Chapter 6
Unraveling E–WOM Patterns Using Text Mining and Sentiment Analysis

João Guerreiro
Instituto Universitario de Lisboa, Portugal

Sandra Maria Correia Loureiro
iD https://orcid.org/0000-0001-8362-4430
Instituto Universitário de Lisboa, Portugal

ABSTRACT

Electronic word-of-mouth (e-WOM) is a very important way for firms to measure the pulse of its online reputation. Today, consumers use e-WOM as a way to interact with companies and share not only their satisfaction with the experience, but also their discontent. E-WOM is even a good way for companies to co-create better experiences that meet consumer needs. However, not many companies are using such unstructured information as a valuable resource to help in decision making: first, because e-WOM is mainly textual information that needs special data treatment and second, because it is spread in many different platforms and occurs in near-real-time, which makes it hard to handle. The current chapter revises the main methodologies used successfully to unravel hidden patterns in e-WOM in order to help decision makers to use such information to better align their companies with the consumer's needs.

INTRODUCTION

Today, e-WOM is an extremely important source for Marketing due to its impact on the online reputation of the firms. Consumers are no longer passive bystanders. Following consumer satisfaction expressed through online interactions on Facebook, Twitter, Instagram and other user generated content sites is paramount for effectively implementation of corrective measures that may increase satisfaction and consumer engagement with the brands (Bilro, Loureiro & Guerreiro, 2018).

However, although companies have been digitalizing themselves and upgrading their infrastructure to accommodate such Big Data with technology that grabs all the interactions with the consumer in real-time (written or verbal), there is still a long work to do regarding the effective use of such information to unravel hidden patterns of behavior. However, there are some successful examples of using such information to help decision-making. In Tourism, companies such as ReviewPro and Revinate offer complete solutions for firms to grasp the unstructured information written in sites such as TripAdvisor and Booking about their brands and their competitors. Using such information, companies may understand how their online reputation is changing over time and improve guest experience according to their feedback (Nave, Rita & Guerreiro, 2018). However, such information is often offered as a silo of information and not integrated with the company's' remaining key performance indicators (KPIs). To do so, companies must integrate analytical skills and develop internal decision support systems that may able them to integrate both structured (e.g. Financial KPIs, Human Resources KPIs), and unstructured information (e.g. reviews, online posts on the company's Facebook page, verbal complains).

The current chapter analyzes the characteristics of e-WOM and presents a theoretical approach to the most relevant methods used to handle unstructured data. Such information may allow managers to treat e-WOM data in order to uncover hidden patterns of behavior.

BACKGROUND

The emergence of the Web 2.0 has brought a new era of consumer-brand interaction through the spread of electronic word-of-mouth. E-WOM may be defined as "all informal communications directed at consumers through Internet-based technology related to the usage or characteristics of particular goods and services, or their sellers." (Litvin, Goldsmith & Pan, 2008, pp.461).

While in the early days of the Internet, companies had mainly a one way communication with their consumers through institutional web sites, today users interact with companies in a two-way communication. The consumer today is both the listener and the originator of information and such change echoed for the entire decision-making process. Not only in the awareness of need stage, where consumers may interact with viral communication videos and write their opinion or share such communication with their network of friends, but also while searching for alternatives online, where consumers read and form an opinion about the experiences or products in the market, or in the purchase and post-purchase stage, where some consumers are even driven to express their own opinion about the experience. Motivations of such behavior vary from (1) a need to have a platform to spread a message for an assistance, (2) to share negative feelings, (3) by a genuine concern toward other users, (4) for extraversion and self-enhancement, (5) for social and economic benefits, (6) to help the brand or (7) to seek for advices (Hennig-Thurau et al., 2004). Some of them are positive drivers and may help the companies to achieve a better reputation online, but some are negative drivers that may harm the company if not properly addressed.

Companies have been trying to keep up with such progress by (1) setting specialized teams of digital marketers responsible for handling such interaction and (2) investing on Big Data infrastructure that captures all this information in near-real-time for later analysis. E-WOM is usually posted online in the form of textual messages either in social media or in recommendation sites. However, today bloggers also share e-WOM through video, and that information may also have valuable information for brands to understand how are they being viewed and discussed online. Therefore, all public information spread online (text, audio, video) should be captured in Big Data systems (usually also transformed into a single

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