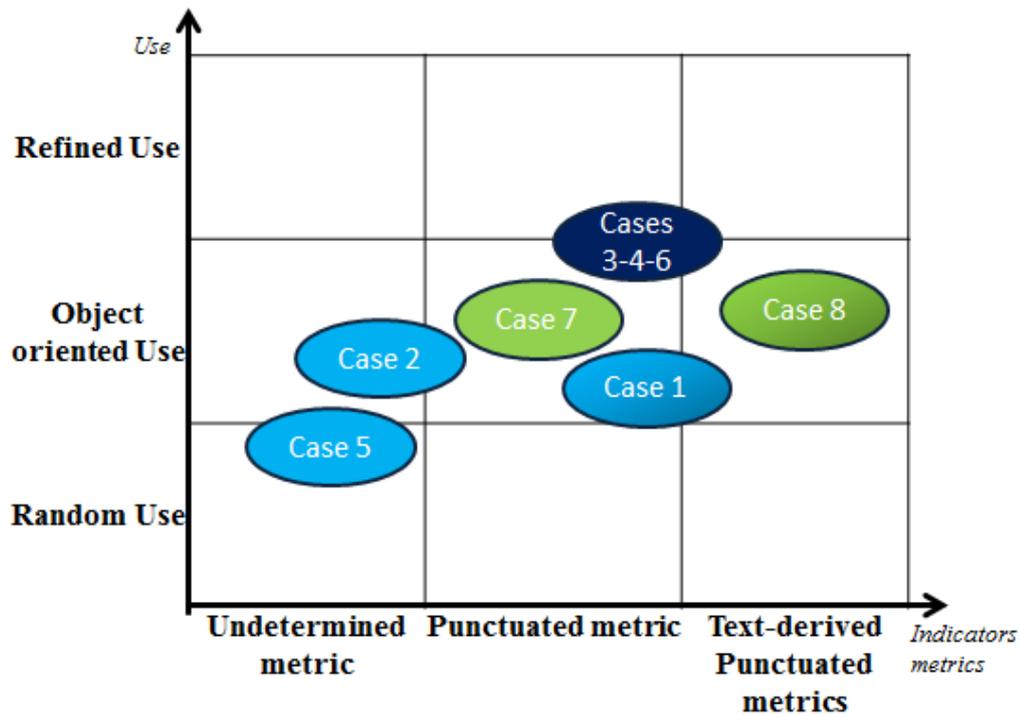


Figure: SM usage by cases

Based on this matrix, it is easy to identify three major clusters of companies: chaotic use colored in light blue (case 2 and case 5), telic use – colored in green (case 7 and case 1) and transversal use – dark blue (case 3, 4, 6 and case 8). In the chaotic use, such as Case 2 and Case 5, social media information and tools are randomly used for unclearly stated objectives without any determined metric or procedure of measurement. Moreover, the colors of bubbles represent type of social media information usage of the Earned – light blue, Paid – green and Owned – dark blue. The leading is Earned information accessible by every company, while Owned and Paid source requires additional resources time, money and personnel in order to be processed and used for the analysis. The results of such SM adoption are also relevantly poor, but give wide understanding of market situation and possible SM positioning of the company. Currently a lot of companies are starting from this point, which requires further work and acquisition of skills and knowledge within social media, as well as setting clear goals of company's within SM.

The telic (case 7 and case 1) use is characterized by object oriented employment of social media, specialized mostly on the marketing, human resource and sales, which adopt punctuated metrics to achieve company's objectives, as well as creating solid background for enlarging SM presence in management cycle. These companies are quietly numerous on current market and often they use instruments for data analysis provided by SM platforms, the subsequent development depends on the results achieved, but also on the investments previewed, as the adoption of text-derived metrics and more profound SM analysis technics requires specific analytics programs and specific competences of the personnel.

The transversal use (case 3, 4, 6 and case 8) of SM information and tools is highly correlated with the core business of the company, this is why IT developers and communication companies are here, both of them are having the necessary knowledge for adoption of SM, as well as capacity and instruments to analyze and manage SM platforms externally and internally. This process needs time to develop dedicated competencies and knowledge inside the company in order to manage properly the measurement and use stages of social media in order to implement

aligned company and social media strategy to achieve improvement of performances and stakeholders' relationships.

Another important issue in employment of social media is privacy of the social media information and that in some cases the usage of it should be open only to researches, not for the business (Abdesslem, Parris, Henderson; 2011). This contradicting issue has several outcomes, as the information from the Facebook is not reachable for the business purposes until the user personally did not give permission. Instead, forums, blogs and Twitter give wider possibilities for business, and lower level of personal details. However, the general problem of information disclosure is tightly correlated to the countries' internal laws and could be a big threat for the business.

The rich basis of the management control system's theory having the significant gaps in terms of the usage of the social media information, being a new variable in PMS information model. This is an example where the usage of the information advance the theory background. Based on the on the case studies overview, it has been discovered the whole new world of social media usage, being very diversified, but often pursuing the same goals. Moreover, the possibility of benchmark comparison between the companies requires the solid theoretical background to be implemented.

Actually the literature proposes several indicators regarding social media, but just few are implemented. Furthermore, the lack of consolidated measurement methodology is one of the main constraints that limits of the adoption of this practice in a more integrated way inside the companies.

## **Discussion and conclusions**

Overall research develops a part of the new framework regarding social media in the companies, which is composed by two main parts:

- Uses in the control cycle;
- Measurement (indicators properly classified, nature of contents, source of information and network characteristics with a methodology of measurement).

The overview of the literature and results of the eight case studies provides a solid background to conclude that social media has becoming an important variable in performance management system. Adoption of this new variable inside a company could increase its flexibility and time to react to changes. The extension of the framework to other PMS goals could provide a more coherent PMS package for company mitigating historical issues such as being out dated, out-of-touch, too aggregated, internally focused, not fostering value creation, and not supporting effectively strategy implementation (Eccles, 1991; Johnson & Kaplan, 1987; Kaplan & Norton, 1996a; Stewart, 1991), as well as maintaining relationships with external stakeholders. To achieve the full potentiality of the framework, it is required to consolidate the methodology of measurement.

The concluding remarks of the research are complemented by the limitations and future research perspectives. The limitations of the paper had been significant challenges during the research. Instead, the future perspectives we consider to be significant starting point for further development.

The first important limitation on academic side the scientific literature reviewed provides a limit number of the specific papers tackling social media, as new variable of management system,

Instead there are diverse empirically grounded frameworks that are covering multidimensional use of the social media, but in discussing it in a fragmented way and focalizing on specific aspects (measurement, design, risk and diverse use of social media). However, all of them neglecting necessity to adopt social media as new variable of PMS structure. Notwithstanding previous works are precious in building pillars for future researches, therefore, we preserve that a significant improvement could be done if such kind of research are also done in the interdisciplinary team in order to have complete overview on the subject.

The second limitation is based on the case studies analysis, which provides with in-depth information about the processes, usage and methodologies adopted by the companies, that has been aggregated in the results parts, but do not cover all diversity currently existing in the business. Therefore such issues as social media data management, reliability and methodology of implementation inside of company are still required significant improvement, as well as implementation of these tools for different management uses is very promising area of investigation and can be studied in detailed aligned with appropriate key performance indicators and affecting the specific performances of the companies, internal and external stakeholders.

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