

## Management Control Systems in the era of Social Media

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### Abstract

Can the growing phenomenon of social media become a new variable in the company's management control system (MCS)? The literature provides a wide overview on the current state of art of the social media usage and implementation inside companies for specific purposes, but lacks of overall view on the phenomenon and implications over management control processes. In order to analyze it, we propose a framework including two main streams: the level of social media (which allows to position and characterize companies on the basis of their social media strategy and organizational resources devoted); second the impact on management control processes (which refers to Simon's levers of control). The methodology applied to investigate this phenomenon is explanatory multiple case studies

within eight companies of different sectors (banking, telecommunications, real estate, vehicle production, metal production, e-commerce, energy) and countries (Italy, the Netherlands, Russia).

The findings of the paper gives in-depth understanding of different levels of social media adoption within management control processes based the multiple case studies that provides with the large overview of the social media adoption in the different types of organizations and evidence the necessity of the recognition of these phenomena in the management control systems and its adoption as a new variable. The social media is influencing all four Simons' levers of control of organization and provided the strategy of the company, its organizational structure, type of data analysis approaches.

The qualitative data provides evidence of the necessity to consider social media within MCS opening a wide range of opportunities based on immediate data flows for planning, feedback, corrective actions and benchmarking. Finally, we provide holistic overview on this phenomenon in MCS and highlight critical characteristics of its adoption within company by proposing a theoretic framework. The results are facing the challenge of new phenomenon implementation and give overall picture of social media within MCS while giving to practitioners the possible ways of social media adoption scenarios.

## **Introduction**

The “explosion” in the use of social media, such as Facebook, Twitter and Youtube, is attracting increasing attention in the business world. Consultancy firms, telecommunication companies, but even companies in traditional sectors have approached social media for various activities, ranging from marketing, recruitment to product development. Stemmed from these business applications an interconnected interest is rising very fast: the potentiality of “big data” originating by social media and open source information.

This trend has been seized by the consultancy industry, that is pressing the develop strategies and tools for big data, as McKinsey highlighted:

[Big data] have the potential to improve efficiency and effectiveness, enabling organizations both to do more with less and to produce higher-quality outputs, i.e., increase the value-added content of products and services. [...] Data can even be leveraged to improve products as they are used. An example is a mobile phone that has learned its owner's habits and preferences, that holds applications and data tailored to that particular user's needs, and that will therefore be more valuable than a new device that is not customized to a user's needs. **Capturing this**

**potential requires innovation in operations and processes** [emphasis inserted]. (McKinsey, 2011).

Stress is put on the need to change the way through which data are captured, analysed, transformed in operable information and then uses in the decision making cycle. Yet this process enters the sphere of management control and management accountants that with some delay are recognising this opportunity:

The challenge for organisations and business managers in this exciting new space [Social Media] is to first recognise the potential of big data. They then need to develop strategies for capturing and managing data. The next and most important step is to develop and encourage talent within their organisations to exploit the benefits of big data. It is in this last step that finance professionals - specifically management accountants have a significant role to play given their training, skills, competencies and mindsets. (CIMA, 2013)

Notwithstanding this large interest at the practitioners level there is, so far, scarce academic literature on how social big data impact on management control systems, particularly from accounting researchers and sources. Yet, there are several contributions in other field which help identifying specific elements of a possible “revolution” affecting management control at the organizational (Malmi and Brown, 2008), technical (Emery and Trist, 1960) and cognitive level (Hoffman and Bazerman, 2007).

During the past five years many researchers in management sphere have tackled the social media and different uses and approach addressing this opportunity to different fields, such as marketing (Bruhn, Schoenmueller, Schafe, 2012), human resources (Field, Chelliah, 2012), research and development (Bughin, 2008) and even by use of information from this source how to predict positioning of company on the stock exchange market (Ghiassi, Skinner, Zimba, 2013). Also some other researches highlighted the risks brought by the immediate and worldly accessible data for the reputation and performance of a company (Aula, 2010; Byrd, 2012). These previous researches provide a valuable ground to sketch the impact on management control, but they do not approach the problem overall; furthermore analysis and discussion are carried out without considering the level of adoption of social media which may from the publication of an institutional Facebook page to the use of social media for client relationship management (Gummerus, Liljander, Weman , Pihlstrom, 2012) where the flow of information in and out is incredibly higher, as its related risks and opportunities.

With the goal to enhance existing studies, this paper aims at analysing how social media affect management control systems (MCS), intended broadly as the “package” of elements that were implicated in the relationship between organizational context and effectiveness

(Otley, 1980). More specifically we review previous works to define a preliminary framework of analysis; second an empirical research is carried out to analyse how companies are already using big data stemmed from social media as leverage of control; third these leverages are discussed in relation to the level of adoption of social media, entailing a framework of possible use for both researchers and practitioners.

Empirically the research is carried out with a multiple case study methodology to investigate in-depth social media phenomena. Eight case studies from different sectors were included (production, energy, telecommunications, banking, consulting, e-commerce). The level of adoption of social media was preliminary checked with available information and the sample diversified in order to have case at different stages.

To illustrate our arguments, the paper is structured as follows: section 2 provides overview of the existing literature; section 3 explains the Simons' framework as a reference model for social media adoption within four levers of control; section 4 discusses the methodology; section 5 explains results of the multiple case studies and section 6 gives provides with discussion of results and framework adopted, and gives an overall conclusion.

## **Literature review**

The analysis provides an overview of the existing literature on the social media and its implementation within companies in order to understand how social media potentially affect Management Control system (MCS). MCS is here intended in its broader view, as “a combination of control mechanisms designed and implemented by management to increase the probability that organisational actors will behave in ways consistent with the objectives of the dominant organisational coalition” (Abernethy, Chua, 1996; p. 573). Related to the conceptualisation of MCS as a ‘package’ of instruments is the seminal work of Simons (1995) that discusses the importance of using different levers for empowerment and balanced control of company: belief, boundary, diagnostic and interactive. This approach permit to provide a transversal view on the MCS taking into account different flows of information. We identified the critical dimensions of social media adoption analysis on the large literature on MCS, where three dimensions emerge as relevant: organizational, technical and cognitive (e.g. Emery and Trist, 1960; Malmi and Brown, 2008; Hoffman and Bazerman, 2007). Following these dimensions, a literature review was carried out focusing on social media and here presented in three sections. Both scientific and practitioners papers were reviewed. This choice is due to the novelty of the issue and its rapid development: although not scientifically

reviewed, and often over enthusiastic, practitioner literature has become very prolific in proposing approaches for measuring and managing performance in the social media era.

### *Organizational*

On the organizational level social media is considered for diverse use across the organization for the well-defined specific processes. That are represented in the two main blocks in the literature of business process, including client relationship management, research and development and business process management; and control package with the decision-making, motivation and external accountability implications.

Several authors studied implementation of the social media into the client relationship management (CRM). They identified the main purpose of social media for CRM, such as improving clients engagement and relationships between clients and company, enlarging customer knowledge management and creating specific social media reply centers (Gummerus, Liljander, Weman, Pihlstrom, 2012; Chua, Banerjee, 2013). The social media for the research and development was studied including several aspects, such as crowdsourcing (it possibilities of developing enormous work by outsourcing in small tasks), co-creation, collaborative technologies developed by companies on their websites or specific platforms, as well as e-learning processes inside the companies' and overall approach of 2.0 enterprise (Bughin, 2008; Wang, 2009; Kumar, Lease, 2011). These authors analyzed how social media can help to develop new product or service, and meet customers' needs. The business process management and social media were studied by researches in terms of the change capability by striving for process innovation, collaboration, flexibility proposed by the social media (Richardson, 2009; Jin, 2012).

The decision-making, motivation and accountability were studied inside control package. Several researches looked into the detail how information coming from the social media can help in decision-making process and, in particular, in strategic decisions, analysis of market situation and recognition of behavior of other players (Heydebrand, 2008; Kaplan, Haenelein, 2010; Dutta, 2010; Haefliger et al., 2011). Social media information provides additional data respect to the traditional information sources. Combination of these sources can provide with immediate and reliable for decisions-making process. The social media can significantly help in the relationship improvement inside company by understanding of employees workplace's perceptions, and providing with virtual space for collaboration, through corporate fan pages and blogs companies promote united spirit which is good alternative to traditional sources for motivation (Owers, Pitt, Tuckerennett, 2009; Brzozowski, 2009). Many researchers studied

the effect of the social media activities on the external accountability, in specific companies' ranking, brand perception, reputation risk and improvement of stakeholders' relationships (Golbeck, Hendler, 2004; Jackson, 2012; Bruhn et al, 2012).

The organizational dimension underlines the possibility to use social media source for different processes inside companies. However, it lacks of the holistic approach to social media implementation overall and structure of the implementation (number of people, specific department, structure and relationships inside company).

### *Technical*

The studies done in respect of the technical level of social media implementation are tackling methodologies of social media data analysis and companies' positioning on different platforms. The researches proposed several structures of social media adoption, identified main actors and relationships between them (Smoreda, Thomas, 2005; Vassilakopoulou, 2013). Other researches concentrated their attention on the social media measurement metrics by evidencing the correlation between the structure of the social media implementation and generation of information flows (Hubacek, Quinn, Reed, 2008; Benevenutoy, Rodriguesy, Cha, Almeiday, 2009). Another important topic brought up by researchers is pattern of influence, identification of connections' types, inter-dependence between actors and between actors and social media platforms (Sykes, Venkatesh, Gosain, 2009; Xie, Li, Xia, 2013).

The significant research in this field was done also by practitioners, who provide with the specific analytical platforms for social media analysis (Radian6, SAS) and instruments from the social media platforms (Facebook, Twitter, LinkedIn). These sources give an understanding of the specific measurements of data coming from social platforms i.e. metrics, measurements and reports (TMW, 2012, [www.salesforcemarketingcloud.com](http://www.salesforcemarketingcloud.com)).

From the technical perspective the literature propose to set different boundaries for actors on the social media platforms, their relationships and relationships between actors and owners of the platforms, as well as structure of the boundaries. Overall the practitioners' literature investigates in terms of organizational and technical perspectives the metrics and indicators correlated to the specific use of information and use case in core processes of the companies.

### *Cognitive*

The cognitive level was studied by several researches investigating this issue from different perspectives communication and interaction. The communication trough the social media is studied within units (customers, employees, network colleagues) and between them

(government to citizens, organization to customers, customers to organization, organization to employees), underlining the diversity provided by social media and possibility to address communication that specific group of people (Vuori, 2011, Bertot et al., 2011, Saw et al., 2012). Several other researchers focused their studies on the interaction possible through this new channel, their types (exchange, influence, collection of information and opinions, collaboration) and patterns of relationships between actors on social media platforms (Haefliger et al., 2012; Zhuang et al., 2013; Gummerus et al., 2012). The critical issues of using social media information, the most important are privacy, trust, reputation (Golbeck et al., 2004; Chauhan et al., 2013). The cognitive dimension underlines the important rules of communication in real time on social media platforms. It also distinguishes different types of communication between company and social media audience and allows to diversify messages and types of conversations.

The three dimensions provides with overview on the current adoption of social media within companies that strongly lacks of the holistic approach. The number of papers written during 2010-2013 shows the growing interest and necessity to understand this phenomenon. As well as expose this important and immediate information source to the whole management control processes. The technical dimension, in particular practitioners' papers, gives variety of metrics, indicators and methodologies of analysis that taking into account necessities of different management processes. The cognitive and organizational dimensions highlight importance of appropriate way of communication with social media audience (stakeholders, clients, employees) and integrated approach by company that currently was omitted by the literature and challenges management theory.

## **Framework**

The aim of this paper is to understand how social media potentially become a new variable of MCS and its main characteristics. The literature provides a wide overview on the current state of art of the social media usage and implementation inside companies for specific purposes, but lacks of holistic overview on the phenomenon and implications over management control processes. In order to analyze this phenomenon overall, we propose a framework including two main streams: the level of social media, which allows to position and characterize companies on the basis of their social media strategy and organizational resources devoted; second the impact on management control processes, referring to Simon's levers of control.

The level of social media adoption inside company has tight correlation with the strategy and importance dedicated to SM activities inside company. The transparency of the image and messages that company publishes through its SM platforms, number and type of SM platforms and further usage of collected information by one or several department. The strategy of communication “online” is broad from the explanatory of the company’s goods, services, activities, acknowledgment of the recent events, sponsorship help or donations, to support activities of the clients and stakeholders by providing immediate channel to receive support from company and resolve problems, talk to appropriate person and receive answers to questions and create trustworthy relationships. We distinguish three main categories of communication by company to support institutional, structure and unstructured. The institutional communication provides to audience information about company, its activities, goods, services, news, and important changes in companies. The structured communication is predefined by company regulation, the response to stakeholders are written in the guidelines or manuals, no more than this information could be communicated outside all other cases are proceed according to predefined scenario. The unstructured communication has more freedom of response and dealing with non-standard question and has the higher level of individualization, but higher level of understanding of company’s value and behavior. The number of platforms used by company and their types are exposing company to the certain type of communication and express it strategy (Facebook and Twitter push to frequent communication with stakeholders on the all three levels; Youtube, Pinterest create image of company).

The level of certain social media strategy adoption influences the organizational model that orders cognitive and technical characteristics. Organizational model varies a lot from standing alone department with its own hierarchical system (functioning as a hub for the company collecting information from many department and transmitting on social media and vice versa), to assigning social media responsibilities to specific person in each department (specific person in marketing, human resource, research & development, legal and etc.). Strategy and organization type provides the mature base for distinguishing management control processes inside company through Simons’ levers of control and their characteristics for social media.

The Simons’ levers of control belief, boundary, interactive and diagnostic levers are adopted through the strategy of company. We identified particular features that could be assigned to each lever taking into account level of social media adoption. Inside *boundary lever* is necessary to take into account specific patterns of social media usage inside company



management process by providing employees with specific policies or social media guidelines, setting rules of acceptable individual behavior. The risk management is necessarily enlarged by social media alarm and security system that are playing particular role for reputation risk and brand sustainability. The reporting plays important role characterized by frequency (from hourly to monthly) and type of information collected (from simple statics of “likes”, “views”, to content analysis and individualizing people who are speaking – fine grain). *Diagnostic lever* is enriched by social media measurement tools, clear objectives and targets of company presence on social media and incentive system for employees based on achievement of the goals and performance. *Belief and Interactive levers* are broaden by social media adoption and give new opportunities to control system, as social media could be adopted internally and externally. It is another mode of communication between employees and stakeholders, but also among employees of different layers.

The instruments of analysis play important role for distinguishing different levels of social media adoption in the management control processes, as well as types and frequency of reporting. Data analysis tools are numerous: manual data collection, statistic tools of social media platforms, sophisticated statistic engines, machine learning tools. Some companies prefer to outsource this part of analysis to specific agencies to ensure the reliability of information.

Based on different level of social media adoption through strategy and organization of the company different characteristics of Simons levers of control we introduce social media, as a part of the management control system.

## **Methodology**

The research design is the case studies methodology that provides the in-depth information about social media phenomena and helps to answer the “how” and “why” research questions (R.K. Yin, 2009). In particular, how social media could be adopted within management control system? and Why social media should be considered by companies? The explanatory multiple case studies suit best to provide answers to these questions and give an overview of social media phenomena as a new variable in MCS.

The preliminary phases of case studies included the choices of unit of analysis and potential interviewees. The unit of analysis is an organization, as strategy and management control system are exposed to the whole company, so adoption of social media within MCS tackles the whole organization. The choice of interviewees was done based on the representativeness

and heterogeneity criteria. The representativeness is level adoption of social media within organization. While selecting companies for the case studies we focused on the most proactive users of social media in order to understand better these new phenomena inside company's structure. The proactive social media adoption is characterized by SM strategy (number of SM platforms, frequency of postings, responsiveness and etc.) and specific organization (specific person, team or department dealing with SM). The second measure is heterogeneity of organizations to give pervasive picture of social media adoption across sectors (telecommunications, production, real estate, banking, e-commerce), size (small – revenue > 5 million €; medium – from 5 to 500 million €; big – 500 million to 5 billion €; mega – revenue < 5 billion €), hierarchy (headquarters and site) and different geographical position (Italy, the Netherlands and Russia) represented in Table # 1. These characteristics have significant influence on level of adoption. This approach helps to answer the research questions and find similarities and differences across cases, conclude in overall comparison and identify critical characteristics.

The core source of information is face-to-face interviews with the heads of the social media departments or owners of social media processes inside companies. We chose the semi-structure interview with open-ended questions to investigate in-depth social media adoption and observe the approaches implemented by the interviewees. We conducted interviews with 8 companies represented by 13 informants and where it was possible interview multiple levels of social media usage overviewed in the “informants” column in the Table # 1. On average each interview lasted 60-90 minutes. Interviews were transcribed and analysed. Analysis consisted of coding procedure by conceptual ideas (Strauss & Corbin, 1998), identification of patterns and relations between concepts.

#	Company	Size	Site or Headquarters	Nation	Main SM platforms	Informants
1	Telco 1	Big	Site	Italian	Facebook Twitter Own platform	1. Head of Social Media 2. Analyst
2	Bank	Big	Headquarters	Netherlands	Facebook Twitter YouTube	1. Business community manager 2. Reputation community manager 3. Private sector community manager 4. Data analyst
3	Telco 2	Big	Site	Italian	Facebook Twitter LinkedIn YouTube	Head of Social Media
4	Energy	Mega	Headquarters	Italian	Twitter Facebook Own platform	1. Head of Internal & External Communications 2. Analyst
5	Real Estate	Big	Site	Netherlands	LinkedIn Twitter Facebook (globally)	Communication manager
6	E-commerce	Small	Headquarters	Russian	Vkontakte YandexMarket Own platform	Owner
7	Metal products	Small	Headquarters	Italian	Facebook YouTube LinkedIn	1. Owner 2. Marketing director
8	Vehicle construction	Big	Headquarters	Italian	Facebook Platforms of third parties	Marketing & Network Development Executive

Table # 1

We collected information from different sources per each of 8 companies that include companies' official websites, the websites of their brands website, companies' platforms, Facebook pages, Twitter accounts, YouTube channels, Wikipedia, as well as fans' Facebook pages, forums and blogs that resulted in 54 hours of analysis. This approach was implemented to assure reliability of information and mitigate information bias.

The results triangulate information coming from all sources to provide an overview of social media adoption within companies'. The results discuss separately strategy, organization and the Simons' levers of control including data analysis. The overall considerations and mapping of the different configurations of social media adoption are provided in the discussion and conclusion section of this paper.

## Results

This section discusses the results of the case study according to the framework dimensions. The first part illustrates the level of adoption, encompassing the strategy of companies in social media (types of platforms and relational information flows) and the organizational structure managing social media. The second part addresses how social media affect management control processes, articulating this impact on Simons' levers of control.

### *Level of Adoption: variety in strategy & organization*

The following table classifies level of social media adoption by variety in strategy and organization across cases. The analysis of these two areas, articulated in the dimension mentioned above, highlights differences and similarities, which are here referred to three levels of adoptions: Intense dedicated management, Hub management and Silos management. The "Intense dedicated" cluster is characterized by an intense strategy on all main social media platforms (Facebook, Twitter, companies' platforms, LinkedIn), further supported by other platforms, such as YouTube, Pinterest, Instagram, in communication activities. Responsibilities for social media activities are assigned to a specific dedicated team in the big companies or a specific person in the small companies (E-commerce and Metal products). Team members have different tasks that could be divided by platform, by business or specific activities (information analysis, content preparation, data collection). The strategy of the companies are to create strong institutional image on social media platforms (detailed information about company, its activities, goods and services and other institutional information); engage clients and stakeholders in conversation, help them with common problems (digital call centre), drive to provide their opinion, as well as identify the most influencing people and address to them tailored message, with what they call as a "fine grain approach" (informant words). The level of communication is many to many, but which individual employed in the companies interact to external individual stakeholders.

		Strategy		Organization	
<b>Intense dedicated</b>		<b>SM platforms positioning</b>	<b>Information flows</b>	<b>SM centre</b>	<b># people in SM</b>
1	Telco 1	Facebook Twitter Own platform	<b>Structure &amp; Unstructured</b> communication with stakeholders and clients (hourly) <b>Institutional</b> information about company; announcements	SM team within Online department; SM team consists of people working on KPIs, Content and analysis	6 people + outsourcing
2	Bank	Facebook Twitter YouTube	<b>Structure &amp; Unstructured</b> communication with stakeholders and clients (hourly) <b>Institutional</b> information about company; announcements	SM team within Communication department; Team is divided into people working on business line and technical analysis	Around 17 people
3	Telco 2	Facebook Twitter LinkedIn YouTube	<b>Structure &amp; Unstructured</b> communication with stakeholders and clients (hourly) <b>Institutional</b> information about company; announcements	SM team inside Digital department; Team divided by SM platform	3 people + analysis outsourced
4	E-commerce	VKontakte YandexMarket Own platform	<b>Structure &amp; Unstructured</b> communication with stakeholders and clients (daily) <b>Institutional</b> information about company	Specific person manages all SM and respond to Director	1 person + outsourcing
5	Metal products	Facebook YouTube LinkedIn	<b>Structure &amp; Unstructured</b> communication with stakeholders and clients (weekly) <b>Institutional</b> information about company and services	2 people dealing with SM different platforms based on stream business or marketing	2 person doing specific staff
<b>Hub</b>		<b>SM platforms positioning</b>	<b>Information flows</b>	<b>SM centre</b>	<b># people in SM</b>
6	Energy	Twitter Facebook Own platform	<b>Institutional</b> information about company; announcements <b>Structure</b> communication with stakeholders, readdressing clients to call center	SM team within Communication department; members follow specific SM platforms	35 people
7	Real Estate	LinkedIn Twitter Facebook (globally)	<b>Institutional</b> information about company; announcements <b>Structure</b> communication with stakeholders and clients	SM team within Communication & PR department	3 people + analysis outsourced
<b>Silos</b>		<b>SM platforms positioning</b>	<b>Information flows</b>	<b>SM centre</b>	<b># people in SM</b>
8	Vehicle construction	Facebook Platforms of third parties	<b>Institutional</b> information about company; announcements <b>Structure</b> communication with stakeholders, readdressing clients to call center	Specific responsibilities of people inside department working on their part of SM information	~ 4-6 people

Table # 2

The “hub management” cluster includes companies that have mature and well developed strategy on the social media and dedicate the specific team to deal with social media. These teams function like a hub receiving information from the different department of the

companies and transmitting them on social media platforms and vice versa, collecting information from the social media and addressing specific issues to the specific department. The main purpose is to acknowledge social media audience with the companies' brand and main activities, create positive relationships, answer the standard questions and if necessary to redirect them to call centre or other appropriate departments. The number of platforms is comparable with "intense dedicated" cluster difference in the approach.

"Silos management" is represented by one company. The main strategy is enlarging awareness about brands of the company and creating loyalty of stakeholders. These functions are dedicated to the specific person in the marketing department and realized in creating to common strategy social media strategy for all 8 brands of the company by opening mostly frequently used page in Italy – Facebook. The important informants for vehicle production are the vendors and fan clubs that provides with their comments and transfer the messages of the end-clients. However, the organization is dispersed the recruiting function via social media is human resource department. Level of social media adoption is quite low.

#### *Simons' Levers of Control in the social media era*

The table # 3 represents the results of the second part of analysis devoted to the Simons levers of control (reporting, exchange of information, policies) and data analysis (tools and type of information). We have identified three main clusters according to these characteristics i.e. "sophisticated" - companies that uses all four levers of controls and do fine grain data analysis with sophisticated tools; "reliance" - companies using specific levers of controls and doing assurance analysis; the third cluster also uses specific levers and performs limited, mostly manual, analysis of social media information.

#	Company	Formal reporting	Informal exchange	Policy / Guidelines	Tools	Type of information
<b>Sophisticated</b>						
1	Telco1	Daily reporting to team Upon topics to departments	Formal & Informal	Rigid information sharing policy	Full content analysis, sophisticated statistical instruments, traditional SM KPIs	Fine grain Opinion Sentiment Benchmarking SM statistics
2	Bank	Hourly reporting to team Instant sharing with departments Monthly reporting to Board of directors	Formal & Informal (discussions)	Policy for information sharing on social media	Full content and visibility analysis, possible circumstances.	Fine grain Opinion Sentiment Benchmarking SM statistics
3	Telco 2	Daily reporting to team Instant sharing with departments Weekly reporting to head Monthly to CEO	Formal & Informal	Specific guidelines on employees & departments levels	Full content analysis based on machine learning	Fine grain Opinion Sentiment Benchmarking SM statistics
4	Energy	Daily reporting to team Weekly to department Monthly to CEO	Formal	Specific policy, monitoring system	Full content analysis, traditional SM KPIs	Fine grain Opinion Sentiment Benchmarking SM statistics
5	Real Estate	Weekly reporting to team Monthly to Man. Team Daily catch up during campaigns	Formal & Informal	Policy for information sharing on social media	Full content analysis, but manual analysis of tweets	Opinion Sentiment Benchmarking SM statistics
<b>Reliance</b>						
6	E-commerce	Unstructured reporting, information checked daily	Informal	No policy, unwritten rules of behavior	Statistical analysis, manually sentiment	Opinion Sentiment Benchmarking SM statistics
7	Metal products	Unstructured reporting, information checked weekly	Informal	No policy, unwritten rules of behavior	Manual analysis, tools from SM	Opinion Benchmarking SM statistics
<b>Informative</b>						
8	Vehicle construction	Non-frequent reporting	Informal	General clause of information sharing	General SM platforms analytics	Opinion SM statistics

Table # 3

The companies of the first “sophisticated” cluster use all levers of control in order to manage social media. The boundary system is one of the most developed. Companies prepare hourly-daily reports and monitors continuously situation on social media. If any alarm appears, the plan of the actions is predefined or developed immediately, the response to such situation is provided in very short time (24 hours period or less). The individual behaviour of employees is regulated by general policies of the company about information disclosure and explicit guidelines. Any potential risks are managed by collaboration of social media department and legal or risk management department. Diagnostic lever is implemented by specific measurement tools and setting clear objectives for the social media indicators. Its core

activities are promotion of brand identity and awareness, as well as caring function in parallel with the call centre. Belief levers is based on the strategic planning session that is done on regular basis and summed up in the editorial plan, where the core messages are presented and explained “sort of high level guidelines” for employees of the department. The day to day work is highly structured in terms of activities (there is a weekly/monthly plan of tweets, Facebook posts or platforms updates), but are mostly uncontrolled in terms of language used by employees. Interactive lever is focused on the exchange of information, opinions and experience between employees of different offices, between different departments, between social media sources and employees, as well as between employees and stakeholders. It results in homogenization process of information flows from different sources, as well as reports, financial and non-financial information provided on sharing platform in interactive manner. The formal reporting is provided to different interested departments (marketing, production, R&D, human resources, risk management and legal) and also frequently sent to the management team and board of directors.

The data analysis in the first cluster is done based on the sophisticated instruments developed by companies or outsourced via specific agencies. The analysis done includes different types of data from the measurement of the traffic generation (by # views, # followers), to sentiment analysis of brand, specific product, service. The high level of analysis permits to identify the potential problematic areas, make comparison with the rivals, understand market trend and tailor conversation on the social media platforms.

The “reliance” cluster is characterized by the strong belief lever of control that is connected to the size of companies – small or even micro. The boundary system is mostly absent, some general conditions of secret information spread are signed in the employees contract, but nor specific social media disclosure exists. The diagnostic lever is implemented, even though the analysis is done manually and by some statistical tools, the clear objectives are set for social media platforms and monitored frequently. The reporting is done regularly, but the communication between different functions is interactive and informal. The owners of the companies are acknowledged with all the results and companies’ position. Data analysis includes sentiment, opinion mining, benchmarking with competitors and social media platforms’ statistics. The tools used are the social media platforms instruments, open source or manual data collection.

The “informative” cluster is represented by one company and specific levers of control. The belief and interactive systems are well developed. Each brand has its one strong image and strategy of communication. The informal exchange of feedbacks with the vehicle vendors and

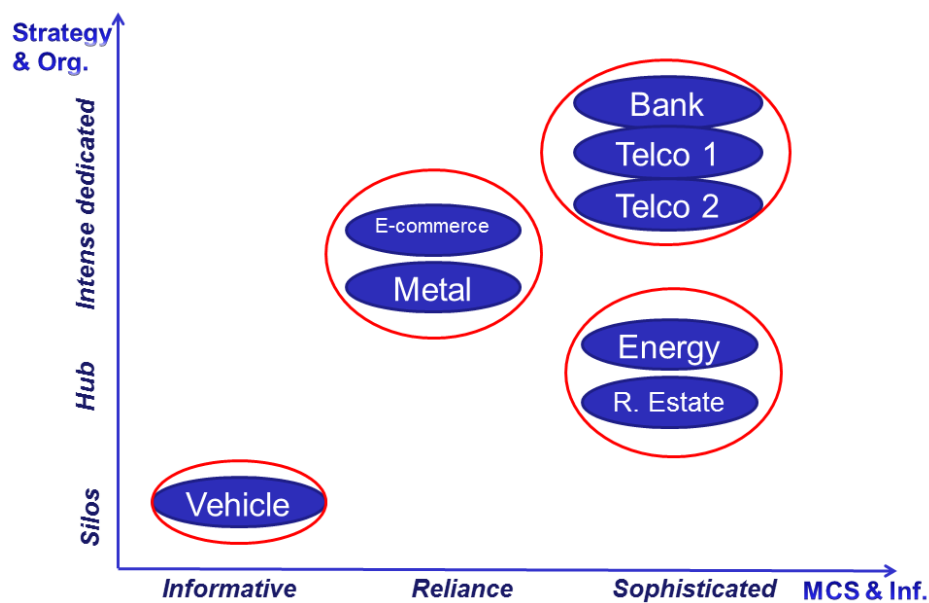


fan clubs collected from their social media platforms. The diagnostic lever is activated for the specific events or vehicle model launch. The specific boundary lever is not implemented for social media activities, but policy of information disclosure exists for employees of the company. Data analysis is mostly done manually or by statistic tools of SM platforms.

The multiple cases provide an evidence of the holistic approach to the social media of different firms, but emphasises the different levels of social media adoption from the dispersed to the evolving.

## Discussion and Conclusion

The multiple case studies provides with the in-depth understanding of the social media adoption in the different types of organizations and evidence the necessity of the recognition of these phenomena in the management control systems and its adoption as a new variable. The social media is influencing all four levers of control of organization and provided the strategy of the company, its organizational structure, type of data analysis. The following matrix provides with overall picture of the companies' position according to the results' analysis. Abscissa represents evaluation of the management control system and data analysis (from informative to the sophisticated approach); the ordinate – companies' strategy and organization (silos, hub and intense dedicated).



We identified four patterns. In the upright corner the most sophisticated users of social media activities that have clear strategy, specific organizational structure that implements all four levers of control and do deep and refined analysis of data. All these are correlated with the diversity of activities on social media platforms and numerous of departments using the social media information as a part of their day to day work. The second pattern characterized by broad adoption of control levers and deep information analysis, the strategy limits number of activities on social media platforms according, but still paying high importance to these instruments in order to correct companies actions and take decisions based on the opinion of social media. Instead in the pattern three companies lacks of thin levers of control due to size and instruments of analysis to the budget and companies requirements, strategy of companies and organizational structure confirm importance of social media information for the companies further development, providing with alternative solutions and permitting to reach wider audience. The fourth pattern is characterized by low levers implementation and weak social media strategy and unstructured organization that represents the initial stage of social media implementation by the company. The company commented that they started to develop and understand peculiarities of this new channel and sure that it could bring important improvements for their performance.

The social media adoption inside management control system is necessary step for all companies in order to prevent risk of this immediate information and could be an additional key success factors for proactive users. The map of the cases highlights diversity of use possibilities inside different control systems.

The limitation of the research could be divided into the two main spheres of the methodology and case studies choice. The multiple case studies are showing the reality of the specific cases that are limitedly representing the whole diversity of the existing companies. However the choice of the cases were done according to the criteria approach, the further case studies with the larger number of participants could provide a wider picture of these phenomena and explain better relationships, identified different characteristics of social media adoption. These can be done by increasing number of interviewees within one company or enlarging number of companies. The second limitation is geographical positioning; this research was done within Italian, Holland and Russian companies. These realities may have significant influence on the results. The international case study could confirm the results of this research or further differentiate them according to countries and cultural differences among them in the social media adoption within the management control processes.

This research provides with significant results both for academic and practitioner fields. From scientific part this research summarizes the different use of social media inside organization and includes it to the management control system, classifying different approaches and specifying their main characteristics. This provides a mapping of social media adoption as a new a variable within control system of organization. Moreover, this research is valuable for practitioners who adopted or willing to adopt social media inside their company, by listing important characteristics and discussing different approaches of controlling, tackling each of four levers of control.

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