

## Social BI. Trends and development needs

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*This paper tries to show that the need to implement BI solutions that integrate social networks data is increasingly more acute. Companies need to understand that efficient decision making has to take into account the importance that social media has nowadays. In addition, the software developing companies have to keep up to date with new trends generated within these communication channels and adapt their solutions to this dynamic environment.*

**Keywords:** *Business Intelligence, Social Network, Social BI, Market Trends*

### **1** Introductory notes

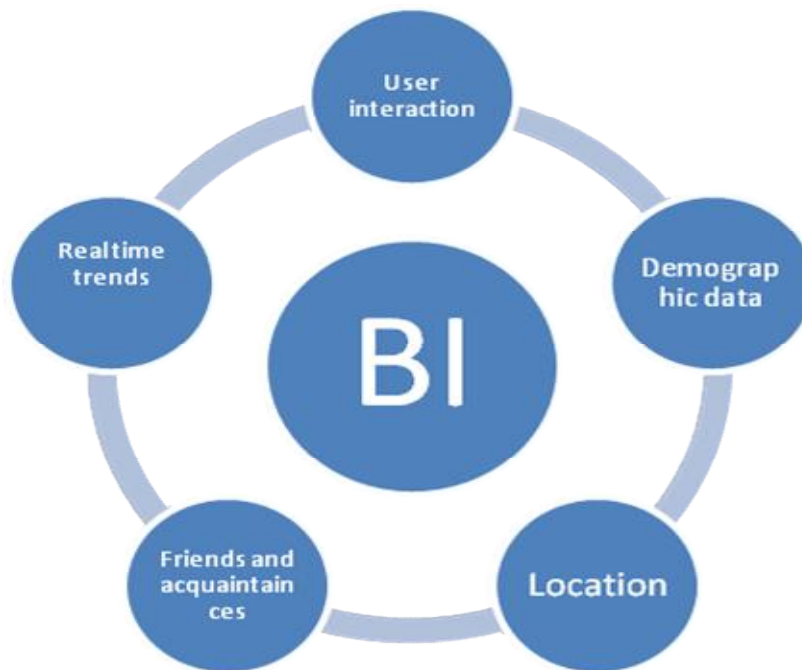
Social BI is a management technique that integrates the sharing of social resources in order to improve existing company projects, products or business processes. This type of BI is usually handled by software products that offer the possibility to analyze social media indicators while, at the same time, managing projects like a traditional solution. Also, the main characteristic of this type of BI is that it welcomes the involvement of the client from the starting point of business processes and long time before the product development end with its market release.

Social BI is seen as an ideal way to take full advantage of human capital, both inside and outside the company. From the employee's point of view, this kind of application offers transparent information distribution across project assignments, no matter if they are involved or would like to be involved in these projects. Also, it creates a widely accepted environment for merit acknowledgement. On the other hand, outside stakeholders (mainly clients) receive the means to actively give feedback on product/services development, ensuring themselves that they will have a higher level of satisfaction of their needs [5].

Currently, through the contribution of social networks to the scope of BI, the focus is increasing on their ability to bring a lot of customers for small companies that are producing for niche markets. In addition to this, they provide analysis of trends and statistics with greater relevance to the company and the end customer that is involved in creating the products for which he is the target of. The next figure allows us to see the features outlined by social media networks into the BI domain [2].

As networks and internet applications are becoming increasingly complex, given increasingly more detailed data can be collected about users/consumers and sent to companies operating in narrow markets, which they can use for commercial purposes (e.g. loyalty campaigns, promotions, etc.).

At the same time, user interaction can lead to favorable information dissemination about the company which can become major waves, this being among the most effective ways for market advertisement today. Also, this information can turn into reliable sources for consumers who want to document about a specific product that they want to purchase. Propagation speed of this medium is constantly increasing, actively using friend networks and acquaintances of users.



**Fig. 1.** BI – Social media

Companies need to recognize the need for virtual existence in the social environment because the potential for loyalty and sales increase is considerable. Even if the purpose is just notifying the end user that the company exists is huge and at the same time, the effects are measurable and the measurements reliable.

The fact that both companies that are trying to sell products or services and also social networks have as a common goal the meeting of the needs of the same customer/end user, will lead over time to the strengthening of relations of interdependence. This will actively be reflected in new products for BI techniques and processes. These tools will provide the link that will connect the customer to the companies that serve him and bring increased efficiency and competitive advantage for businesses that will invest in these solutions.

BI areas of influence and social media were, since their appearance, the subject of continuous development and research. While BI aims to help decision-making at company level by providing reports containing relevant data, social media aims

to develop into a significant source of personal data at the individual, opinion, relationship and interests level. As a result, the lasting parallel existence of these two concepts, led inevitably to the compound concept of Social BI.

Social BI, conceptually wants to extract relevant information that would lead to effective decisions, all based on data from social media. Also, it seeks the participation in the design of BI solutions that contain tools for analysis and measurement of social metrics. In the present context, in which more companies succeed in implementing BI systems, the addition of this new component leads to accentuated competition and a major benefit for the end customer [2].

## **2 BI Interaction Management**

Management Systems of social networking as an integral part of BI, is a group of applications or methods used to manage and follow business processes in a distributed environment. These systems can be manually or automatically maintained and they allows managers to track, aggregate, publish and take part in

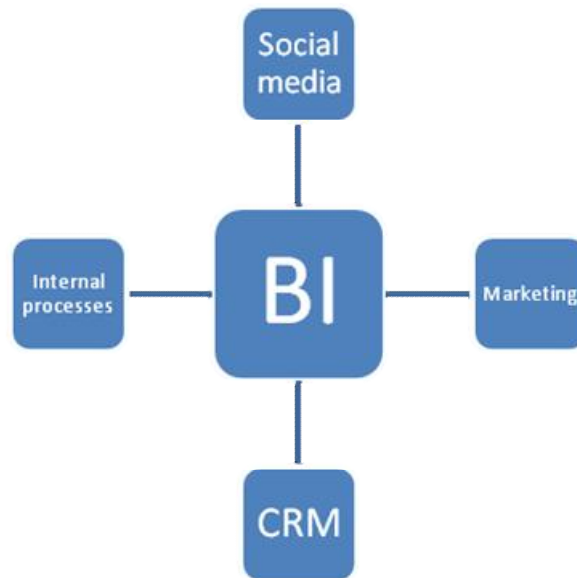
many social media channels using a single software product.[4]

The operating processes have three main features:

- Connection to social media channels;
- Ability to quickly publish from anywhere inside these channels being

able to adjust or program the occurrence of one or more messages;

- Ability to manage social data. The system allows managers to view aggregated data and have various analytical reports with different levels of complexity and detail.



**Fig. 2.** BI interactions

Each of these basic functions can be extended to a very high level of detail. Social media platforms are proving to be an important component of any marketing strategy. At the same time, marketing has come to use many of the BI tools to reach for the target audience, often extracting data directly from the internal business processes. Consequently, we see the need for marketing to track customer response in real time.

CRM (customer relationship management) focuses on providing services, loyalty techniques and sales analysis that address actual client needs in a more direct way than before on what they consider to be the main issues of company-customer relationship (prices, warranties, shipping, etc.).

CRM is fundamentally different from social media components in that it is much less immediate. This is the mechanism through which contracts and products

reach the end user. Interacting with social media, CRM uses information provided by it in order to publish messages that should reach both current customers as well as prospective customers. By integrating these two components, potential customers will know what to expect if they choose a product provided by a certain company.

Inside the social media component, gaining credibility is a matter not only of content, but also of a good social interaction. A common mistake is to approach social media as platforms to send some mass e-mails and not as some communication processes. They should be considered more like publishing tools through participation. As mentioned previously, CRM integration with social media result in a long term marketing strategy. The problem here is the huge amount of data coming through these two channels. This is the time when BI techniques must intervene in order to interpret the data into relevant reports

available for the decision-making factor. What BI cannot do, however, is improve the quality of input data. External consultants are needed to standardize the data stream so that it becomes valuable for the company. The existence of these expensive consultants does not preclude the use of free, but very simple services (e.g. the number of brand occurrence over a given period of time). Top market share service providers in this area are SAP,

Oracle and IBM which provide huge processing capabilities and complex analysis.[3]

### 3 Social media dynamics and associated metrics

Regarding the most important changes that social media has been through since its appearance, we can summarize the following in Table 1.[2]

**Table 1.** Evolution of social media

<b>Beginning of social media</b>	<b>Present social media</b>
Social Media Guru: the man who has numerous communication strategies and is an expert in creating accounts. A very short phase in which sales people tried to artificially increase their level of apparent technical training.	Social Media Analytics, BI. Given that data are widely available through various services and interfaces is difficult to shape and monitor communication strategies.
Web Tools for distribution to multiple social media sites. Useful for a while, but many sites offer plug-ins that allow postings.	Distribution coupled with analytics. These have as a consequence products that include embedded analytics service.
Web Analytics. Although web analytics are still in use they do not provide information on visitor opinions.	Social Media Analytics. These scan comments about a particular brand or product not only to refrain opinions, but also to track trends.
Many social sites. The area of social networks was more diverse in the past. The success of a website is not determined by technology, but by its users.	YouTube, Twitter, LinkedIn, Facebook. Strongest sites have persisted and currently have the most numerous users. Although there are possible failures or hindered daily traffic, users' loyalty is unquestionable.
Spam and numerous users. Earlier Facebook or Twitter users prided themselves with many friends and large volumes of messages sent.	Target audience. Since then, marketing is trying to attract audiences using content relevant to them, and by using means of increasing ingenuity.
Public image. Having access to large quantities of information there was a need for more detailed material.	Content. People are now more motivated to seek customized content.
Quick and impulsive sales. The motto "buy fast" or "limited stock" does not apply online. It is easy for users to search for similar items.	Greeting the client. Consumers expect to be greeted with a concept before the acquisition that will integrate him in a community.
Unmanageable data. Previously, the data came in a large variety of formats and there were very few methods of integration.	Big Data. Today, data is formatted and available for distribution via various interfaces. There are also many instruments of conversion from one data format to another.

Regarding the most important social media metrics that companies have to be responsive to, consultants identify the following:

1. Monitoring views of a target demographic in a certain geographical area by filtering used keywords in natural language to identify opinions of satisfaction or negative feelings associated with a product or company. This process can prevent a viral explosion of negative opinions. If negative opinions are needed direct intervention is needed to solve valid issues of the most influential individuals.
2. Identifying cases where negative opinions could turn into a PR crisis is achieved through effective monitoring of social media to identify key individuals before the problem gets proportions.
3. Identify individuals, blogs and web applications that are most influential to a brand should lead to discussions on topics with which they have shown interest.
4. Real time tracking of the evolution of views and opinions, especially about new products and services leads to shortening the time between the signaling of the problem and its solution.
5. Measuring the link between marketing efforts and customer response at certain times of day and divided into geographical areas leads to the customizing level that marketing campaigns need to be more efficient.
6. Determining the type of media and platforms that have the most success allows the company to focus its efforts. For example, a company may divert resources to video campaigns because this means of communication has proved most effective in attracting clients.
7. Monitoring competitors must be done using all available means to redeploy their tested business formula into the company's own processes.
8. Documenting the industry sector in which the company operates leads to rapid identification of growth opportunities and

this can be achieved by the same methods of filtering online content.

#### 4 Development possibilities

Characteristics of social media together with design elements of BI currently contribute as a foundation for any social BI strategy. As areas of development for the above mentioned tools, we mention the following:

**Users and customers:** the inclusion of social media related set of data available for analysis can attract new BI users within an organization. The importance attached to social interaction between users is an example of the new design requirements of BI. Also, if the BI system allows and encourages interaction with customers, this will generate new technical needs.

**Products and services:** along with the availability of data from social media, new products and services within the BI can be offered for use. Inside this context, development directions include the discovery of methods to integrate traditional BI results and analysis related to the structure of social networks or opinions trends. In addition, the limitations regarding the quality and security of data, will constantly update the need for appropriate tools.

**Processes:** some BI processes should be adapted for the integration of social media functionality. However, the research and development requirements are relatively low in this case, contrary to the situation in which the BI system is used directly in the interaction with the clients' calls via live channels.

**Data:** nearly all of the social media impacts data management architecture. There will be a need for a broad spectrum approach to BI tools if they are to process both traditional transactional data and data from social media. Social data type is extremely dynamic and therefore cannot guarantee an accurate mapping over a long

period of time. There is a need for continuous information for BI solution developers on use cases that may arise. In terms of quality and/or legality of data sources, at first glance, social media provides individualized, but non-standard and poor quality data. Therefore, the need to develop methods of aggregation will lead to insight into the trends observed at the population level. Also, the Wikipedia example convinces us that making common and mutual control over user-generated content can lead to a continuous increase in data quality.

**IT&C:** huge data volumes and their frequent updates involved in social media have a greater and greater impact on IT&C. These unstructured data require specific software to be processed. Currently the most popular management concept for this is the "Big Data", but this is a domain anticipated to give rise to further developments.

**Techniques:** similar characteristics between different social environments on the high volume of data, unstructured data, quickly updated content, result in a major need for research on analysis techniques. Unlike IT&C, which requires *de novo* development of software products, social BI needs to improve the current, widely used ETL process.

**Governance:** social media and BI systems can generate the emergence of new roles and responsibilities within organizations. It can identify a clear impact on organizational rules and define the compliance with those rules. In parallel with the use or distribution of information through these social channels, problems related to the legal aspects of global interactions may pose a few problems.

**Strategy:** BI strategy, as part of the company strategy, aims to provide support for optimal decisions on the market. Effective use of social data provides many ways to contribute to the overall objectives such as customer satisfaction. One direction of research and development could be measuring the contribution social

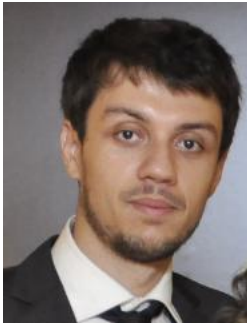
BI in particular the performance of the organization. [1]

## 5 Conclusions

The importance and practical application of BI solutions that integrate ways to measure and analyze data from sources in the field of social networking, records an upward trend. As a result, we see an increase of awareness regarding the importance of these tools from both companies that are competing in different markets and also from the developers involved in research and development.[4] We conclude that the domain of "Social BI", although recently emerged as a concept, is one of great growth potential, representing the future of any effective marketing campaign.

## References

- [1] Dinter, Barbara; Lorenz, Anja "Social Business Intelligence: a Literature Review and Research Agenda", 33<sup>rd</sup> ICIS 2012 (International Conference on Information Systems)
- [2] "Social Media and Business Intelligence" First Edition, CIO Whitepapers, Ventus Publishing ApS 2012
- [3] "Social Media and Business Intelligence: Creating the Integrated Customer Hub", Oracle White Paper, September 2012
- [4] "Unlock the value of social media data – Social Intelligence", Viewpoint Paper, Hewlett-Packard Development Company, October 2013
- [5] <http://www.techopedia.com/>



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