



Social Business Analytics (SBA)

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Abstract:

Social Business Analytics (SBA) is the process of gathering, analyzing, and interpreting data from social media channels to make informed business decisions. With the rise of social media, businesses are utilizing SBI to gain insights into consumer behavior, identify trends, and improve customer experience. In this paper, we explore the concept of SBI and its applications in modern-day businesses. We discuss the benefits and challenges of SBI, its ethical considerations, and future implications.

Introduction:

Social media has become an integral part of modern-day life. The vast amount of data generated on these platforms provides a valuable resource for businesses to understand consumer behavior and preferences. Social Business Analytics (SBA) is the process of extracting, analyzing, and interpreting this data to provide insights that can help businesses make informed decisions.

The concept of SBI is relatively new, and its application in businesses is still in its early stages. However, its potential impact on the way businesses operate cannot be ignored. In this paper, we will explore the concept of SBI, its applications, benefits, and challenges, and ethical considerations.

What is Social Business Intelligence?

SBI is the process of collecting data from social media platforms and analyzing it to gain insights into consumer behavior, trends, and preferences. The data can be in various forms, such as text, images, videos, and audio. SBI uses various tools and techniques to analyze this data, such as sentiment analysis, text analytics, network analysis, and machine learning algorithms.

Applications of Social Business Analytics (SBA)

SBI can be used in various applications, including marketing, customer experience, product development, and competitive analysis. Some of the specific applications are:

Marketing: SBI can help businesses understand the effectiveness of their marketing campaigns by tracking engagement, sentiment, and social reach. This information can be used to optimize campaigns and target the right audience.

Customer experience: Social Business Analytics (SBA) can help businesses understand customer feedback and preferences, which can be used to improve the customer experience. By monitoring social media channels, businesses can quickly identify customer complaints, address them promptly, and improve customer satisfaction.

Product development: Social Business Analytics (SBA) can help businesses identify consumer needs and preferences and develop products that meet those needs. By analyzing social media data, businesses can gain insights into product features that consumers like and dislike, identify new product opportunities, and improve existing products.

Competitive analysis: Social Business Analytics (SBA) can help businesses gain insights into their competitors' strategies and performance. By analyzing social media data, businesses can track their competitors' brand sentiment, social reach, and engagement, and identify gaps and opportunities.

Benefits of Social Business Analytics (SBA)

Social Business Analytics (SBA) provides businesses with several benefits, such as:

- **Improved decision-making:** Social Business Analytics (SBA) provides businesses with data-driven insights that can help them make informed decisions.
- **Competitive advantage:** Social Business Analytics (SBA) can provide businesses with a competitive advantage by identifying trends and opportunities that their competitors may not be aware of.

- Improved customer experience: Social Business Analytics (SBA) can help businesses improve the customer experience by identifying customer needs and preferences.
- Improved marketing campaigns: Social Business Analytics (SBA) can help businesses optimize their marketing campaigns by identifying the right audience and messaging.

Challenges of Social Business Intelligence:

Social Business Analytics (SBA) also poses several challenges for businesses, such as:

- Data quality: The quality of social media data can vary, and businesses must ensure that they are using reliable and accurate data.
- Data privacy: Social Business Analytics (SBA) involves collecting and analyzing personal data, and businesses must ensure that they comply with data privacy regulations.
- Data overload: The vast amount of data generated on social media platforms can be overwhelming, and businesses must have the right tools and processes in place to manage and analyze the data effectively.

Ethical Considerations:

SBI also raises ethical considerations, such as:

- Privacy: SBI involves collecting and analyzing personal data, and businesses must ensure that they respect individuals' privacy

Need of the Study

The study of Social Business Analytics (SBA) is essential for several reasons. Firstly, social media has become a dominant force in modern-day communication and provides businesses with a wealth of information about consumer behavior and preferences. The ability to analyze this data effectively can provide businesses with a competitive advantage, improve decision-making, and enhance the customer experience.

Secondly, the use of Social Business Analytics (SBA) is still in its early stages, and businesses must understand its potential benefits and challenges. Social Business Analytics (SBA) involves collecting and analyzing personal data, which raises ethical considerations that businesses must navigate. Therefore, a deeper understanding of SBI can help businesses make informed decisions about its implementation and ensure that they comply with data privacy regulations.

Finally, the study of Social Business Analytics (SBA) can have implications for future business practices. As technology advances, the amount of data generated on social media platforms will only increase, and businesses must be prepared to adapt and leverage this data to remain competitive. A comprehensive understanding of Social Business Analytics (SBA) can help businesses stay ahead of the curve and identify new opportunities for growth and innovation.

Research Objective

On the one hand social media is a new phenomenon and acknowledged as a source of data of which valuable information can be derived. On the other hand, it is unclear which firms are able to collect social media data that is related to their firm and how firms should process these new data in accordance with existing business intelligence processes. Therefore, the objective of this research has been formulated as:

The objective of this research is to develop a procedure to utilise social media data for business intelligence, for which the applicability is investigated for firms in different industries and for different customer relations.

Method

Our sample consists of social media messages related to eighteen different firms, in seven different industries performing different customer relations.

Because the sample firms operate in different industries and execute different customer relations, it is possible to gain insight in potential differences between the social media messages related to these firms. During a period of two weeks, social media messages from various platforms have been crawled into a local database to allow further analyses. The content in the dataset is sourced from Twitter, Facebook public pages, Flickr, Newssites, Google+ public pages, (Wordpress) Blogs, Picasa, YouTube and Friendfeed. These platforms are popular in Western Europe.

To gain insight in the amount of firm-related social media messages, the average daily mentions of firms served as a proxy to compare the volume of messages related to different firms. Next, using a content analysis, a portion of the collected messages have manually been classified into different categories based on the messages' subjects. These categories correspond with generally applied categories of key-performance indicators. As such, the results of the content analysis are

directly linked to firms' key-performance indicators, allowing to draw conclusions on the relatedness of social media messages to different key-performance indicators.

Incorporating the new external data source requires traditional business intelligence systems to be adjusted. A social business intelligence procedure should be consistent with these traditional systems, and should additionally consider the challenges involved when processing social media data. As such, the requirements for a social business intelligence procedure have been established based on generally applied business intelligence concepts. Furthermore, the challenges involved in the processing of social media data are discovered by the collection of social media messages for the content analysis. Based on the traditional BI concepts and the challenges discovered in the content analysis, a business intelligence procedure is developed. The procedure is verified by analysing its consistency with existing BI systems and its ability to solve the issues emerging when processing social media data.

Results

The results of this research are twofold. Firstly, we gained insight in the applicability of social business intelligence by investigating the existence and content of firm-related social media messages. Secondly, a procedure to collect, process and analyse social media data for business intelligence purposes has been established.

(ii) Applicability of Social Business Analytics (SBA)

The applicability of social business is investigated on two facets. Firstly, the volume of firm-related social media messages is investigated to obtain insight in the amount of data that is available for firms. The volume of firm-related social media content is however not sufficient to draw conclusions on the applicability of social business intelligence. Therefore, the second facet on which the sample data is analysed relates to the content of the social media messages. Especially, the subjects of the messages were analysed.

Volume

The average daily mentions differs from firm to firm. This implies that the applicability of social business intelligence will not be possible for all firms, since not for each firm data is generated.

The second dimension on which the volume of firm-related social media content is investigated relates to industries. Our sample consists of eighteen different firms active in seven different industries. As a first step to identify possible differences in the volume of daily messages between industries, the firms have been clustered on industry type have consequently been sorted in descending order.

Subjects

Next to an assessment of the amount of social media posts that are created on the web, this thesis examined the subjects of the social media posts in order to link the messages to firms' key-performance indicators. The social media messages of the firms have been classified into categories based on their subject. These categories are based on ten categories of commonly applied key-performance indicators. Consequently, the collected social media posts of the firms in the sample have manually been classified into one of these categories.

Our analysis shows that the subjects of social media messages differ from firm to firm. The majority of social media messages related to firms (41%) express how the external stakeholders of a firm perceive the company. In this thesis, such posts have been classified as community posts. 18% of the social media messages in our dataset contained the name of a firm, but did not contain any valuable information for the firm and have consequently been assigned as undefined posts.

About 11% of the social media messages relate to financial results, which consist of financial performance discussions (5%) and stock related discussions (6%).

The content analysis of this research suggests that the subjects of social media messages related to B2B firms contain a higher percentage of short term financial results, news and professionals related messages than messages related to B2C firms. Unfortunately for B2B firms, such type of information is yet available internally. Acquiring social media data to gain additional management information is therefore of less value for B2B firms. Next, the analysis indicates that the social media messages related to B2C firms contain a higher percentage of posts related to customer relations, product and service quality and product and service innovation than messages related to B2B firms. It are these types of information that deliver additional value to the firm, since this information is not available at firms internally.

In addition, the content analysis of this research suggests that the subjects of social media posts differ between industries, but that the majority of the subjects in each industry relates to community, i.e. social media posts revealing how the community perceives the company. The results indicate that firms active in the information & communication, financial institutions and transport & storage industries are more subjected to social media messages related to customer relations, while firms active in the mining and quarrying and consulting industries will find messages related to financial performance.

(ii) Procedure for Social Business Analytics (SBA)

Based on

- (i) traditional business intelligence frameworks and
- (ii) the experience we gained in collecting, processing and analysing social media data in the content analysis, a Social Business Analytics (SBA) procedure has been developed. Figure 3 schematically shows the social business intelligence procedure.

Our SBA procedure consists of seven main components, being

- (i) strategic mapping of KPIs,
- (ii) collecting,
- (iii) data pre-processing,
- (iv) categorising,
- (v) analysing,
- (vi) mapping insights to the business units, and reacting
- (vii) The seven steps can be interpreted as a cycle, i.e. the output of the last step influences the first step.

The very first step of social business intelligence sets the scene for the objects that are to be collected and analysed. Namely, in the first step the key-performance indicators that are to be measured by social media data are selected. Not each type of KPI is to be measured by social media data since there does simply not exist any related social media data to these types of KPIs. Firms should mainly focus on KPIs related to customer relations, public image and – to a less extent – on product and service innovation when selecting KPIs that are to be measured using social media data.

The second step of the SBI procedure relates to data collection. In contradiction to regular BI systems, the data is to be sourced from external parties in social business intelligence. People create firm-related messages on different platforms, of which the vast majority of publicly accessible messages are created on Twitter. The search terms that are used to filter out the content at which the firm is interested should be based on the social KPIs selected in the previous step.

The social media data has been collected from multiple platforms which adhere to their own data format. The different format are to be combined into one uniform database, so that – in a later step – data analysis can be applied on the complete dataset. Furthermore, the firm should select those attributes that are necessary for the analysis, not each platform offers the same richness of attributes to a social media post. In addition, the data should be anonymised to be in compliance with new Regulations regarding data privacy. Finally, spam – i.e. social media posts that do not relate to the firm – should be removed from the collected data.

The data pre-processing step resulted in a structured database in which the social media messages from multiple platforms are combined. In the categorising step, the messages are clustered on different issues of interest, depending on the firm's subject of interest. E.g., messages related to certain products can be categorised, or one can cluster the messages that are created by people with many followers, etc. Again, the criteria at which the messages are categorised are determined by the selection of the social KPIs in the first step.

So far, the collected data has not provided any insights. It is in this analysis step of the procedure where data is transformed into information. The categories that were established in the previous step are analysed in this step. For instance, sentiment analysis can be applied on the categories related to the firm's products in order to acquire intelligence related to customer experiences of the products.