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Social Business Intelligence: A New Perspective for Decision Makers

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Abstract

This article presents a Social Business Intelligence approach, the theoretical demarche being supported by a practical example. The general framework for defining the social perspective is subject of the present debate, the social data being modelled within a data warehouse schema. Certainly, social data is not the only data source of the Business Intelligence value chain, but it defines a new perspective for decision makers.

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1. Business Intelligence for Decision Support

Business Intelligence (BI) is an umbrella term for various business managing processes based on well-informed decisions, which lead to high performance level within organizations (Brohman, 2000), (McKnights, 2004), (Melfert, Winter, & Klesse, 2004), (Mukles, 2009). Considered the art of gaining business advantage from data, BI covers verticals like 'Business Analysis', 'Enterprise Reporting' and 'Performance Management' (Sabherwal & Becera-Fernandez, 2011). In terms of a value chain, BI can be described as a value proposition that helps organizations in their decision making processes (Brohman, 2000).

BI initiatives are challenging tasks, therefore should be treated carefully; nowadays, the BI governance concept has been introduced to define “the process to be followed in order to prioritize BI requests along different criteria such: Project ROI, organizational budget, expertise of the team, people availability, infrastructure capacity and organizational politics”. BI activities are monitored; performance measured, and according to the BI objectives directions of action are provided (Guiterrez, 2006). Decisions are made by the BI governance

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committee, this board being responsible for aligning corporate strategic initiatives and processes with BI applications, investment, and usage (Larson & Matney, 2007), (Muntean, Muntean, & Cabău, 2013).

As previously mentioned, data represents a valuable asset, total indispensable for decision makers (Kaplan & Norton, 1996). Traditionally, BI applications allow users to acquire knowledge from company-internal data through various technologies. The 'explosion of data', making reference to the volume, variety and velocity of the existing data, has determined the transition to big data and involves new forms of BI (Blomme, 2012).

2. Social Business Intelligence

Nowadays, people feel confortable to exchange data and viewpoints through social environments. According to (Harrysson, Metayer, & Sarrazin, 2012) companies can develop a “social intelligence” based on the information, ideas disseminated through social-networking by their employees, customers and perhaps others external players. A positive corporate culture, which encourages creativity and innovation, promotes virtual communities like “discussion areas” and stimulates organization’s members to act constructively within. The established ”discussion areas” cover the entire company’s domain of activity and interest and are sustained by a wide range of social tools, systems and technologies. The collected social media content will be analyzed and processed in order to obtain valuable knowledge that will enrich the company’s insight. Implicitly, decisions will be emproved. The process of collecting social data, analyzing it in order to make better decisions is referred as Social Business Intelligence (SBI) (Palmer, Mahidhar, Galizia, & Sharma, 2013), (Kobielus, 2007), in fact a BI approach enriched with “social intelligence”.

The ”discussion areas” are online collaborative communities – for example, problems identified are posted and recomendations for solving those problems are made, as well as actions are proposed. Thanks to the collaborative potential of the social tools, decidents, experts and any members of the organizational community are assisted in delivering their contributions. Early interventions are possible, that might influence the final decisions. The orientation of SBI on „to answer questions” beyond the collaborative approach of decision making processes, facilitates the deployment of foresight scenarios and therefore contributes to „a business culture that is anticipatory and opportunistic with regard to operations, products and customers” (Kobielus, 2007). Integrating social data with traditional internal and external data sets a new dimension that can be introduced into the decision-making framework.

Marketing executives have discovered the benefits of social media listening (Fig. 1), proper tools, systems and technologies helping „to separate the signal from the noise” (Jain, 2012).

Fig. 1. Social listening. Integrating social data within the BI approach [adapted from (Jain, 2012)]
Information about the customers, their interests and purchasing decisions could be transformed into knowledge, added to the organizational knowledge base and ground domain decisions. Build-in analytic capabilities, key performance indicators (KPIs) for objectively evaluating the data are made available to decision makers.

Executives become aware of the value brought by social data in domains like supply chain management, product development, reputation management, risk management (Palmer, Mahidhar, Galizia, & Sharma, 2013). Therefore, social networking was brought within organization, executives, experts, all kind of professionals becoming active players, creating social data within the company (Kobiels, 2007), (Jain, 2012). Obviously, social data is not the only data source of the Business Intelligence value chain, but it defines a new perspective for the decision makers.

2.1 Integrating the social view into a classical BI schema

Managing social data is challenging, an adequate data warehouse schema being necessary (Fig. 2). The proposal establishes a methodological framework for adapting any classical BI schema to a social approach. In terms of SBI measures and dimensions reengineering will be fulfilled (Muntean & Căbău, 2011):

- the initial fact table will be transformed into a dimension – Old_Fact_Now_Dimension; as a result, the measures of the classical BI model will become dimensional attributes – Am_1, AM_2, ..., AM_m; based on this transformation the social perspective of the whole approach can be interpreted as an add-one facility of the classical schema;
- identified problems together with the recommendations for solving these problems will become dimensional attributes of two additional dimensions – Problems, Actions;
- the individuals identified as actors within the virtual social community will be modeled as a distinguish dimension - Definitions; the dimension will be modeled based on the individuals’ role within the social environment and their function/position within the company;
- the measures of the SBI data model will be established – MS_1, MS_2, ..., MS_n; they will be aggregate with respect to the introduced new dimensions – Old_Fact_Now_Dimension, Problems, Actions and Definitions.
Minor adjustments of the proposed SBI schema can occur in concrete implementations, e.g. organizing Actions and Problems into a dimensional hierarchy (Fig. 3) or introducing Time as a supplementary dimension.

2.2 A SAP Community Network based SBI proposal

The SAP Community Network (SCN) is a collaborative virtual community where “SAP software users, developers, consultants, mentors and students share ideas, learn, innovate and stay connected” (http://www.scn.sap.com/docs/DOC-18475). The “discussion areas” are product, solution or technology oriented; social networking tools like forum, blogging zone, wiki space facilitate the dissemination of information and support knowledge sharing. Community members are encouraged to act consequently within the “discussion areas”. Gamification strategies have been adopted to motivate individuals to consolidate a knowledge-based environment. According to their contribution within SCN, users accumulate points and can advance from Glass to Diamond level.

Social data is gathered from a discussion forum, topics like 'Enterprise Resource Planning', 'ABAP Development', 'SAP NetWeaver Portal', 'SAP Business One Application', 'SAP ERP Human Capital Management', 'SAP Landscape Transformation', 'Governance, Risk and Compliance' and 'Security' being covered. Identified problems (“threads”) are formulate as posts and added into the corresponding sub-category, part of one of the above mentioned main categories. A thread can have one of the following statuses – “Answered”, “Assumed answered” or “Not answered”.

The general conceptual schema (Fig. 2) has been adapted to the SCN reality, for modeling the social perspective three dimensions being necessary (Fig. 3). The SBI proposal is stand-alone and was not added to an existent classical BI solution. Therefore, Old_Facts_Now_Dimension is missing from the implementation.

After deploying the OLAP cube, KPIs will be added to the model (Fig. 1). According to (Kaplan & Norton, 1996), a KPI should be specific, measurable, achievable, result-oriented, and time-bound. KPIs are used to assess or measure certain aspects of business operations that may otherwise be difficult to assign a quantitative value to. For implementing the KPIs the steps presented in (Muntean & Cabău, 2011) have been respected. Some KPIs examples are listed below (Fig. 4). Additionally, status reports (Fig. 5) can be automatically generated.
Advanced analytics, data mining techniques enable the generation of all kind of enterprise reportings that contain relevant information and knowledge for the decision makers (Meerhan & Roberts, 2010), (Bughin, Chui, & Manyika, 2012), (Millman, 2007).

3. Conclusions

Based on a selective literature review and some of the authors’ recent contributions the concept of Social Business Intelligence has been introduced. A theoretical framework for modeling the social view was grounded. It can be interpreted as an add-on to a classical BI data warehouse schema. The scientific demarche is consolidated with a practical example based on the social data generated and disseminated within the SCN community. Obviously, social data alone is not sufficient to ground decisions, but it consolidates the corporate
insight. Encouraging social networking, companies can benefit of the value added to their businesses by “social intelligence”. The debate is oriented on pointing out the new perspective of SBI for the decision makers. Future researches will imply some extended implementations of the whole SBI value chain.

References


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