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Product Opinion Mining for Competitive Intelligence

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Abstract

Competitive Intelligence is one of the keys of companies Risk Management. It provides the company with a permanent lighting to its competitive environment. The increasingly frequent use of Information and Communication Technologies (ICT); including (namely) online shopping sites, blogs, social network sites, forums, provides incentives for companies check their advantages over their competitors. This information presents a new source that helps and leads the company to identify, analyze and manage the various risks associated with its business/products. Nowadays, a good use of these data helps the company to improve its products/services. In this paper, an overview of opinion mining for competitive intelligence will be presented. We'll try to synthesize the major research done for the different steps of product opinion mining.

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1. Introduction

Competitive intelligence (CI) seeks to analyze and exploit information about companies' competitors and sectors of activity to determine its competitive strategy. Actually, companies must be able to develop new knowledge about its competitors in an increasingly complex and fast-moving economy to maintain levels of innovation and gain a competitive advantage. Therefore, the importance of CI in companies practically becomes a necessity and widely accepted¹.

Traditionally, information about competitors has mainly come from press releases, such as analyst reports and trade journals, and recently also from competitors' websites and news sites. Unfortunately, the amount of this available information is limited and its objectivity is questionable. The lack of sufficient and reliable information sources about competitors greatly restricts the capability of CI². But Nowadays, the consumer reviews or opinions about an event, a product or a topic are available via forums, newsgroups, weblogs, and other similar sources. There

is also an easy access to virtually all sources of traditional public media such as electronic Daily news and magazines. This information may be analyzed in order to facilitate the monitoring of the competitive environment of a company. Manually, this task is difficult; this is why the automatic methods were used to alleviate humans from it. Many automatic methods aim to solve many issues in CI such as (i) how will our new product compare to our competitors' products? or (ii) which key factors influence customers' decisions to buy from our competitors or us? or (iii) which competitive factors affect our growth strategy? In this paper, we will focus on the automatic analysis of customers' opinions about products for the competitive intelligence context. Thus, product Opinion mining techniques for competitive intelligence will be discussed. This paper is organized as follows. Section 2 presents some definitions, processes and sources of competitive intelligence. Section 3 provides an overview of product opinion mining for competitive intelligence. Finally, section 4 provides a conclusion to the paper.

2. Competitive Intelligence (CI)

Facing competition, every company seeks to monitor its competitor markets, advertising marketing actions and information power of selling (evolution of turnover, logistics). All of these lead to the emergence of competitive intelligence. In this section, we will first start by defining the CI. The second part will present its process and the last part will present its information sources.

2.1. Definition

An exact definition of Competitive Intelligence can't be found in the literature, because definitions vary according to different authors and approaches in the business field.

According to Bartes³, CI seeks to predict the future, and the strategic company decisions based on these predictions. Lubica¹ defined competitive intelligence as the process of monitoring the competitive environment and the competitors, in which, information gathering, analysis and distribution of the obtained results, is carried out gradually so that they can support the efficient business activity and its ability to make qualified decisions, especially in relation to its competitors.

Safarnia⁴ reported that competitive intelligence is an activity focused on the understanding of competitors, their strengths, weaknesses and expectations of their actions. CI, according to them, is wider and includes activities to understand the competitive environment in relation to own business, the analysis of the impact of competition on business and the possible actions and reactions of the enterprise. Various authors distinguish between even three different views¹, namely, (i) competitive intelligence is equal to Business Intelligence, (ii) Competitive Intelligence is part of Business Intelligence, (iii) Competitive Intelligence is understood as relatively a separate information system. The first view is mainly encountered in the American literature¹, where the two concepts are understood as synonyms. The second view presents CI as part of the parent category Business Intelligence⁵, which is understood as a group of resources and ideas supporting all areas of management decision-making with an emphasis on improving the awareness of managers at all levels of management. The last view is presented by Špingl⁶ and he says that while CI is more focused on external environment, primarily on the behavior of competitors, BI focuses primarily on indoor environments. In other words, BI is working with information that is within the company (even the external environment). CI works mainly with information that is outside of the company.

Pellissier & Nenzhelele⁵ defined competitive intelligence as a product, a service and a process. As a product, CI is a system of strategic and organizational information. As a service, CI is cartography of the business environment. As a process, CI is the workflow of strategic management of information for collaborative decision making consisting of phases that are linked. The output of each phase is the input to the next phase. The overall output of the CI process is an input to the decision-making process.

As a summary and based on these different definitions, we can state that competitive intelligence is the research and information processing in relation to the enterprise market, so that a company can prepare future actions based on these analysis.

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