



**Assessing the market performance of social media,
monitoring dashboards: identification of key attributes**

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*“The aim of marketing is to know and understand the customer;
so well the product or service fits him and sells itself.”*

Peter F. Drucker (1909 - 2005)

ABSTRACT

Which technical features drive market demand for social media monitoring dashboards (SMMDs)?

Social networks are a “door of opportunity” to establish a product or brand through social media, and to engage new consumers. Social media makes it easier to monitor, collect, analyze, and manage sentiment, attitudes, complaints, software inquiries, and discussions. A measurement strategy is a fundamental factor to obtain these types of information. Although there are alternative ways to gather this data, different SMMDs enable data analysis, allowing management to glean business insights that enables enterprises to capitalize on all this information to make informed decisions.

This dissertation includes key features that can be used to analyze SMMDs. A literature review helped to identify research questions for this study. Consequently, questions were formulated in the interview script addressed to informants in Colombia and Portugal. This interview filtered key features identified as most important when facing the need to choose a dashboard. Once the information was gathered, a survey was designed.

The survey focused around three key features: visualization/user interface, real-time processing, and cost. These attributes emerged from an analysis of the respondents’ survey. Responses were then categorized, and themes began to be gleaned from the respondents’ answers. Finally, these categories were evaluated by community managers (CMs), which total number of collected samples was 169 surveys. The intentionality behind this methodology was to discover a criteria by which to select dashboards, concluding real-time processing as a key feature chosen by 69,2% of responders. Respondents chose it as a fundamental attribute. Another relevant issue during analysis, considered by CMs, based on years of experience with the tool, was Hootsuite since it is a well-known dashboard, with a mean of 3,39, and a $\sigma=1,22$. This choice represented approximately 33%, which made it the most preferred tool by CMs at middle to large companies.

SUMÁRIO

Quais os aspetos técnicos que encaminham a procura do mercado para os painéis de gestão das redes sociais?

As redes sociais estão a tornar-se um meio de oportunidade para estabelecer um produto ou marca e cativar novos clientes. Com as redes sociais é mais fácil monitorizar, recolher dados, analisar e gerir os sentimentos, atitudes, queixas, bem como dúvidas acerca do software. Uma estratégia de medição é um fator fundamental para obter todos estes tipos de informação. Apesar de haver métodos alternativos, os diferentes painéis de gestão das redes sociais permitem a análise de dados e recolha de informação negocial por parte da equipa de gestão de modo a que a empresa seja capaz de interpretar toda esta informação e tomar decisões informadas.

Esta dissertação inclui aspetos chave que podem ser usados para analisar os painéis de gestão das redes sociais. Foi realizada uma revisão bibliográfica detalhada e identificadas várias perguntas de pesquisa. Consequentemente, foram formuladas perguntas no guião da entrevista visando informadores da Colombia e de Portugal. Esta entrevista filtrou os aspetos chave identificados como os mais importantes ao enfrentar a escolha de um painel de gestão. Assim que a informação foi recolhida, foi desenvolvido um inquérito.

O inquérito focou-se em três aspetos chave: visualização/interface do usuário, processamento em tempo real e custo. Estes atributos surgiram de uma análise dos inquéritos dos respondentes. As respostas foram então categorizadas e começaram a ser identificados temas a partir das mesmas. Por fim, estas categorias foram avaliadas pelos gestores da comunidade, onde o número de amostras recolhidas foi de 169. A intenção por detrás desta metodologia era descobrir o critério segundo o qual proceder à seleção dos painéis de gestão, concluindo-se que um aspeto chave é o processamento em tempo real com 69,2% dos respondedores, que a escolheu como um atributo fundamental. Outro assunto relevante considerado na análise foi o Hootsuite, uma vez que é um painel de gestão bastante reconhecido, com uma média de 3,39, e uma $\sigma = 1,22$, tendo vários anos de experiência em ele os respondentes, e representa cerca de 33%. Isto significa que é o painel mais preferido pelos gestores da comunidade em empresas de média a grande dimensão.

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This dissertation has been a tremendous challenge in my life. It has stretched me to the point of making me prove to myself that no matter how far a dream seems to be, it is possible to reach one's goal. The fight will always be tough. But there is a deep sense of motivation, effort and enthusiasm in the midst of the fight to reach one's dream. I think about all those who have supported me as I began the journey through this master program. I am deeply thankful to my parents Adriana and Dario. I am also thankful for my sister Elizabeth and her words of encouragement when I was discouraged. To my aunt Claudia and my uncle Belarmino, for their emotional support when I needed it, and my friends, especially Miguel and Afiffe. They helped me in a difficult moment of my life while I was writing this thesis in Bogotá. I am also thankful to Tiago and Lucas, my Portuguese friends, as well as my cousins Yilly, Orlando, Wilfredo, as well as my friends Nataly and Gina for their support and help. I also have to thank my dear cousins from USA, Hedemarrie and Belarmino Dussan, for their continual support, encouragement, and proofreading throughout the writing process of this dissertation. Thank you very much, again, all of you.

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CHAPTER 1: INTRODUCTION

1.1. Background and Problem Statement

Digital marketing is a current and crucial topic of study for both academia and businesses. Within it, the issue of accurately and meaningfully assessing the performance of a brand's digital marketing activities is gaining relevance, particularly in the case of social media marketing activities. Social media monitoring dashboards and marketing metrics have emerged as a way for a company to expand and get better economic results. And by doing so, gaining powerful insight into its customers, competitors, and industry factors (Kasper & Kett, 2011).

At the same time, there has been a significant growth in the development of marketing dashboards, or measurement platforms designed to evaluate the performance of marketing activities (Pirouz, 2015). Since the number of social monitoring tools has rapidly increased in recent years, enterprises are faced with the difficult task of choosing the right tool for their needs (Stavrakantonakis, Gagiou, Kasper, Toma, & Thalhammer, 2012). Moreover, the existence of several approaches in the search for a platform that will fit the needs of marketing and social media managers complicates matters. Different metrics have different values, depending on the online channel context, for instance: community managers use "likes" and "shares" as key performance indicators (KPIs) to measure their campaigns virally. Other metrics such as retweets, number of followers, subscriptions, number of fans are priced like involvement metrics. So, the captured metrics are more accurate to determine how customers are interacting with the brand, and how campaigns spurs different levels of engagement.

Engineering and Information Technology (IT) play a very important role in developing social media monitoring dashboards (SMMD). So marketers benefit from developing close collaborations with IT teams to ensure they fully understand and can take advantage of SMMD and the market intelligence they produce (Pirouz, 2015). A deeper technical knowledge of relevant dashboards and their monitoring capabilities should help marketers choose the appropriate platforms and take better advantage of them.

An effective marketing dashboard reflects a shared definition and understanding of key drivers and outcomes within the enterprise. It also diagnoses poor or outstanding performance, facilitating assessing actions on financial outcomes. At the same time, it enables organizational learning and supports decision-making to improve performance (Peters, Chen, Kaplan, Ognibeni, & Pauwels, 2013).

1.2. Aim and Scope

This dissertation aims to determine what the important key features are for current community managers to choose a dashboard. To this end, a survey and an interview were designed as a method to glean insights for analysis and measure results.

This study seeks to answer the following research questions:

- 1. What key performance attributes drive the evaluations of SMMD products?*
- 2. How do prospect customers (e.g. marketing managers, community managers, social media managers) evaluate the SMMD currently available in the marketplace?*

1.3. Research Methods

The research will start by predominantly identifying the available dashboards in the market, and collect all the information related to these tools from data reported by other studies. This part used secondary data source. The data collection was done using the database from the university. The second part of the research used the primary data from the interview questions. These questions were formulated to target key informants as primary data source. Data obtained from these interviews was selected and filtered in order to identify and categorize the most relevant features within dashboards. With these attributes, an orthogonal plan was made using the SPSS program. As a result, a series of index cards were created with the different combinations of the dashboard's attributes. Finally, these index cards were chosen to be included in the design of the survey. Immediately after, an online survey was created with Qualtrics, and launched for data gathering.

1.4. Managerial and academic relevance

Social media has given people the ability to express their thoughts about enterprises, brands, anything and anyone. Public sentiment and people's feelings can be right or wrong, but that

alone does not establish the social media success. The way that firms hear and capture these social media posts is what sets how those notions influence online presence and brand sentiment. Therefore, it is important for a company to learn how to choose the right dashboard for its social network strategy so that the management may have a “measure of control” on how the enterprise is being perceived within the network and the public. It is also important for the company to gain new consumers and leads, as well as trying to create a culture that attracts healthy influencers. A unique way to have this “control” is with measurement tools such as dashboards.

Early, when social media became popular, according to Award in the mid-2000s, Public Relations Agencies (PR) would monitor customers’ posts on a business’s own website to try to identify and manage unhappy customers. But the number of social media site exploded to the point that it is no longer feasible for users to do the monitoring alone. To gain a better picture of how a company is doing, other means need to be integrated in the analysis (Award, 2014). This research enforces and gives a clear idea about the most important key features of a dashboard, and how crucial these can be for a businesses success. The audiences that will benefit from the results of this research will be marketing agencies, advertising companies, organization managers, and researchers in this area of study.

1.5. Dissertation outline

This dissertation is made up of five chapters. Chapter 2 introduces a literature review on topics such as: social media analytics, metrics, social networks monitoring platforms concepts, and their key features. Chapter 3 covers the research methodology employed. The first part discusses an exploratory approach. Subsequently, the qualitative approach of the research was conducted by interviewing key informants. From these informants reflections emerged themes and categories that served as the foundation for the survey design. Chapter 4 presents and discusses the results obtained in regards to possible responses to the proposed research questions. Finally, Chapter 5 extracts some important conclusions obtained from the research, as well as a discussion of the limitations associated with the study, and some suggestions for future research.

CHAPTER 2: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Chapter 2 presents a review of existing literature regarding social media analytics, metrics, and measurement. This chapter also details the analysis of metrics fundamentals required within the monitoring tools. The research methodology explained in chapter 3 stems from the findings of this literature review.

2.1. Social Media Analytics

The term “Social Media” has two areas of research: communication and sociology. In the communications approach, a medium involves that information is delivered or stored. In the sociology approach the structures compounds by an individual group with dyadic ties, which relates to one another, creating social networks (Pirouz, 2015). The joining of both concepts give as a result the definition of social media, which consists in the different systems of communication where the social groups can have interactions throughout these dyadic ties.

The quantitative measurement is an important part within the social media analytics. In fact, the analytics serve as the core for understanding the different degrees of interactivity among social actors, such as sequences of actions and reactions, goals, structures etc.

User Generated Content is a testimony of how several social applications based on Internet have enriched the exchange of ideas among citizens (Peters et al., 2013).

The implication of this person-to-person content exchange or micro-blogging in social networks , as indicated by Hoffman, highlights a distinction among the various social media applications by virtue of their nature and their own metrics which have changed the way users interact with brands, disrupting the way companies communicate with consumers, as they strive to keep up (Hoffman & Fodor, 2010). Another challenge facing company management today besides measuring interactivity with their brand is the ability to accurately calculate the social media ROI since the high cost sometimes is considered to pay off their investments by measuring the extent of person-to-person exchange in their portals around user’s experience with the brand. Social media provides the setting to, first, evaluate what the motivation of the

social actors and costumers to use the social media is, and then measure their investments in social media. This aspect will be discussed later.

As a starting point in social media analytics, it is important to mention two basic measures that help to understand the audience level of engagement with the product, service or topic discussed. The first is the sentiment towards how the topic or brand has position itself in terms of positive or negative perception. This is an useful measure as it identifies brand advocates and distractors and helps management in the process of refining a brand advocate/brand detractor-centric tactical initiative (Evans, 2010). The second metric is related to the quantity and intensity (volume) of the trend in which the product or brand appears in the written conversation in the social environment. An example would be the number of *retweets* or mentions using a *hashtag* in twitter. This measure helps to identify what is said by users in social networks, and, with this information, advertisers and managers can compare the social channels to make decisions on where to participate.

Figure 1 shows, within a social media, the paradigm Simulus- Organism- Response (S-O-R). This dissertation uses this model to orient this study.

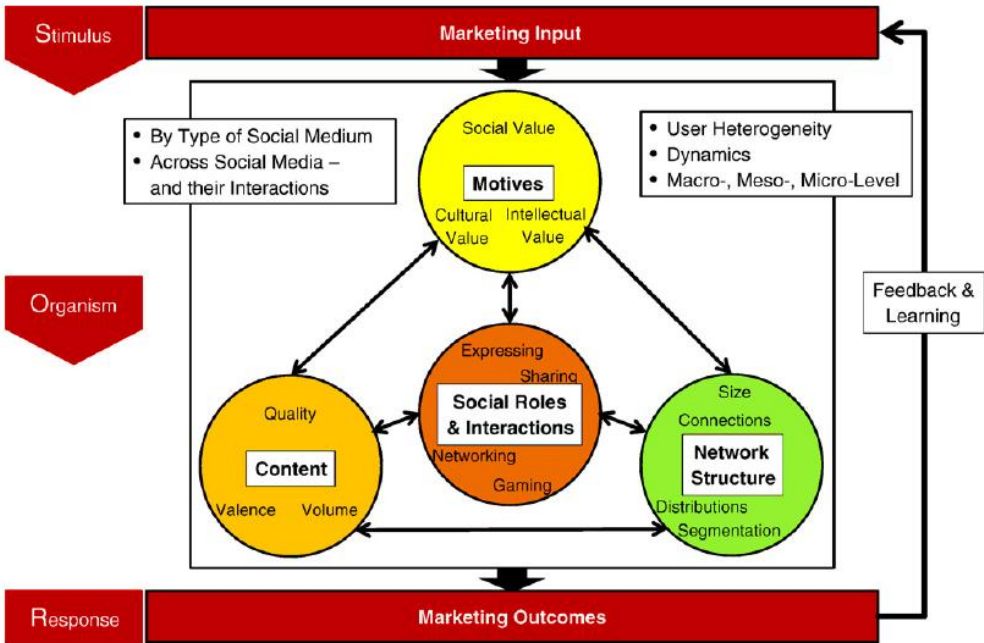


Figure 1- S-O-R framework for social media (Peters et al., 2013)

The S-O-R framework portrays the four pillars that shapes the social media. The first pillar is the motives, which include the cultural, intellectual, and social values. The second pillar is the content, including the quality of content generated in the social media; the valence content or emotional impact (anger, joy), and tonality (positive and negative) of the messages that are spread through the social media in question and finally, the volume of content, which counts the number of interactions. Social and interactions roles on the third pillar relates to the way users assume a profile within the social channel. Author Key Petters summarizes the social interactions in four ways: Sharing, gaming, networking and expressing (Peters et al., 2013). The last pillar is the network structure which is described in terms of network dimensions: size, connection, distribution and segmentation.

All these aspects above operate together to obtain an output: Marketing Result. At this point the measurement is essential because only through feedback and learning results in the social media monitoring platforms is it possible to generate enough information to benefit the company and adjust the course according to management goals.

Figure 2 shows an accelerated growth in all the social media in recent years. As we see in the case of Facebook with 1,230 million active monthly users. This is without a doubt the platform with greatest number of users up to date. The second platform is considered to be QZone, the most important social network in China with 599 million active monthly users. This suggests that social networks continue to grow more and more rapidly in users. The implication is that metrics in the various social networks is now a vital and relevant task for the Enterprise, which in turn creates the need to utilize a monitoring tool to oversee and manage the scope, breadth and depth of the business practice.

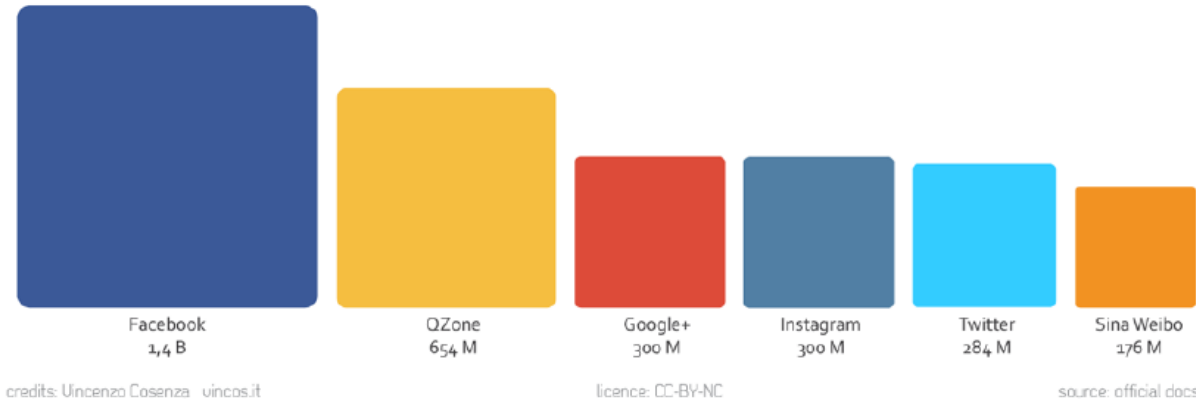


Figure 2 - Social Media in the World

2.2. Social Media Marketing Metrics

Beside the top measures mentioned above (visitors and source of traffic, network size, amount of conversations about the product or brand), there are some additional essential metrics that a company should consider when monitoring on how to improve the social media marketing in the company. These metrics are summarized and showed in table 1.

Table 1 - Metrics in the social media marketing (Evans, 2010)

Measurement	Sources	Explanation
Social Media Leads	Based on the supplies of traffic in the site.	Link this to current clients' conduct.
Membership Level	The quantity of people connected to the social media, e.g. the number of fans or followers and subscribers in a free or paid content.	This measurement shows the growing in number or percentage inside of media channel.
Activity ratio	Relation between active member vs total members on the social network.	This metric is useful to know if a campaign has increased with respect to the interaction among users
Conversions	Google Analytics (Evans, 2010)	What share of the social traffics is actually working according to defined goals?
Brand Mentions	Social media Analytics, Tweetdeck (Evans, 2010)	Measure and track both positive and negative mentions and their quantities as well (http://www.adweek.com/socialtimes/social-media-metrics/3955?red=st)
Loyalty	Google Analytics	Social actors are interacting in the social media repeatedly and mention the product or brand from the company.
Virality	Cross posts, Diggs and send-to-friend (Evans, 2010)	The concentration level of spreading of the content in a social channel.

According to Hoffman & Fodor, it is important to emphasize that the development of suitable social media metrics will help managers and marketers to take advantage of the social media environment as they strive to tackle three important objectives: awareness, engagement and WOM (word-of-mouth) (Hoffman & Fodor, 2010). Fortunately, an online presence on most

social media channels satisfy all these goals, especially if these are aligned with appropriate metrics that correspond to specific objectives set by management in their strategic planning.

Brand Awareness is a social media objective which is measured through questionnaires, surveys and tracking studies (Hoffman & Fodor, 2010). Analyzing twitter as a social media resource sheds light on how a brand can amplify the message through promotions or aspects that gain public attention like links to well written articles that answer a public concern. By doing this a company gains acceptance and brand awareness. In the case of engaging customers using social media campaigns, an affinity can be generated with a segment of followers and commitment on their part to continue searching until seekers turn into clients, with respect to the brand. Finally, the word of mouth objective is an organic result of being aware and engaged with the brand. At this level, consumers become stakeholders, communicating about the product and brand. Their opinions and attitudes carry heavy weight towards a good or bad image, before the competition and the public at large.

More often than not, companies use surveys to measure the possibility of recommendation by word of mouth. However, word of mouth could be measured by direct mail online once a service or purchase has taken place.

2.3. Platforms and Tools of Measurement on Social Networks

It is important to mention that the use of social media applications, in years past, has gone from trial and error, within the organizations, to a more relevant and mission-critical operation. Therefore, the growing interest and management pressure has framed the need for social schemes to capture and oversee social media presence and activity effectively to provide ROI measurements. New set of processes and procedures in the social domain are now integrated in daily business operations, and at times, are perceived to be implanted in the enterprises' business work flows. That is the reason why more and more enterprises are advancing into investments on social media plans. Social Media Monitoring technologies are used by companies to monitor the public perspectives and conceptions about their products, brand, prestige and other important assets compound strategies. This tasks take advantage of the social paradigm for the purpose of reaching out and establishing beneficial relationships with their clients (Luisa Milic, 2015). The challenges of understanding the user's needs,

comportments, preferences and competitive ecosystem are building a value proposal in the business strategies. Thanks to social information gathering provided by social media monitoring platforms, new venture management plans are developed, boosting client involvement and satisfaction, to execute successful campaigns in their business. The number of social media increases at a high rate, without precedent, and as strategic guidelines in the sales department. Therefore, marketing activities begin to be unclear and enterprises require integrating monitoring dashboards.

2.3.1. Definition of Social Media Monitoring Dashboard (SMMD)

SMMDs are software applications that allow the enterprises to collect, analyze, categorize, monitor, and probably link, on online, interactions into the vast ocean of social media data about companies, brands, products, topics of interest, and industries through social media applications. All the social data is collected across the process of gathering, filtering and analyzing social information, providing companies to work better. Moreover, all this data could be discovered in real time, knowing what the public are talking about, facilitating the managers adjust their activities and campaigns to act rapidly for their company's benefit (Luisa Milic, 2015).

In the market, an innumerable number of social media monitoring tools exists. Every one of them is different, but some share some aspects in common. Some are focused on very specialized features, and specific set of functionalities that gives them a level of sophistication as SMMDs geared to specific industries by its analytical power. For example, there are dashboards focusing more on engagement, publishing, and workflow management, whilst others have strengths in analytics and reporting performance (Luisa Milic, 2015). For this reason, there is no single superior social media monitoring platform or service supplier, which can actually gauge and address all issues of social media.

As was mentioned above, social media monitoring tools allow the company to have contact and measure the real clients' opinions, the trends about the brand, so the company or agency may know those aspects more relevant to their area of interest. In recent times, social media dashboards have concentrated their efforts on improving the listening to the social media actors, and being more efficient at analyzing and measuring the consumer interaction with a brand or product. This process sheds light on priceless insights for the company and, by the

same token, managers can decide which strategy better fit their goals (Stavrakantonakis, Gagiou, Kasper, Toma, & Thalhammer, 2012).

One aim of this dissertation is to fill the need for understanding and provide an up-to-date, perspective of Social Media Monitoring (SMM) market and available products. To this end, the study seeks to elaborate and define the most important social media monitoring concepts and key product features such as pricing, services, applications, key factors regarding data management, data analysis, visualization, process management in the dashboards, user interface, and, finally, those factors influencing shopping decisions.

Next, a description of every feature and how is compounded within the social media monitoring tools is presented.

- Data management features. This category possess all the key features and attributes related with alerts, export results, historical data or data archiving, data latency, and data coverage.
- Data analysis and process management features, analyzes sentiment pulse, viral content tracking, trend analysis, competition monitoring, predictive analytics, campaign monitoring and measurements, media statistics, word/tag cloud, influencer profiling and analysis, as well as items related with dashboard technology as real time processing, engagement and listening grid adjustment.
- Visualization and user interface, including integration with other applications program interface (APIs) as Client Relationship Management (CRM) and capability to customize the visualization.
- Factors influencing shopping decisions, concerning industry pricing, product applications, company size (Luisa Milic, 2015).

2.3.2. Classification of SMM dashboards

Luisa Milic, director of the Ideya Business and Marketing Consultancy conducted a study on the most recognized platforms available commercially. In her report, 242 social media monitoring tools were analyzed and profiles elaborated with these dashboards. The study was recently published in November 2015 and is shown in table 2, the most important paid SMM tools (total 187) in the market. In table 3 are dashboards with free and paid SMM services (total 22), and table 4 shows completely free SMM tools (total 33).

Table 2- Paid Social Media Monitoring Dashboards (Luisa Milic, 2015)

<ul style="list-style-type: none"> • Adobe® Social • Agility (PR Newswire) • AMI Opinion Tracker • Appinions™ • Appreciation Engine • ASOMO • Astute Social™ • Attensity • Augure Influencer Marketing Software • bc.lab • BIG Screen™/BIG Connect • BirdSong • BlogMeter Social Listening, Blog Meter Social Analytics, BlogMeter Social TV Listening • blueReport (Cognita AG) • BoomSonar • Brand24 • BrandChats (Tinival) • Brand Embassy • BrandMetric Sonar BM • BrandsEye • BrandSpotter • Brandwatch • Buddy Media • BurrellesLuce iMonitor • Buzzcapture • BuzzForce™ and Social Media Dashboard /Oceanus • BuzzNumbers • ChatterGuard • Cogia Web Observer 3.0/ Text Mining /Web Audit / Report / Alerts & News Clipping / Engagement Tool • Cisco® SocialMiner • Cision PR Edition • Cision Social Edition • Cision Social Software – powered by Visible • Clipit • Cogito Search Explore Engine • Commetric Media Analyser • complexium MATRIX, GALAXY, KYEPLEX • Conversation Miner™ (Converseon) • Coosto 	<ul style="list-style-type: none"> • Dialogix • Digimind Intelligence • Digimind Social • Digital PR/Vox Populi • Ditto Analytics • eCaim Conversation™ • Echobot • Engage121 • Engagor • evolve24 Evolution Platform • Explon • Factiva (Dow Jones) • FirstRain Orion • FirstTweets™ (FirstRain) • ForeSee Customer Experience Analytics for Social Media • Genpact's Social Media Research and Media Monitoring • Gorkana Social Media Pro • Heartbeat (Sysomos) • Hearsay Social • HelloSociety • Hottolink • HP Explore / formerly Autonomy Explore • HubSpot • IBM Social Media Analytics • IBM® SPSS® Modeler Premium • iContact Pro Select (formerly OutMarket) • Imooty • Impactwatch • Inlegy Atlas • Influence Analyser/ Commetric • Infospeed™ • Integrasco • IQBuzz • ISENTIA Brandtology • IWOMmaster Platform • J.D. Power Social Media Insights • JamiQ • Kampyle • Kantar Media X-tracker • Klarity Analytics • Landau Media Online 	<ul style="list-style-type: none"> • ListenLogic Unstructured Big Data Analytics & Insights • M-Adaptive • Media Analysis Platform (MAP) (Sysomos) • MediaMiser Enterprise • MediaVantage • Meltwater Media Intelligence Platform • Mention • Microsoft Social Engagement • MotiveQuest • mPACT, mPACT Connect • mufusion Social™ • MutualMind • Nasdaq OMX Media Intelligence (formerly Thomson One PR) • NetBase™ • NetEquity • Netmonita • NexaMaster, NexaLive, NexaMe, NxAPI • Next Analytics Social Media Dashboard • Nielsen Social • NUVI™ • Onalytica • Opinion Tracker • Oracle Right Now CX • Oracle Social Engagement and Monitoring Cloud Service • Pipora • Polecat • Positive Press (Iterasi) • Pulsar TRAC • Radian6 (Salesforce) • Raven Social • Reputation Control • Reputation.com / Reputation Defender * • RepuTrace /RepuTrack • Revinat • Review Pro • Rio Social Analytics™ • Semantia • Sendible • SAS® Social Media 	<ul style="list-style-type: none"> • Serendio Voice of The Customer (VOC) • Shoutlet (a Spredfast Company) • Silverbakk • SIM Score (Razorfish) • Simplify360 • SDL Social Intelligence: SDL Social Media Monitoring and Customer Journey Analytics • SMART Platform (BrandProtect) • SmartFocus • SnapTrends - GeoSocial Intelligence System • Social360 • SocialBro • Social Figures BrandCare • SocialEye™ • SocialEyez™ • SocialMetrix Echo • Social Studio (Salesforce) • SoDash • Sonar - Online Earned Media Insight • Spiral16 • Spotter • Spredfast Social Media Management System • Sprinklr Social@Scale™ • Sprout Social • StatsMix • Symscio • Synt hesio • Tailwind • Traackr • Tracebuzz • Trackur • Track • TrustYou • Twilert • uberMetrics Delta • uberVU • VendAsta's Reputation Management Platform • Venuelabs • Verint Text Analytics • VICO Analytics • VOZIQ • WaveMetrix
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Table 3- SMM dashboards with paid and free services (Luisa Milic, 2015)

<ul style="list-style-type: none"> • AlchemyLanguage • Beevolve Social Media Monitoring & Insight Platform • Cyfe • Buzzmonitor / E.Life 	<ul style="list-style-type: none"> • Hashtags • HootSuite • HowSociable • Klout • Kred (PeopleBrowser) • NetBase LIVE Pulse™ • Netvibes 	<ul style="list-style-type: none"> • NodeXL • Postano • quintly • Simply Measured • Social Searcher • Tagboard 	<ul style="list-style-type: none"> • Talkwalker • TO THE NEW Social Analytics/ThoughtBuzz • Topsy • Twingly • Zoom Social
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Table 4 - Free SMM Dashboards (Luisa Milic, 2015)

<ul style="list-style-type: none"> ▪ Addict-o-matic ▪ Board Reader ▪ Boardtracker ▪ BoomSocial ▪ Del.icio.us ▪ Facebook Insights ▪ Followerwonk ▪ Google Trends ▪ LinkedIn Analytics/ Company Pages 	<ul style="list-style-type: none"> ▪ Marketing Grader ▪ Meltwater IceRocket ▪ Mentionmap ▪ MetaCaffe ▪ NexaMe (Nexalogy Environics) ▪ Omgili ▪ Samepoint ▪ Search (Facebook) 	<ul style="list-style-type: none"> ▪ Social Mention ▪ Talkwalker Alerts ▪ Talkwalker Social Search ▪ TipTop ▪ Topsy Free Analytics ▪ Twazzup ▪ TweetDeck ▪ Twitscoop.com ▪ twitt(url)ly 	<ul style="list-style-type: none"> ▪ Twitter Analyzer ▪ Twitterfeed ▪ Twitter Search ▪ Unruly Analytics ▪ Viralwoot ▪ Who's Talkin ▪ Xefer Twitter Statistics
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According to the research paper from Ioannis Stavrakantonakis, a list of 10 major monitoring platforms are available in the market considering the following criteria: first, offer products through several business functions (Hofer-shall, 2010). Second, combination of software and services (Hofer-shall, 2010). Third, notable presence commercially (Hofer-shall, 2010), and fourth, availability of technical information that might be collected from websites and online reviews (Stavrakantonakis et al., 2012). Subsequently, this article considered the first two criteria and their own assessment criteria employed information supplied by official websites. The list, finally, presents the following SMMDs: Alterian-SM2, Radian6, Brandwatch, Converseon, Cymfony-Maestro, evolve24-Mirror, Meltwater-Buzz, NM Incite-My BuzzMetrics, Sysomos and Visible Technologies-Visible Intelligence.

Since this dissertation was based, in the first part, by secondary data, the information mentioned above was taken into account during the interviews to define which monitoring dashboards are usually used by the community managers, IT teams and communicators. Hence, a detailed analysis of every dashboard mentioned by key informants throughout the interviews. The dashboards discussed were Topic flower, Hootsuite, Social Bakers, Buffer, Radian6, Sprout Social, Tweetdeck, Social Mention, MentionMapp, Sysomos, Brandwatch and Facebook insights. The majority of interviewees used those 12 platforms. The Annex 1 describes the most important features in each SMM tool mentioned by key informants during the interviews.

Finally, we can see in figure 3 a comparison between the most important platforms on the market ranked by several users around the world. This picture shows how these dashboards are positioned according to vendor score and functionality score with the report provided by ITQlick. This website qualifies most of social media software using the scores of each person who cast a vote.

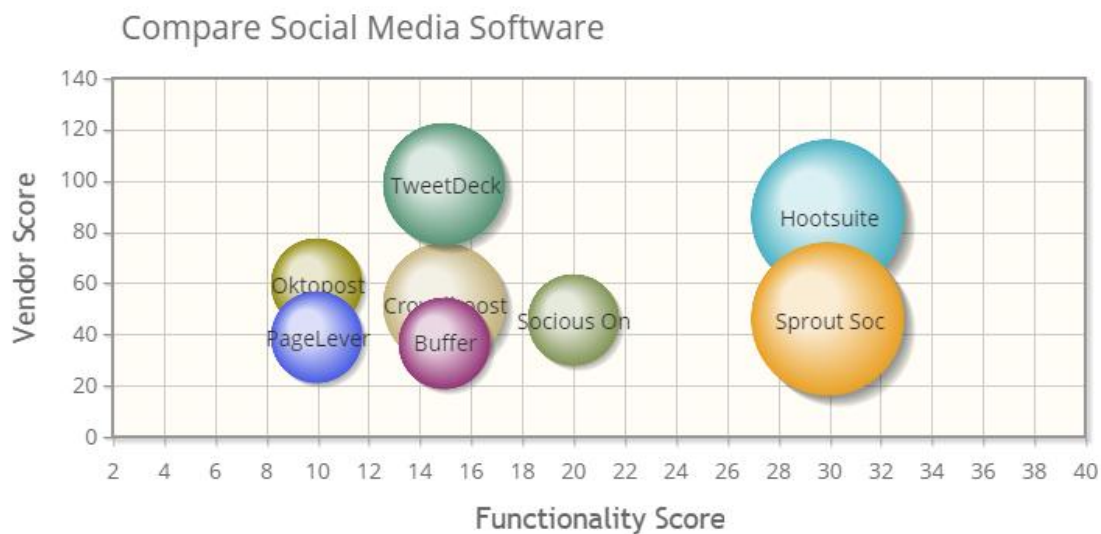


Figure 3 – A Comparison of Social Media Monitoring Dashboards (ITQlick, 2016)

Hootsuite and Sprout Social are the social media monitoring tools with more functionality, but Hootsuite surpasses the others with a higher vendor score. Although TweetDeck is limited, as it only monitors Twitter, its vendor score has a higher average compared to the rest of dashboards. This dissertation will also prove whether this behavior is the same with the community managers, and interested population from countries as Colombia and Portugal.

2.4. Key Performance Indicators (KPIs)

The KPIs in social media are indicators that allow monitoring actions to achieve predefined objectives. They serve to improve company performance and also helps in management optimization. Concerning to the monitoring dashboards in social media, it is relevant to consider that the information about the company or brand are based on conversations but the parameters to measure these opinions are not easy to verify. For this reason, it is very important that objectives are well defined for a simpler application to fit the KPI.

For example SocialBakers operates on KPIs such as best post types, top performing posts on Facebook, along with the evolution of interactions, fans bases, fans posts, questions, average response times and rates (Guide, 2014).

2.5. Conclusions

The literature related to the study of the Social Network Monitoring Dashboards is poor and scarce. However, there are many appreciations and arguments of people that have been working with this software in their companies and agencies. The need to know which dashboard offers a better way to monitor the social networks has encouraged white papers, seminars and publications about this topic. Nevertheless, this is not enough because each region and continent is different in the way that trends of their brand or products in the Social Media are analyzed.

CHAPTER 3: METHODOLOGY

With the purpose to tackle the aims of this thesis, it was necessary to implement organized interviews with community managers from different companies, and digital marketing agencies from countries like Portugal and Colombia. From these key informants important data was obtained in regards to which monitoring social networks dashboards on the market are the most favored, and also what kind of features and information are relevant to select a dashboard within a company or digital marketing agency. With this information gathered through surveys to managers, professors and in general, people who have had interaction and experience with these monitor dashboards and the industry, along with the collection and analysis of secondary data, the present chapter compiles in detail the methods used in this research, and examines carefully the results.

3.1. Research Purpose and Approach

As it is well known, authors such as Saunders, Lewis and Thornhill (2009) explain that there are three types of research approach such as *exploratory*, *descriptive* and *explanatory*. However, according to author John Creswell (2013) who goes into more depth, states that these approaches are classified basically in three types within the research designs that he names: *qualitative*, *quantitative* and *mixed method* approaches. Within the mixed method approach, there are three primary models which involves *convergent parallel mixed methods*, *explanatory mixed methods* and *exploratory mixed methods* (Creswell, 2013). The *qualitative* design is based in a narrative research that consists of an immersing experience where the researcher gleans insights from individuals, and inquire deeper from one or several individuals to dispose tales about their experiences and this data is retold into a narrative chronology (Riessman, 2008) and phenomenological research. It is a design of inquiry coming from psychology and philosophy fields in which the investigator has a descriptive approach and describe the lived experiences of individuals about a phenomenon or issue. Normally, this design is conducted by interviews (Giorgi, 2009).

Quantitative research consists both of experimental treatment and non-experimental approach. The case of experimental approach, the applied behavioral analysis is managed over time to one person or short group of individuals through experimental treatment (Cooper, Heron, Heward, & others, 2007). The other case of non-experimental quantitative approach appears causal-comparative research where the researcher equates more than two groups

related to a cause that has occurred. In terms of application for non-experimental research, the correlational design is used more since this approach is used to describe and measure the relationship between several variables using correlational statistics (Creswell, 2013). Finally, quantitative research has included equation models that integrate causal paths and complex experiments, and so it deduces the collective strength of several variables. It is important to highlight that the quantitative approach has two types of designs: **Survey research**, which seeks to supply a numeric depiction of inclinations, preferences and judgments of the people, using samples of the population through questionnaires or structured interviews, for data collection with the purpose of universalizing and concluding to a community from a sample (Fowler Jr, 2013), and **Experimental research** that establishes if a specific treatment provides an effect to an outcome as was indicated above.

Finally, the **mixed methods approach** is based on collecting different kinds of data which supplies a fuller understanding of a research issue instead of qualitative or quantitative information alone. This approach follows these steps (view figure 4):

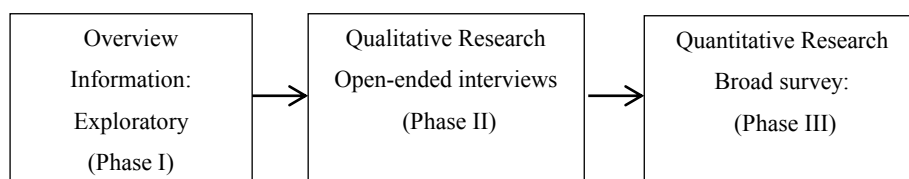


Figure 4- A Design with Mixed Methodology

This method includes qualitative data (observations and interviews) that has open-ended interviews without established responses (Sieber, 1973), while quantitative data possess closed-ended responses such as surveys or questionnaires. Several designs exist within mixed methods approach. The author John Creswell defines three primary models observed (Creswell, 2013):

Convergent parallel mixed method is a structure of mixed methods design where all the quantitative and qualitative data converge and the investigator has an understanding of a research issue. Normally, the researcher collects forms of data and then consolidates the information in the explanation of the overall outcome. In this method, contradictions or incongruent discoveries could appear.

Explanatory sequential mixed method has three phases contrary to the graph viewed in figure 4. The first stage the investigator conducts is quantitative research (he begins developing a broad survey to obtain an overview or perception about the research problem) and then explains the results in more detail with qualitative approach (interviews). This method is explanatory because it starts with quantitative data outcomes and then they are explained with qualitative information.

Exploratory sequential mixed method is shown in the figure 4, where the qualitative data is collected in the first phase, exploring the perception of participants and builds an instrument to find specific variables needed in the quantitative stage, and, finally, the information can be analyzed by descriptive statistical techniques. Within this exploratory method, the first stage is crucial because the challenge to this design focus on befitting qualitative findings to use in the following quantitative phase.

This dissertation first employed an *exploratory* research approach within the *sequential mixed method*. With the purpose of understanding the decision making process regarding the Social Media Monitoring Dashboards and their key features in these tools favored by community managers in companies or agencies both in Colombia and Portugal. To be specific, *qualitative primary data* was collected through structured interviews with key participants working in different firms, such as industries and digital marketing consulting in both countries that involve community managers, communicators and advertisers. This type of approach was favored because it was the most appropriate to shed light to comprehend how the dashboards operate within an agency. Finally, by this process of inquiry, it would be revealed how the manager deduce which dashboard is more useful than other knowing their key features.

Afterward, with the sequential mixed method employed, the following stage was the *descriptive, quantitative approach*. With the information collected in the previous phase, the appropriate features to employ in the follow-up quantitative phase is identified. It was at this point that specific variables were identify needed to broaden the scope of the survey to know the preferences within the community managers and population related to this study. Two statistical techniques were used. The statistical analysis *cross-tabulations*, also called contingency tables, because they are used to test hypotheses about how some variables are contingent upon others, or how affects increases, decreases or curvilinear changes in others (White & Korotayev, 2004). This is a basic tool for empirical research for this type of study.

The second statistical analysis used was *Pearson correlation tests*, also called the Pearson product-moment correlation coefficient technique. It is a measure of the strength and direction of association that exists between two variables measured on at least an interval scale (Statistics, 2013). With both techniques, it is possible to know the preference of each community manager and which factors can influence the respondent to make a choice or in the process of decision making with respect to a dashboard.

3.2. Qualitative primary data collection

3.2.1. Sketch of the interview script

The content of the interview script employed during the interrogation to key interviewees from the companies and agencies in both Colombia and Portugal is found in the Annex 2. The questions and structure script were established on the explanation of literature review in Chapter 2.

The description of the interview has two sections. The first questions were about the recognition and characterization of the firm or agency, similarities referring to its industry and background. The following questions were about the overview information of management social media tools and how they operate in the different industries. What are the main features of these platforms and how is the decision making process realized to establish the type of dashboard within the company. The last part of the questionnaire was focused on specific technological features of social media monitoring tools. The perception of the community managers and the rest of interviewees was crucial to begin an understanding of social media monitoring dashboards: how they should operate to obtain excellent results, and, at the same time, which metrics or KPIs are needed to show the effectiveness and reliability of the brand behavior and the level of engagement with the users within the social media. Finally, there were some more probing questions related to the additional factors that could influence in the selection of the dashboard in terms of pricing and free versions. The annex 2 describes all the questions and options that the key informants (community managers) answered.

3.2.2. Key informants interviews and firms

Key individuals were chosen from marketing and advertising agencies and recognized firms for whom keeping under close monitoring both brand and products, in the social media, is

very important. These selected agencies and companies are currently operating in Colombia, and a few in Portugal. In this case, the criteria employed to choose the agencies and firms to be interviewed included the level of interaction with the social media. Size was also a factor in the choosing: different size (small and medium size) to gather samples of each one and to be able to obtain a wide perspective of how social media monitoring tools operates in the market.

The Marketing and advertising agencies selected for this research in Colombia were Anthropologic.co, an advertising agency in Bogotá; AR solutions, an web design and marketing agency enjoying high prestige around the world; REINV3NT Publicidad, a business consultant and expert in Colombia with digital marketing and advertising; Infocusmadrid – IFM; Other News Network SAS, a public relations and communications company offering holistic and creative solutions where every idea works with strategic vision, with specialties in business communication, digital communications, Radio, TV and media marketing. As for research conducted in Portugal, the key informant was Van Marketing & Digital, a digital marketing agency with its headlights on social media and works with the Portuguese Catholic University in social media research, in the context of the university's Management Masters (Pedro Rosa, 2016). Another advertising agency in this country was Excentric Grey founded in 2013, specialized in topics of community management, advertising, multimedia production, graphic design, analytics, digital marketing, and social media marketing. The last marketing and advertising agency interviewed in Portugal was Revshare - audience network. It provides digital marketing service to national and international clients in countries such as Portugal, Spain, Brazil and Colombia. The total interviews conducted between companies and agencies were 10. All the information of the key informants is presented in the table 5.

All the interviews were done between January and February 2016 by the defender of this dissertation. The interviews were mostly done via Skype and others were responded by e-mail. Only one was done face-to-face. The experts in social media monitoring tools within the selected companies and agencies were mainly contacted by e-mails or by telephone. All the interviews were recorded in WMA and MP3 formats, and, then, they were transcribed in a word document to have a better support. Finally, every interview had an average of 45 to one hour duration. Once all the interviews were coordinated and conducted, the data collected by these interviews with the community managers in each agency and firm was carefully

examined in detail, since this information was the foundation to move to the next step of the research process: the survey to the target population within the field of social media monitoring dashboards. These additional informants were contacted by the recommendations and suggestions of the key informants initially interviewed. The information provided by the broad survey was used to complement the information obtained from the more personal interviews, and provided the basis for the statistical information in terms of preference regarding what key features in social media monitoring platforms are important, according to the respondents.

Table 5 - Key informant's attributes

Company	Country	Function	Gender	Years' experience in Social Media Dashboards	Background
Excentric Grey	Portugal	Social Media Strategist	M	4	Undergraduate in Marketing and Advertising with specializations in Graphic Design and New Media.
Revshare Audience Network	Portugal	CEO	M	4	Undergraduate in Business Management with master in Finance. Also worked in the Instituto Português de Administração e Marketing and in the present he is also teaching Assistant in Universidade Católica Portuguesa.
Anthropologic.co	Colombia	Community Manager	F	5	
REINV3NT Publicidad	Colombia	Digital business strategist and consultant	M		Undergraduate as graphic designer and arts with specialization in photography and digital imaging
AR solutions	Colombia	Community Manager	M		Communication Studies and Journalism.
Shopping Center Llanogrande	Colombia	Communications Coordinator	F	6	Undergraduate in advertising, marketing and communication.
Infocusmadrid - IFM Other News Network S.A.S.	Colombia	Digital Director & CEO	M	7	Undergraduate in Communicator and Corporate Liaison, specializations in social media and networking, digital marketing and e-commerce, six publications related to community managers, and co-founder Gil Botero Strategic Management.
Mundo Glam	Colombia	Community Manager	F	6	Undergraduate in political scientist, with emphasis on International Relations, specializations in e-commerce, social media, community manager and master's degree in Marketing.
Van Marketing & Digital	Portugal	Co Founder e Trip Planner	M	2	Undergraduate in management business administration and master in marketing.
REINV3NT		Digital Creative	M		Undergraduate in advertising and Marketing. Specializations in digital marketing, with several

Publicidad	Colombia	Director		11	publications related to e-commerce, professor and coordinator of specializations in digital marketing.
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The companies interviewed were divided by marketing departments and IT groups that have to work together and manage all the related social media issues, software and platform maintenance, and implementation of strategies for social media, online marketing, and e-commerce and web portals. Additionally, these departments make strategic monitoring results-oriented leadership decisions when it comes to digital equipment. In the case of agencies that offer full service, these handle all the components of the advertising process, including planning, design, production, and placement. Today, full-service generally proposes that the agency also handles other aspects of marketing communication, such as public relations, sales promotion, Internet and direct marketing (Lake, 2015). Therefore, agencies like Excentric Grey, Van Marketing & Digital, REINV3NT Publicidad and Revshare Audience Network are viewed as full service agencies due to the fact that they count on an infrastructure that is able to provide services in production and social media, thus these agencies can monitor the social networks using all the integrated technology in marketing communication solutions, and monitoring agency performance (Mackay, 2005). Firms such as Mundo Glam, Shopping center Llanogrande, and Infocismadrid - IFM Other News Network S.A.S, need to have information about their products, the motivational trends of their customers, and the prestige of their brand in the social media. Hence, the communication and marketing departments need to operate in real time the supervision on all communication fronts. Depending on the size of every company, making the decision to have an external agency or, conversely, developing their own community department generates costs that can or cannot be justified by the financial situation of the company.

3.2.3. *Description of the SMMD features under study*

All the relevant features identified on SMMDs from qualitative data analysis's result from literature reviews, and the information gathered from interviews is summarized in table 6. The author of this dissertation did a literature review of secondary data source, and integrated this knowledge by formulating the questions used during the interview as to identify which selected features really affect and impact the effectiveness of a SMMD. The responses are explained below, as they were important for the selection of variables to take into account in

the cross-tabulation and Pearson correlation of primary data, obtained during the survey done among community managers, and population related in the social media.

Export results

The majority of social media monitoring tools allow users to download the results in the form of reports about the data, and information collected on social networks. This tools' analysis contain different formats and views that shows the brand behavior, indicators, KPIs, and all related issues to the study of marketing within the company or agency. The formats are generally delivered in workbook, CSV, or excel file format. Other more developed platforms allow the clients or users to custom tailored workspaces with their own choices to view and analyze the reports at their convenience (Stavrakantonakis et al., 2012).

Listening Grid Adjustment

Listening grid is a feature that allows the user to configure aspects such as the channels that could be monitored. This attribute also let the user to make adjustments on other components such as languages, and countries for platform support. Normally, the listening grid has options for alerts to inform customers, for instance, when a sentiment is very bad regarding the product or brand. It can further alert when the post volume drive up over an established sill (Stavrakantonakis et al., 2012).

User interface

Depending of which dashboard is being used, the way to visualize and present information changes greatly. Some dashboards present an optimal view of the performance, and data collection. In the case of the *Topicflower* monitoring dashboard, “the tool contains an excellent visualization feature and aids for managers to clearly view all the information” (CEO’s commentary from a Colombian agency, during interview). Other dashboards present an incomprehensible way to show the information, in the case of *scup* (Brazilian dashboard) and *brandwatch*. Several community managers commented during the interviews that they had difficulties with these dashboards, specifically with the graphical user interface. All graphical representation should contain charts, listings, and historical graphing of queries, and phrases (Stavrakantonakis et al., 2012) to have an optimal visualization. Similarly, SMMD should be responsible for covering all the needs of the client, allowing a customization of the GUI (Graphical user interface), and including a wide range of visualization tools.

Real Time Processing

Real Time Processing is a critical issue in the technology of dashboards. This was the consensus during the interviews, when all participants concluded that real time processing is the most important feature within social network monitoring tools. This attribute is very important because it allows to follow up potential clients or customer's complaints, inquiries, and feelings in real time. From this assessment, the community or team manager can make timely decisions about issues related to the service or some topic of concerned to the enterprise. Actually, the time of response in every dashboard is different. The platforms with a huge infrastructure and great technological support have better processing times, according to the interviewed community managers.

Historical data

Historical data features were mentioned several times during the interviews, due to an agency or manager need to access previously captured data from long ago. This is essential because they can compare the current metrics with past reports and, at the same time, evaluate the performance and trends of the monitored topic. The level of importance is high in a SMMD, however, it was not included in the survey because others features were more important.

Cost

Cost issues are growing into a feature quite significant in the enterprises, as they are adopting social media monitoring dashboards to inform their marketing and business strategy. However the cost analysis and all the budgets in social network monitoring tools might vary based on the level and complexity of every firm or agency, and also due to the social media internal goals. This involves not only the fee and cost of the dashboards, but other factors affecting internal expenses in reporting fees for the budgeting time and resources related to social networks goals. Generally, the pricing information is presented in the website of every platform. Currently, they offer three major subscription plans: basic plan covering several aspects such as quantity of posts, types of analysis, alert system, automatic translation, number of languages, and in an average of six months of data storage.

Advance plan have higher pricing rates than basic plans for newcomers, and benefits increase to encourage joining programs. Normally, the benefits translates to double of each feature. Finally, there is an enterprise plan which covers unlimited number of users, posts, types of

analysis and all the features listed above. In conclusion, the cost depends of the size of the company and the willingness to pay for a platform. There are companies or recognized agencies that have a big budget to invest in a social media monitoring tool in the highest pricing plan because they need to know all information. Nevertheless, in the case of small-agencies or small-firms, a free social media monitoring dashboard to evaluate and manage their brand and products or everything including monitoring topic mentions is enough to have.

In summary, the SMMDs and service providers offer these pricing models:

- Free subscriptions: contain a very limited number of features, such as: users, types of analysis, languages etc. However there are several social media monitoring dashboards that do not present this free model, and some platforms only allow a limited amount of days to experience the features.
- Typical Flat price model: basic plan, advance plan, and enterprise plan.
- Go pricing model: Paying only for the analytics features needed (Luisa Milic, 2015)

Sentiment Analysis

The sentiment's feature is measured or determined by computational linguistics, and algorithms that operate in text analytics, and semantic analysis through learning machines. The sentiment analysis has been a challenge for the platforms due to its difficulty to measure accurately. The learning engines within most monitoring tools have not been developed efficiently according to the experience of community managers, and people working with these monitoring dashboards. In terms of evaluating a large data set of social brand mentions and filtered content based on negative or positive commentaries, the sentiment can be a very useful feature. The primary method of capturing sentiment from users is with the Natural Language Processing (NLP) (Stavrakantonakis et al., 2012). It refers to the programmed algorithms to automatically analyze the significance of human language. When somebody posts something in the social network, this computerized process assigns automatically a sense. Although this type of technology still needs to improve, the information could be comparable.

Integrate with complementary applications of the company (API)

The integration of different APIs with the social media monitoring tools provides a better support, and centralization of the collected information by the platform, in order to integrate

all the departments such as Customer Relationship Management (CRM), Marketing etc. as to obtain optimal results regarding monitoring topic.

Table 6 - Results of evaluation in the features SNMD

Companies Features	REINV3 NT Publicidad	Van Marketing & Digital	REINV3 NT Publicidad	Mun do Glam	Anthropologic a	Shopping Center Llanogrande	Excentric Grey	AR soluciones	Infocusmad rid - IFM Other News Network S.A.S	Revshare Audience Network	Score
Export Results	4	5	5	5	5	4	3	5	4	3	43
User interface	4	4	5	5	5	4	5	4	3	4	43
Historical data	5	4	5	5	5	2	3	5	4	3	41
Sentiment Analysis	4	3	5	3	5	4	3	5	5	5	42
Integration with other APIs	4	3	2	5	5	3	2	5	4	4	37
Real time processing	5	4	5	5	5	5	4	5	5	5	48
Listening grid adjustments	4	3	3	3	2	2	4	5	3	4	33
Price	4	3	3	4	5	4	3	5	5	5	41
Easy handle of the tool	4	2	3	5	5	5	4	3	5	4	40
Support by supplier	5	5	5	5	4	3	3	4	4	3	41

Finally, after having selected the most important features during the interviews, three categories were identified to integrate the tool key features impacting the selection process of a social media monitor dashboard, within a company or agency. The information about key features was compiled from a study that evaluated 242 social media monitoring tools and services (Luisa Milic, 2015), and chapter 2 mentioned every one of those selected as the key features from interviews results. The following features or levels were selecting criteria to be evaluated during the survey:

- *Data Analysis and process management* was **real time processing**.
- *Visualization and user interface features* were relevant in the Integration with other APIs e.g. Customer Relationship Management (CRM), easy handle of the tool and **capability to customize the visualization**.
- *Factors influencing purchasing decisions: pricing models* to count the **cost**, industry focus and company size depending on each dashboard. There was an average in each pricing category with the most mentioned SMMD during the interviews.

Figure 4 describes all the key features and factors impacting the selection process of the SMMDs.

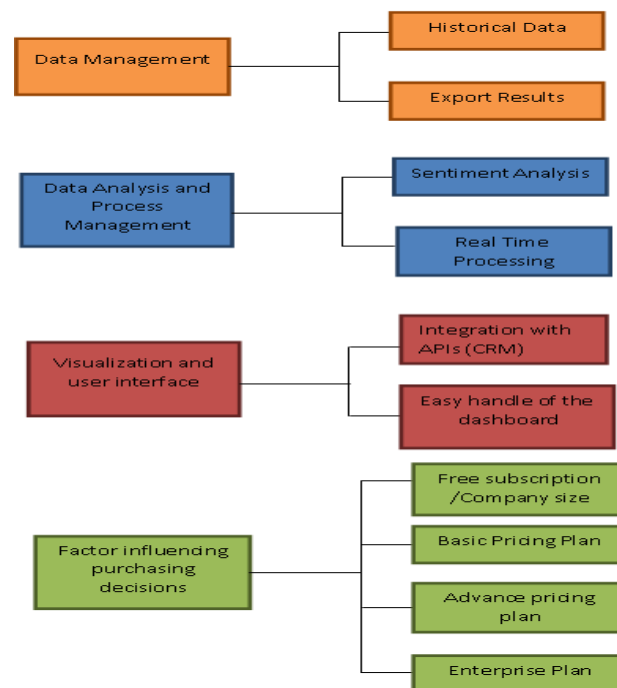


Figure 5 - The tool's key features and factors (Levels and Attributes)

3.3. Quantitative Primary data collection

According to the interviews conducted during the first part of the research, and the analysis of the key attributes selected as more useful for the informants, a model to do the survey and so obtain the preferences of the population under study was designed.

The population addressed at this stage was the community managers. Although there were several important characteristics, only three levels were chosen. To see all the levels and

features selected, see table 7. The selection was filtered to perform a descriptive statistical analysis. Within this study, pricing was selected as required and mandatory feature. From interviews results, pricing had a high score, therefore, it must also be considered as one level of the orthogonal plan. The other features used are interface/visualization and real time processing. These last features had high score too, and some of them were joined as only one level because they enclose similar functionalities.

Table 7 - Levels and attributes selected under study

Price (USD)	User Interface/Visualization	Real-Time Processing
\$50/month (Pro-Limited/ Few users)	Friendly, Intuitive/Moderate Graphics	With delay
\$500/month(Enterprise/Unlimited)	Specialized, No intuitive (Expert people)/ Optimal graphics	Without delay

The price was given in USD and it was separated in two attributes: \$50 per month (the low cost with regard to the cheapest platforms in the market), and \$500 per month. Here, the most expensive dashboards and their services are unlimited at premium.

User Interface/ visualization are categorized in two levels: friendly, intuitive/ moderate graphics and, second, was specialized, not intuitive with optimal graphics. Finally, regarding real-time processing, there are two types of dashboards: with high latency (with some delay) and platforms with low latency (without delay).

3.3.1. Orthogonal design plan and survey

The number of combinations among each level and attributes was distributed in eight cards. Every card identified a dashboard in the market. The population under study had to respond evaluating each combination according to their preference. The list of cards with its respective ID is described in the annex 3. In total, there were eight dashboards to be analyzed and evaluated by the community managers. Similarly, in the annex 4, the survey design is found. All the questions and possibilities are described there, so that community manager and respondents had a list of options to choose, and by doing so help the researcher to obtain the data.

3.3.2. Description of variables under study

The variables in this case are considered within the primary data analysis. Table 8 shows and describes all the variables.

Table 8- Variables description in the primary data analysis.

Variables specification			
Knowledge level in dashboards	[Min1...5Max]	Independent	
Effectiveness of dashboard (X)	[Min1... 7Max]	Dependent	
Dashboard (X) versus Current used	[Min1... 7Max]	Dependent	
Willingness to pay for a dashboard (X)	[Min1...7Max]	Dependent	
Attribute	1	Real-time Processing	Independent
	0	User Interface/Visualization	
Age		Independent	
Gender	1	Male	Independent
	0	Female	
Years of experience		Independent	

3.3.3. Data analysis

The descriptive statistical analysis was done with IBM SPSS statistical tool. With the information gathered in the survey, the presentation of the profile was first done from the respondents according to gender, age, knowledge, community management, and knowledge of different brands of dashboards. The results of the responses are presented on a conjoint way throughout Pearson correlation tests.

CHAPTER 4: RESULTS AND DISCUSSION

This chapter provides and discusses the relevant results of the interviews performed with companies and agencies, as well as with community managers and CEOs of different companies in the market. The chapter is structured taking into consideration the variables identified in Chapter 3, which were introduced in the design of the survey. Based on this, and using primary data, results were interpreted according to several descriptive statistical tools.

4.1. Primary data from interviews

4.1.1. *Social Media Monitoring Dashboards in Colombia and Portugal*

The majority of the key informants during the interviews expressed that these tools are essential to monitor all the performance in the social media. And, for some years now, the trend shows an increase in the using of these tools. The community manager have an important role in helping the agency or company to manage the social networks and other channels. Therefore, the presence of this role in the companies is significant.

Other issues that the key informants expressed were that sometimes the companies or marketing digital agencies select the dashboards because of factors such as geo-localization, type of generated content, schedules and days when the brand generates more traffic in the social networks, and delivering time of the reports. About these reports, the need was a search that could be near to the real-time processing. In contrast, it was said that in the process of selecting monitoring dashboards the IT team almost never participated. In most cases, the decision was taken by the suggestions of the community managers. In other cases, by the recommendations of agencies that were more familiar with these matters.

In both, Colombia and Portugal, the community managers have a crucial role at the moment in the managing the social media. Normally, they receive information of a great size about a variety of topics. Through filters, they can choose and extract the most relevant data. So, as long as the dashboard facilitates the management of this information, this is perceived as an effective dashboard. Other main factors, according to the interviews made, was the visualization and user interface as key characteristics within social media monitoring dashboard. This kind of features can provide much information in the panel. Some panels display issues that are not clear to the users, and if there is not a good and enough support by

the supplier, the tasks of administration and monitoring could turn into a source of frustration and make it very difficult to process and report.

According to the key interviewees at digital marketing agencies, the free dashboards are very limited for controlling several variables and channels. When the company is big, they need a premium dashboard, and more sophisticated features that offer specialized services to meet users' needs. Nevertheless, whether it is a Startup or small-size enterprises, there are monitoring dashboards that can be useful to monitor the most known social networks with basic functionalities.

4.2. Primary data from survey

4.2.1. Respondents profile

The age range of the respondents were between 19 to 45 years old. The quantity of samples gathered was 169. The profile of the respondents had to meet certain conditions, such as the role as community manager; to live in Colombia or Portugal; to be older than 18 years of age; to have handled some social networks monitoring tool, or by default, to have had contact with social media and digital marketing. According to the samples, the average age was 28 years old. This means that the profession is relatively new, and the users of these dashboards are young people. The percentage of male gender was 60,9%, and female gender was 39,1%. That means, the majority in the field are represented by young males. In average, the experience of years of community managers working in the platforms is 3 years, with a standard deviation of 2.

4.2.2. Separated Results

According to the results from the survey, the information provided by the IBM statistical software known as SPSS, the proposed dashboard with a scale rating from 1 to 5, in average, the most acknowledged dashboards are: in the first place, Hootsuite, with a mean of 3,39, and a standard deviation of 1,22. This dashboard is viewed as by the community managers in Colombia and Portugal as one that has good knowledge. Also, in average, the CMs have several years of experience in it, representing approximately a 33%. The second monitoring dashboard is Tweetdeck; this is a free monitoring tool, and it has one social media (Twitter). Tweetdeck has a mean of 3,04, but with a standard deviation of 1,35. The third social media monitoring tool is Social Bakers, with a mean of 2,79 and $\sigma= 1,23$. And the fourth is Topic Flower: It has a mean of 2,27 and $\sigma=1,28$. All this indicates that these types of dashboards are

avored in the within the community managers in both countries. Although Hootsuite obtained the lowest standard deviation, this dashboard tries to give all that a community manager is looking for. The lowest used dashboard by the Portuguese and Colombians is Lithium Technologies. It had only a mean of 1,40 with an $\sigma=0,710$, which indicates that all the values were very close to the average.

In terms of efficacy and effectiveness, the following question proposed eight dashboards, for which everyone had different characteristics and levels such as: price, type of user interface, visualization and real-time processing. The results of this question, evaluating this criteria indicated that the dashboard with the highest mean is Dashboard 2 with an average of 5,31, rating with a scale from 1 to 7. Also, this dashboard had standard deviation of 1,66 and a mode of 7. The second dashboard more effective according to the respondents was dashboard 6, with a mean of 5,02, and also a mode of 7. The dashboard with lowest mean was Dashboard 5, with an average of 3,11. The above indicates that the dashboards with a friendly user interface, intuitive moderate graphics, and with low latency in the real-time processing are the attributes more important for the community managers. Moreover, regarding the question asking which attribute is the most important. A high percentage (69,2%) of responders chose the real-time processing as a fundamental attribute to have in a good dashboard.

Regarding the question asking which dashboard you are willing to buy, the responders chose again the Dashboard 2 with the highest mode and mean. 5,24, and 7 respectively. The lowest willingness to purchase was dashboard 8, with a mean of 2,72 and a mode of 1. The difference in this case was that dashboard 8 had a high price and high latency in the real-time processing, which it indicates that community managers are paying much for something that is inefficient, in the processing of searching and monitoring.

The preference was rated on a scale from 1 to 3. The results displayed that the favorite dashboard for the responders was dashboard 2, with a mean of 2,45. It was then followed by dashboard 4 in preference. Here, other attributes indicated that, for a community manager, is important that there is a low price and good real-time processing. The comparison between the proposed dashboards versus the currently used by community managers was, again, dashboard 2, and dashboard 6 has better features than they are using currently. To have clarity

on which are the features and levels with the proposed dashboards, go to annex 3 that shows all the dashboards evaluated during the survey.

4.2.3. Conjoint Results

Which version they liked most was compared to whatever social media monitoring tool they are using, and those they were most willing to buy. It is necessary to cross-analyze this with the brands of SMMDs that responders already know and have worked with, and, to see what they are comparing the dashboards concepts with. For this, with the individual results viewed above, a cross-tabulation table in SPSS was made with the most knowledgeable dashboards. In this case, Hootsuite and Tweet deck were highlighted. As for the dashboard they liked most, Dashboard 2 the chosen one. The results of this cross- analysis are viewed in the tables 9, 10.

Table 9 - Cross analysis of dashboard 2 with Hootsuite platform

			Hootsuite					Total
			Never have heard of it	Never had worked, but have heard of it	Have worked, but have few experience	Have enough knowledge, with several years of experience with it	Expert in the dashboard	
Dashboard 2	Very bad	Count % within of Dashboard 2 % within Hootsuite % of Total	1 33,3% 5,9% 0,6%	1 33,3% 4,8% 0,6%	0 0,0% 0,0% 0,0%	0 0,0% 0,0% 0,0%	1 33,3% 3,0% 0,6%	3 100,0% 1,8% 1,8%
	2	Count % within of Dashboard 2 % within Hootsuite % of Total	0 0,0% 0,0% 0,0%	2 40,0% 9,5% 1,2%	1 20% 2,3% 0,6%	1 20,0% 1,8% 0,6%	1 20,0% 3,0% 0,6%	5 100,0% 3,0% 3,0%
	3	Count % within of Dashboard 2 % within Hootsuite % of Total	4 23,5% 23,5% 2,4%	0 0,0% 0,0% 0,0%	6 35,3% 14% 3,6%	4 23,5% 7,3% 2,4%	3 17,6% 9,1% 1,8%	17 100,0% 10,1% 10,1%
	Neutral	Count % within of Dashboard 2 % within Hootsuite % of Total	7 18,9% 41,2% 4,1%	4 10,8% 19,0% 2,4%	7 18,9% 16,3% 4,1%	9 24,3% 16,4% 5,3%	10 27,0% 30,3% 5,9%	37 100,0% 21,9% 21,9%
	5	Count % within of Dashboard 2 % within Hootsuite % of Total	0 0,0% 0,0% 0,0%	3 12,5% 14,3% 1,8%	6 25,0% 14,0% 3,6%	10 41,7% 18,2% 5,9%	5 20,8% 15,2% 3,0%	24 100,0% 14,2% 14,2%
	6	Count % within of Dashboard 2 % within Hootsuite % of Total	1 6,3% 5,9% 0,6%	0 0,0% 0,0% 0,0%	4 25,0% 9,3% 2,4%	5 31,3% 9,1% 3,0%	6 37,5% 18,2% 3,6%	16 100,0% 9,5% 9,5%
	Very Effective	Count % within of Dashboard 2 % within Hootsuite % of Total	4 6,0% 23,5% 2,4%	11 16,4% 52,4% 6,5%	19 28,4% 44,2% 11,2%	26 38,8% 47,3% 15,4%	7 10,4% 21,2% 4,1%	67 100,0% 39,6% 39,6%
Total	Count % within of Dashboard 2 % within Hootsuite % of Total	17 10,1% 100% 10,1%	21 12,4% 100% 12,4%	43 25,4% 100% 25,4%	55 32,5% 100% 32,5%	33 19,5% 100% 19,5%	169 100,0% 100,0% 100,0%	

As it is displayed in the table 9, the points in common were Hootsuite, which it is the brand of dashboards that most community managers know and have worked with. The dashboard 2 was the version they liked most during the survey. In the case of Hootsuite, it is required enough knowledge and several years of related experience. With dashboard 2, performance is very effective. It has 26 counts from the total sample of 169. In that point, it is possible to

deduce that Hootsuite is very effective with a percentage of 47,3% and it explains why the community managers are very knowledgeable about this dashboard, and their experience make it easier to conclude that they can handle it perfectly. In table 10, we can see that Pearson Chi-Square is $\chi(1) = 34,025$ and $p = .084$. This means that there is statistically significant association between Hootsuite and the dashboard 2.

Table 10 - Results of association between Hootsuite and Dashboard 2

Measurement	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	34,025 ^a	24	0,084
Likelihood Ratio	39,291	24	0,025
Linear-by-Linear Association	0,742	1	0,389
N of Valid Cases	169		

Table 11- Cross analysis of dashboard 2 with Tweetdeck platform

			Tweetdeck					Total
			Never have heard of it	Never had worked, but have heard of it	Have worked, but have few experience	Have enough knowledge, with several years of experience with it	Expert in the dashboard	
Dashboard 2	Very bad	Count % within of Dashboard 2 % within Hootsuite % of Total	2 66,7% 5,9% 1,2%	0 0,0% 0,0% 0,0%	0 0,0% 0,0% 0,0%	0 0,0% 0,0% 0,0%	1 33,3% 4,3% 0,6%	3 100,0% 1,8% 1,8%
	2	Count % within of Dashboard 2 % within Hootsuite % of Total	3 60,0% 8,8% 1,8%	0 0,0% 0,0% 0,0%	1 20,0% 3,1% 0,6%	1 20,0% 1,9% 0,6%	0 0,0% 0,0% 0,0%	5 100% 3,0% 3,0%
	3	Count % within of Dashboard 2 % within Hootsuite % of Total	2 11,8% 5,9% 1,2%	3 17,6% 11,5% 1,8%	4 23,5% 12,5% 2,4%	5 29,4% 9,3% 3,0%	3 17,6% 13,0% 1,8%	17 100% 10,1% 10,1%
	Neutral	Count % within of Dashboard 2 % within Hootsuite % of Total	7 18,9% 20,6% 4,1%	7 18,9% 26,9% 4,1%	10 27,0% 31,3% 5,9%	7 18,9% 13,0% 4,1%	6 16,2% 26,1% 3,6%	37 100% 21,9% 21,9%
	5	Count % within of Dashboard 2 % within Hootsuite % of Total	1 4,2% 2,9% 0,6%	4 16,7% 15,4% 2,4%	6 25,0% 18,8% 3,6%	7 29,2% 13,0% 4,1%	6 25,0% 26,1% 3,6%	24 100% 14,2% 14,2%
	6	Count % within of Dashboard 2 % within Hootsuite % of Total	3 18,8% 8,8% 1,8%	2 12,5% 7,7% 1,2%	3 18,8% 9,4% 1,8%	7 43,8% 13,0% 4,1%	1 6,3% 4,3% 0,6%	16 100% 9,5% 9,5%
	Very Effective	Count % within of Dashboard 2 % within Hootsuite % of Total	16 23,9% 47,1% 9,5%	10 14,9% 38,5% 5,9%	8 11,9% 25,0% 4,7%	27 40,3% 50,0% 16,0%	6 9,0% 26,1% 3,6%	67 100% 39,6% 39,6%
Total	Count % within of Dashboard 2 % within Hootsuite % of Total	34 20,1% 100,0% 20,1%	26 15,4% 100,0% 15,4%	32 18,9% 100,0% 18,9%	54 32,0% 100,0% 32,0%	23 13,6% 100,0% 13,6%	169 100% 100% 100%	

In the case of Tweet deck, in table 11, analyzing the higher percentage in the cross-table, this platform has 50% with 27 counts, and dashboard 2 with 40,3%. It also means that the dashboard 2 can also be very effective for the community managers, but not with Tweet deck in that level. This is clearer with Pearson Chi-Square. For this case is $\chi(1) = 28,586$ and $p = .236$. This means that, statistically, there is no significant association of relevance between Tweet deck and the dashboard 2.

The hypothesis that community managers with different experience, age and gender could have importance in explaining preferences on the dashboards did not work. The reason by the Pearson correlation tests could give some details of this influence with these variables. For this test, it was also used SPSS software. It is important to note that Pearson correlation coefficient, “r” can assume a range of values from +1 to -1. A value of 0 says that there is no connection between the two variables. A value greater than 0 shows a positive relationship. That is, as the value of one variable increases, so does the value of the other variable. A value less than 0 provides a negative relationship. That is, as the value of one variable increases, the value of the other variable decreases (Statistics, 2013). To evaluate the rate of association or connection among the two variables with Pearson correlation, the results were compared with the values given by table 12, which indicates the strength of the association.

Table 12- Guidelines whether an association is strong or not (Statistics, 2013)

Strength of Association	Coefficient, <i>r</i>	
	Positive	Negative
Small	.1 to .3	-0.1 to -0.3
Medium	.3 to .5	-0.3 to -0.5
Large	.5 to 1.0	-0.5 to -1.0

The age and the years of the experiences are the quantitative variables, and both will be related with the responses of the survey in terms of willingness to buy. The similitude among age, the years of experience, and the preference responses of the dashboard 2 can be viewed in table 13.

Table 13- Pearson correlation test between ages versus Willingness to buy.

Correlations

Variables		Age	Willingness to buy Dashboard 2
Age	Pearson Correlation	1	-0,045
	Sig. (bilateral)		0,560
	N	169	169
Willingness to buy Dashboard 2	Pearson Correlation	-0,045	1
	Sig. (bilateral)	0,560	
	N	169	169

Table 13 describes the Pearson correlation with respect to age, and the willingness to buy variable on dashboard 2. The value was -0,045, with a $\rho = 0,560$, which is not statistically significant, but also indicates a negative correlation close to zero. This means that age did not influence choosing that type of dashboard because both variables are not correlated, and do not share anything.

In table 14, the Pearson correlation was applied in regards to years of experience, and willingness to buy. The results of this analysis conclude.

Table 14 - Pearson correlation test between Years of experience versus willingness to buy.

Correlations

Variables		Willingness to buy Dashboard 2	Years of experience
Willingness to buy Dashboard 2	Pearson Correlation	1	0,039
	Sig. (bilateral)		0,619
	N	169	169
Years of experience	Pearson Correlation	0,039	1
	Sig. (bilateral)	0,619	
	N	169	169

In the case of years of experience, and the preference of dashboard 2, the Pearson correlation says that the years of experience is a little bit close to the preference of dashboard 2. It means that years of experience variable influences a little bit more in the selection of a dashboard. However both variables are not correlated, and do not share anything.

CHAPTER 5: CONCLUSIONS AND IMPLICATIONS

This chapter presents the overall conclusions and implications that can be drawn from the research work presented in this thesis.

5.1. Conclusions

To answer the first research question, *what key performance attributes drive the evaluations of SMMD products?*, the following results were obtained from the survey, and previous interviews. It can be deduced that the dashboards are really useful and effective in terms of response time. Community managers require information updates as fast as possible to monitor effectively. Therefore, in the survey results, the respondents selected real-time processing as the most important key feature. This response is consistent with the answers from Interviews done in the first part of this study, and also with findings in the literature reviews such as statements made by authors that say “...*near-real-time notification of incidents, and first-hand reports of an incident’s impact. Such information, if extracted and analyzed properly and rapidly, can effectively contribute to enhancing the perception level of situation awareness.*”(Yin et al., 2015). This indicates that real-time processing is crucial for a monitor dashboard in social networks, which responded the research question.

The ages and years of experiences are not associated with the willingness to pay for a special dashboard. Community managers prefer to have a good dashboard even if they have to assume the price, as well as good interface with basic illustrations but with low latency of response time within dashboard.

Hootsuite, had the highest score in terms of effectiveness, and it was also the better known among community managers, according with the results of the survey. Also, in the results of the interviews and the descriptive statistical methods, this dashboard provides easy access and support to community manager, from small companies to big enterprises in the industry. And, finally, we can see in figure 3 of the literature review that this dashboard is the one that has been sold the most, and with most functionalities in the market. Tweetdeck was the other SMMD that had a high score, but compared with Hootsuite is very limited because it only has one channel to monitor a social network. Although Tweetdeck is also known and managed by a great quantity of community managers, the most important agencies are looking for

dashboards that enclose everything. This kind of dashboard such as Tweeddeck is for community managers of small businesses or for personal use.

How do prospect customers (e.g. marketing managers, community managers, social media managers) evaluate the SMMD currently available in the marketplace?

The analysis area of social media is growing in each enterprise. The importance of having these tools, primarily, is oriented to supply the specific needs that the business have. Since companies do not have an established budget for this activity, the cost plays an important role at the moment when it's necessary to identify what dashboard currently available should be chosen. Depending on these needs, the SMMD can be free, and it also defines the type of marketing, communities, social media managers that can exist.

5.2. Limitations and further research

The limitations regarding the literature review was the scarcity of information. White papers, books, and research studies were few in the University data base. Therefore, this dissertation was empirical, and the collected data was in a special segment of the population, specific profile, and community managers. This profession is relatively new, therefore, it was quite complicated to contact volunteers to have a wider sample of respondents. Thus, with 169 valid surveys this dissertation was drafted, which also represented a limitation by the size of the sample. If the quantity of respondents had been bigger, other types of rigorous analysis could have been done.

Further research could focus more on topics of marketing and advertising. How, using this kind of platforms, a company can develop an effective marketing strategy to reach new sales. Also, how through Big data obtained with this dashboards, an enterprise can have enough information to establish profiles to the customers, and develop advertising applications with this data.

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ANNEXES

Annex 1 - Compilation from Social Media Monitoring Dashboards

SMM dashboard	Tier	Price \$ (USD)	Number connected Social Accounts	Users	Facebook	Twitter	Instagram	LinkedIn	Pinterest	Google+	Free Trial	Real Time Processing	Export Results	Visualization and User Interface	Sentiment Analysis	Historical Data	Integration API	
Hootsuite	Free	0	3	1	✓	✓	✓	✓	✓	✓	N/A	Yes	Formats PDF and CSV	It has a very easy interface that lets to customize, with user friendly interface	Yes	7 days/ Months and Years	Allow to integrate CRM, sales force, Hip Chart and SharePoint.	
	Pro	9,99/month	50*	2*	✓	✓	✓	✓	✓	✓	30 days	Yes	PDF and CSV					
	Enterprise	Custom	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	None	No	None	Limited, customisable columns.	No	Per days	Integration with the Google Buzz and Foursquare social networks	
Tweetdeck	Free	0	Unlimited	1	✓	✓	✓	✓	✓	✓	N/A	No	None					
SocialBakers	Single	50/month	3	1	✓	✓	✓	✓	✓	✓	14-days	Yes	PDF, PNG or XLS	The metrics are presented in the form of charts,	Yes	7, 30 and 90 days.	Yes	
	Basic	100/month	Unlimited	3	✓	✓	✓	✓	✓	✓	14-days	Yes						
	20 Pack	400/month	Unlimited	20	✓	✓	✓	✓	✓	✓	14-days	Yes						
Topic Flower	-	-	-	-	✓	✓	✓	✓	✓	✓	-	Yes	-	Inuitive, with an interface friendly	Yes	-	-	-
Radian6	Basic	600/month	10,000	Unlimited	✓	✓	✓	✓	✓	✓	None	Yes	HTML, XML, CSV, and PDF.	User-friendly interface	Sentiment accuracy	offers only 30 days	Integrate the data with other software, including CRM software.	
	Advance	1,800/month	100,000	Unlimited	✓	✓	✓	✓	✓	✓	None	Yes						
	Enterprise	10,000/month	2.5 million	Unlimited	✓	✓	✓	✓	✓	✓	None	Yes	XLS, CSV	It is not friendly to manage complex	Yes	Back to 2010/30 days	-	
Brandwatch	Pro	-	10,000	Unlimited	✓	✓	✓	✓	✓	✓	None	Yes	XLS, CSV		Yes			
	Enterprise	-	1 million	Unlimited	✓	✓	✓	✓	✓	✓	None	Yes						
	M	-	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	None	Yes						
Buffer	Enterprise	-	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	None	Yes						
	Q	-	Unlimited	Unlimited	✓	✓	✓	✓	✓	✓	None	Yes						
	Small	50/month	25	5	✓	✓	✓	✓	✓	✓	7 days	-	CSV	Simple	No			
Sprout Social	Medium	100/month	50	10	✓	✓	✓	✓	✓	✓	None	-						
	Large	250/month	150	25	✓	✓	✓	✓	✓	✓	None	-						
	Deluxe	59/month	10	-	✓	✓	✓	✓	✓	✓	None	-	PDF or Excel	Friendly	Yes			
Synomos	Premium	99/month	20	-	✓	✓	✓	✓	✓	✓	None	-						
	Team	500/month	30	3	✓	✓	✓	✓	✓	✓	None	-						
	Negotiation	Pricing starts 550/month	custom	custom	✓	✓	✓	✓	✓	✓	None	Yes	PDF reports and CSVs	Variety of user-friendly and intuitive graphics	Automated sentiment engine	Yes	Integration via rock solid APIs and CRM	

Interview Script

Sector/Industry:

Name:

Age:

Gender:

Job

Function:

Experience years:

Expertise in Social Media and Dashboards:

1. Why do you think it is important for the company to have a management and monitoring social networks dashboard and what is the reason to use it?
2. Which Dashboards or Platforms for monitoring and management in the Social Networks do you know in the market? Which ones have you had more expertise and success?
3. How long have you had experience with these dashboards? And say from 1-10 what is your level of knowledge about it?
4. Who makes the decision on which dashboard to use, and how do they make this decision?
5. Do your company have kind of IT department that helps with the purchase process of the monitor dashboard?
6. Do you know which criteria consider the people who selected the dashboard in the company?
7. Which criteria do you consider important before selecting a monitoring dashboard for social media?
8. How many years/month experience you had with paid and free dashboards separately, and also with social media marketing management?
9. As Community Manager for a company what kind of KPIs are essential for measuring in a dashboard and it is really efficient.
10. Do you know or have you had any experience with free monitoring Dashboard in social networks? If so, do you consider these Dashboards provide sufficient and necessary support to manage the social networks inside of the company?

11. What is the cost-benefit of having a monitoring platform pay compared to a free?
12. Rate from a scale of 1-5 what level of control across social networks with Dashboard as a manager you use in your company; where 1 is a very poor control and 5 has the most control of what happens to your brand in Social Media.
13. Rate each criteria the level of importance of the following features in a commercial monitoring Dashboard from the most important to the least important and provides an opinion how each item contribute in the effectiveness. You can use a 5-point rating scale 1- Not important at all to 5-Extremely important.
 - a. Export results
 - b. User interface
 - c. Historical data
 - d. Sentiment Analysis
 - e. Integrate with complementary applications of the company (API)
 - f. Near real time processing
 - g. Listening Grid adjustment
 - h. Dashboard cost
 - i. Easy use and learning in the Dashboard
 - j. Platform support by the supplier
14. Is there anything else you find relevant about this topic that we have not discussed yet?
15. Are you willing to be contacted later on by email to answer a small preference test – 3 min, choose the dashboard you like the most? It is something they can do online or by email in 3 minutes and it is about judging some examples of dashboards to understand what the market demands from this type of tool.

Annex 3 - List of dashboards to evaluate

Dashboard 1

ID Card	Price(USD)	User Interface / Visualization	Real time processing
1	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	With delay

Dashboard 2

ID Card	Price(USD)	User Interface / Visualization	Real time processing
2	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	Without delay

Dashboard 3

ID Card	Price(USD)	User Interface / Visualization	Real time processing
3	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	With delay

Dashboard 4

ID Card	Price(USD)	User Interface / Visualization	Real time processing
4	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	Without delay

Dashboard 5

ID Card	Price(USD)	User Interface / Visualization	Real time processing
5	\$500/month (Enterprise/Unlimited)	Specialized, No intuitive/ Optimal graphics	With delay

Dashboard 6

ID Card	Price(USD)	User Interface / Visualization	Real time processing
6	\$500/month (Enterprise/Unlimited)	Friendly, Intuitive / Moderate graphics	Without delay

Dashboard 7

ID Card	Price(USD)	User Interface / Visualization	Real time processing
7	\$500/month (Enterprise/Unlimited)	Specialized, No intuitive/ Optimal graphics	Without delay

Dashboard 8

ID Card	Price(USD)	User Interface / Visualization	Real time processing
8	\$500/month (Enterprise/Unlimited)	Friendly, Intuitive/Moderate graphics	With delay

Annex 4 - Survey questions (Sample)

Q1.

This survey aims to know your opinion about the effectiveness of the social network monitoring dashboards.

The survey takes no more than 10 minutes and your answers are completely confidential. Please answer as honestly as possible.

Click the >> button in the lower right corner to continue.

Thank you very much for your participation!

Q2. Are you a Community Manager or have you worked in digital marketing topics?

Yes

No

Q3. Have you worked with social media monitoring dashboards?

Yes

No

Q4. Are you over 18 years old?

Yes

No

Q5. Are you living in Colombia or Portugal?

Yes

No

Q6. Welcome! I am master student from Catholic Lisbon business school. This survey focuses on preferences of the community managers regarding to key features or attributes within the social networks monitoring dashboards (SMNDD). This study seeks to identify the terms of effectiveness which dashboards are better than others in the market, in order to draw conclusions about what should an enterprise consider to select a right dashboard according to its size, industry and approach. This survey must be completed only by people over 18 years, experience with these social media monitoring tools, also with permanent residence in Portugal or Colombia. The answers are anonymous, confidential and exclusively for academic purposes. Thank you for your collaboration. For any further questions please feel free to contact us: herman.dussan@gmail.com

Social Networks Monitoring Dashboards (SNMD) provide the means to listen to users of social media networks. They enable the measurement and analysis of user responses and activities that relate to a brand or product of interest, yielding information with strategic value for companies. These platforms also provide access to customer feedback, complaints and questions in real time, in a highly scalable manner.

Click the >> button in the lower right corner to continue.

Q7. Indicate the number of years of work experience regarding to Social Media Monitoring Dashboards

Q8. Check the appropriate box for each of the following varieties listed:

	I do not know it	I do not know it, but I have heard of it	I know it, and I have little experience with it	I know it, I have several years of experience with it.	I am an expert with it
Hootsuite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Social Mention	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sprout Social	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buffer	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Radian6	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sysomos Heartbeat	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tweetdeck	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Hubspot	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talkwalker	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SocialBro	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lithium Technologies	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social Bakers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Topic Flower	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Brandwatch	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14. Evaluate in a scale from 1 to 7 each Social Network Monitoring Dashboard according to the features showed in every option. Where 1 very bad and 7 very good. (The price is a monthly fee)

				Very bad 1	2	3	Neutral 4	5	6	Very Good 7
a)										
Dashboard 1										
ID Card	Price(USD)	User Interface / Visualization	Real time processing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	With delay							
b)										

Dashboard 2

ID Card	Price(USD)	User Interface / Visualization	Real time processing
2	\$50/month (Limited/Few users)	Friendly, intuitive / Moderate graphics	Without delay

c)

Dashboard 3

ID Card	Price(USD)	User Interface / Visualization	Real time processing
3	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	With delay

d)

Dashboard 4

ID Card	Price(USD)	User Interface / Visualization	Real time processing
4	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	Without delay

e)

Dashboard 5

ID Card	Price(USD)	User Interface / Visualization	Real time processing
5	\$500/month (Enterprise/Unlimited)	Specialized, No intuitive/ Optimal graphics	With delay

f)

Dashboard 6

ID Card	Price(USD)	User Interface / Visualization	Real time processing
6	\$500/month (Enterprise/Unlimited)	Friendly, intuitive / Moderate graphics	Without delay

g)

Dashboard 7

ID Card	Price(USD)	User Interface / Visualization	Real time processing
7	\$500/month (Enterprise/Unlimited)	Specialized, No intuitive/ Optimal graphics	Without delay

h)

Dashboard 8

ID Card	Price(USD)	User Interface / Visualization	Real time processing
8	\$500/month (Enterprise/Unlimited)	Friendly, intuitive/Moderate graphics	With delay

Q16. Now comparing with the social media monitoring dashboard that you are using currently regarding to each option of dashboard displayed, rate of a scale from 1 to 7 which one is the best. Where 1 much worse and 7 much better.

	Much worse	1	2	3	Neutral	4	5	6	Much better	7
a)										
	Dashboard 1									
b)										

Dashboard 2

ID Card	Price(USD)	User Interface / Visualization	Real time processing
2	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	Without delay

c)

Dashboard 3

ID Card	Price(USD)	User Interface / Visualization	Real time processing
3	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	With delay

d)

Dashboard 4

ID Card	Price(USD)	User Interface / Visualization	Real time processing
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Dashboard 8

ID Card	Price(USD)	User Interface / Visualization	Real time processing
8	\$500/month (Enterprise/Unlimited)	Friendly, Intuitive/Moderate graphics	With delay

Q17. Rate from 1 to 7 whether you would buy one dashboard displayed in each option.

	Never I will buy it	1	2	3	Neutral	4	5	6	Sure I will buy	7								
a)																		
	Dashboard 1																	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>								
	<table border="1"><thead><tr><th>ID Card</th><th>Price(USD)</th><th>User Interface / Visualization</th><th>Real time processing</th></tr></thead><tbody><tr><td>1</td><td>\$50/month (Limited/Few users)</td><td>Friendly, Intuitive / Moderate graphics</td><td>With delay</td></tr></tbody></table>	ID Card	Price(USD)	User Interface / Visualization	Real time processing	1	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	With delay									
ID Card	Price(USD)	User Interface / Visualization	Real time processing															
1	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	With delay															
b)																		
	Dashboard 2																	
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>								
	<table border="1"><thead><tr><th>ID Card</th><th>Price(USD)</th><th>User Interface / Visualization</th><th>Real time processing</th></tr></thead><tbody><tr><td>2</td><td>\$50/month (Limited/Few users)</td><td>Friendly, Intuitive / Moderate graphics</td><td>Without delay</td></tr></tbody></table>	ID Card	Price(USD)	User Interface / Visualization	Real time processing	2	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	Without delay									
ID Card	Price(USD)	User Interface / Visualization	Real time processing															
2	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	Without delay															
c)																		

Dashboard 3			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
3	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	With delay

d)

Dashboard 4			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
4	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	Without delay

e)

Dashboard 5			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
5	\$500/month (Enterprise/Unlimited)	Specialized, No intuitive/ Optimal graphics	With delay

f)

Dashboard 6			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
6	\$500/month (Enterprise/Unlimited)	Friendly, Intuitive / Moderate graphics	Without delay

g)

Dashboard 7			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
7	\$500/month (Enterprise/Unlimited)	Specialized, No intuitive/ Optimal graphics	Without delay

h)

Dashboard 8			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
8	\$500/month (Enterprise/Unlimited)	Friendly, intuitive/Moderate graphics	With delay

Q15. Rank according to your preference, where 1 star - least preferred to 3 stars - most preferred

a)

Dashboard 1			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
1	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	With delay

b)

Dashboard 2			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
2	\$50/month (Limited/Few users)	Friendly, Intuitive / Moderate graphics	Without delay

c)

Dashboard 3			
ID Card	Price(USD)	User Interface / Visualization	Real time processing
3	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	With delay

Dashboard 4				★ ★ ★	3
ID Card	Price(USD)	User Interface / Visualization	Real time processing		
4	\$50/month (Limited/Few users)	Specialized, No intuitive/ Optimal graphics	Without delay		

d)

Dashboard 5				★ ☆ ☆	1
ID Card	Price(USD)	User Interface / Visualization	Real time processing		
5	\$500/month (Enterprise/Unlimited)	Specialized, No intuitive/ Optimal graphics	With delay		

e)

Dashboard 6				★ ☆ ☆	1
ID Card	Price(USD)	User Interface / Visualization	Real time processing		
6	\$500/month (Enterprise/Unlimited)	Friendly, Intuitive / Moderate graphics	Without delay		

f)

Dashboard 7				★ ★ ★	3
ID Card	Price(USD)	User Interface / Visualization	Real time processing		
7	\$500/month (Enterprise/Unlimited)	Specialized, No intuitive/ Optimal graphics	Without delay		

g)

Dashboard 8				★ ☆ ☆	1
ID Card	Price(USD)	User Interface / Visualization	Real time processing		
8	\$500/month (Enterprise/Unlimited)	Friendly, Intuitive/Moderate graphics	With delay		

h)

Q18. Select the most important attribute (other than price) that motivated your answers to the previous questions. This attribute is crucial within Social Media Monitoring Dashboard.

Real-time processing

Q9. Indicate your gender

- Male
- Female

Q13. Indicate your country of residence

- Colombia
- Portugal
- Other _____

Q11. Indicate your age

22

