Review

Social media metrics and analytics in marketing – S3M: A mapping literature review

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ABSTRACT

The purpose of this study is to present a mapping literature review and a classification for research articles regarding social media metrics and analytics in marketing. The review covers 52 articles from peer review journals and international conferences, from 2010 to 2016. These 52 articles are classified in 5 distinct categories based on their: *methodology of research, type of analysis, field of study, marketing objectives and social media type/platform used.* The findings of the study reveal which is the most used subcategory for each classification, trends and tendencies. This review provides a base classification for researchers and an editable and continuously augmenting typology for further research in the area.

1. Introduction

Web 2.0 tools and the appearance of social media seem to have redefined the marketing strategy, research and practice, broadening marketing's potential. These potentials go beyond customers' information and expand on commitment and engagement levels. Constantinides and Fountain (2008) define Web 2.0 "as a collection of open-source, interactive and user-controlled online applications expanding the experiences, knowledge and marketing power of the users as participants in business and social process […] supporting the creation of informed users' networks facilitating the flow of ideas and knowledge by allowing the efficient generation, dissemination, sharing and editing/refining of information content".

Social media produce a vast amount of measurable useful data to analysts and marketers whose goal is to monitor and analyze behavioral targeting, brand loyalty and further marketing performance indicators, rendering these data effective. To do that, specific marketing metrics goals need to be clearly defined. Without a specific plan, regarding also the key performance indicators choices, data analysts together with marketers will fail to direct the social media data into useful insights for the companies. For that purpose, firms must precisely raise questions and search answers from social media listening in order to transform data in social media metrics. Social media analysis, therefore, consists of collecting, measuring, evaluating and finally interpreting data (Kaplan & Haenlein, 2010).

Since the first appearance of social media, marketers have noticed the potential of such technology in business (Mangold & Faulds, 2009). Social media can serve as an effective marketing tool in business,

valuable for both consumers and companies, offering a wide range of opportunities (Kaplan & Haenlein, 2010). Therefore, social media show an unprecedented increase of use inside business. Even though, understanding social media is a crucial, but not a simple procedure. Several definitions are classified in order to fully explore the dynamics of social media in marketing.

This study presents a complete base for understanding and describing social media metrics and social media analytics related to marketing strategy, policy and research, by reviewing the relevant literature. The objective of this paper is an extensive review of articles related to social media metrics and analytics in marketing, creating a mapping review/systematic map of the relevant material. The primary goal in this article is to create a conceptual classification scheme (named S3M) for the extant literature by using five distinct dimensions/criteria of classification, such as: Methodology of research, Type of analysis, Field of study, Marketing objectives, and Social media types/platforms. As a result, the most used subsectors from each category are identified, featuring the new upcoming trends in social media marketing. The findings of this study are expected to benefit researchers and marketers by helping them to better understand what has been hitherto achieved. It is our primary hope that the proposed framework will serve as a valuable classification system for researchers, academics and practitioners who conduct similar research.

The paper is structured as follows. The next section presents the research methodology we follow. In the following section we present the classification of the literature, providing a discussion section for each category. The final section summarizes our work, offering concluding remarks, future research directions and limitations that rise from our study.

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2. Research methodology

Social media marketing as a science field is difficult to restrict only in few specific disciplines. This difficulty arises due to the multi-disciplinary nature of the sciences and industry fields involved. Based on our proposal, articles associated to S3M can be found in five types of journals: Marketing and e-Marketing, E-Business and Management, Behavioral sciences, ICT/Information systems and Social media. In order to limit the collection of articles, we take some restrictions into consideration. The articles were initially searched on Internet and academic databases such as Science Direct, Scopus and Emerald. Articles from books and book chapters are excluded from the research. The search returned 101 articles, covering the time span 2011–2016. Of them, 35 were rejected due to lack of compatibility of the content with our research scope. From the 66 remaining relative articles, we excluded 6, for being white papers. From the remaining 60 articles, 52 are scientific articles from peer-review journals and 8 from conferences and proceedings. Each article was reviewed and classified initially into the five above mentioned categories and furthermore in relation with the year of publication. The year distribution can reveal useful outcomes for the research tendencies.

As it is shown in Fig. 1, the research has increased significantly since 2012. This year together with 2014 contribute 8 articles. The pick on publications is noticed during 2013 with 12 articles. 2014 and 2015 present a significant decrease on publications with 2016 showing a small promising increase.

3. Classification of the literature

The amount of the techniques related to social media and their applications in order to spread brand awareness or promote particular products is called Social Media Marketing (SMM). SMM uses mainly the features of social media, such as online communities, social data etc. (Neti, 2011). In the literature, social media marketing is combined with metrics and/or analytics tools, methodologies and techniques. Social media metrics represent the tangible outcome of monitoring, measuring, reporting, calculating content from social media.

Although there is no specific classification system for metrics, researchers can pattern them after: time, reach, relationship, conversion and retention measurements. However, considering that metrics are not yet fully standardized, it depends on the marketer, who sets the marketing goal, to decide the most suitable metric for a certain measurement. Social media produce a vast amount of data, known also as social data, consisting the next phase for an analyst; the social media analysis (SMA). More specifically, SMA consists of gathering and analyzing the data in order to take decisions for businesses. Next, we present eight main definitions for analytics in Table 1.

Furthermore, we classify each article based on five different criteria. More analytically, we subdivide the articles based on methodology, the specific type of analysis, the field of study, the marketing objectives and the social media types/platforms used. As a result, the most common subsectors of each category can be identified, featuring the new
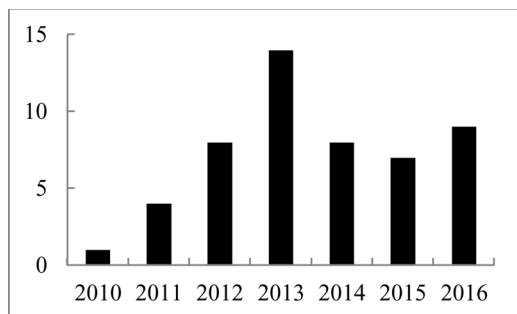

Fig. 1. Year of distribution/number of articles.

upcoming trends on social media marketing. The findings are expected to benefit researchers and marketers by helping them better understand what has been hitherto achieved.

Creating a classification constitutes a complex concept to manipulate and conceive, especially in new scientific fields, where literature is still in its early stages. As Bailey (1994) defines, classification is one of the most central and generic of all our conceptual exercises, being the foundation and a necessary process in social science. Typology and taxonomy are two terms that define classification. Typologies are characterized by labels and names. We use the term typology, instead of taxonomy, because our classification system was derived in a deductive manner, without using any cluster analysis or other statistical method, as it occurs with taxonomies. Initially, we did not know which would be our labels, in order to classify the articles. Our selection of articles contained a plethora of labels, which made our mapping process quite complex but challenging. By studying carefully all the articles, we first identified several methodologies, types of analysis, fields of study and marketing objectives. Based on this study, we formed the subsequent Table 2 with the basic labels. This first collection of labels is editable, so future researchers can add, unify or divide the different topics.

Having this classification as a base scheme we study the articles again, this time in order to classify each one in one or more categories. Our scheme lacks of mutual exclusivity, since one article may belong to more than one category. Reviewed articles are classified into five categories and each of them is discussed as follows.

3.1. Methodology of research

Studies follow different approaches related to the methodology used. This depends on the problem's nature and the research field (Noor, 2008). Diverse studies exclusively review the literature. Usually these studies are qualitative and theoretical. We detected 10 articles that perform reviews and/or theoretical research. On the other hand; other studies perform quantitative research using questionnaires. Our study revealed 13 relative articles. The remain articles do not use questionnaires and form the third category of Table 3 with 27 articles.

The generic category of survey-related articles, both questionnaire-based and not, contributes more that 84% of papers. This can be explained by the fact that social media scientists prefer to contribute with primary research articles rather than review-based researches, since the field is quite new and presents a huge research development margin. Though this numeric conclusion can be evidenced by findings, we believe that theoretical approaches are still necessary and form a solid base for conducting primary research.

3.2. Type of analysis

As S3M is a nascent developing field with challenges and opportunities for further research exploration, this Table is designed to assist researchers to obtain the basic knowledge but also to find gaps and limitations, not yet analyzed. The tendencies towards specific research can be revealed also from the next Table. As Gartner (2013) defines, social analytics include sentiment analysis, NLP, text analysis, predictive and content analysis. We enlarge this definition by adding also statistical and behavioral analysis, as possible categories, in our taxonomy. Only one article performs effectuation analysis which is the process for entrepreneurship decision-making (Fischer & Reuber, 2011). These eight categories form the classification for Table 4.

S3M is not yet fully standardized so it is normal that the different categories mix with each other. This is the reason why many papers fit more than one category. Nevertheless, even if classification is not yet fully clarified, we extract the next outcome by observing Table 4. NLP and text analysis, sentiment analysis, content and social media activity analysis are the dominant categories. This observation can be explained by the fact that data contain insights for customers and information for marketers so as to predict useful outcomes.