

## Chapter 41

# Consumer Sentiment in Tweets and Coupon Information– Sharing Behavior: An Initial Exploration

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### **ABSTRACT**

*The authors aim to explore the correlation between coupon information-sharing behavior and consumer sentiment by analyzing tweets. They used Twitter application programming interface to retrieve users' tweets, and took a machine learning approach for sentiment analysis. After the data pre-processing procedure, the authors then examined the correlation between sentiments in tweets and coupon information sharing. More than half of the most active users showed that their coupon information-sharing behavior correlated to both positive and negative sentiments. The results also showed that the response, coupon information sharing, for positive/negative sentiment had no significant time shifting pattern for most of the users. This study preliminary verifies the assumption that there is a correlation between users' sentiments in tweets and coupon information-sharing behavior, and indicates some interesting findings. The authors' findings may shed light on whether sentiment plays a role in social media communication concerning the sharing of coupon information.*

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## INTRODUCTION

Social network services are innovative applications that provide environments for human social interaction as well as information sharing. Twitter is one of the most popular social network services, used by millions of people around the world to be connected with their friends, family and colleagues through their computers or ubiquitous portable devices. Many people use Twitter as the media for sharing information, which makes Twitter a valuable platform for trend analysis, event predictions and promotions (Stieglitz et al., 2014). As the volume of Twitter data continues to increase quickly, researchers are using Twitter as a data source and trying to extract knowledge from this data for various purposes. Jansen et al. (2009) examined the use of Twitter for electronic word-of-mouth to share consumer opinions concerning brands. Phelan et al. (2009) used Twitter to recommend real-time topical news. Sakaki et al. (2010) explored the real-time nature of Twitter and proposed an event notification system that monitors tweets and promptly delivers notification. Tumasjan et al. (2010) investigated whether Twitter is used as a platform for political deliberations and whether online messages on Twitter validly mirror offline political sentiment. Park and Chung (2012) explored daily deal sharing patterns on Twitter and their research contributed to a better understanding of daily deal sales performance. Ruiz et al. (2012) studied how the activity on Twitter is correlated to stock-market events, specifically stock prices and trade volume. Oh et al. (2013) used rumour theory to study citizen-driven information processing through Twitter services by employing data on three social crises. Shi et al. (2014) collected retweet data sets and analyzed the relationships between users' social network characteristics and their retweeting acts. Lorentzen (2014) analyzed relationships and communication between Twitter actors in regard to Swedish political conversations. These variations of Twitter use reveal that Twitter can be an extremely valuable source across different fields.

With the rapid growth and popularity of social media, businesses are trying to advertise their brands and products through social media. Companies can also get valuable feedback and opinions from customers by tracking and monitoring related postings. Some studies claim that social media are potential marketing platforms, with their unique characteristics of large number of users, low cost, quick information diffusion and widespread connections of users (Chen et al., 2011; Jansen et al., 2009; Park & Chung, 2012). By sharing commercial information, a user becomes involved in the marketing process and simultaneously plays an important double role as a marketer and a general user (Jansen et al., 2009; Park & Chung, 2012). Therefore, it is critical to understand the factors that influence users to share commercial information. This study explores users' commercial information-sharing behavior by examining the tweets that include coupon information URLs in Twitter.

It is widely recognized in many disciplines that emotion is an important factor that influences human behavior. The impact of emotions on decision making, consumer behavior and information behavior has been explored in psychology, marketing and information science fields (Bagozzi et al., 1999; Lopatovska & Arapakis, 2011). In the information systems (IS) research field, the impact of emotions on user behavior has been widely discussed (Venkatesh, 2000). Prior studies found that emotion affects user behavior in online contexts as well (Éthier et al., 2006; Yi & Hwang, 2003). Godbold (2013) and Savolainen (2015) also explored the role of emotions in sense making in virtual communities and information sharing in online discussion. In human-computer interaction literature, emotion has been recognized as an essential factor that influences user behavior (Brave & Nass, 2003; Picard et al., 2001). In the marketing field, emotion is an important factor in explaining consumer behavior and has been examined in many studies

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