

Nov 13th, 12:00 AM

# Investigation of Micro-blogging marketing strategy of Fashion brand: via big data and machine learning methodology

Ruirui Zhang

Framingham State University, rzhang@framingham.edu

Shan Xue

Oregon State University, xueshan0127@gmail.com

Leslie D. Burns

Oregon State University, leslie.d.burns@comcast.net

Follow this and additional works at: [https://lib.dr.iastate.edu/itaa\\_proceedings](https://lib.dr.iastate.edu/itaa_proceedings)



Part of the [Fashion Business Commons](#)

---

Zhang, Ruirui; Xue, Shan; and Burns, Leslie D., "Investigation of Micro-blogging marketing strategy of Fashion brand: via big data and machine learning methodology" (2015). *International Textile and Apparel Association (ITAA) Annual Conference Proceedings*. 21.  
[https://lib.dr.iastate.edu/itaa\\_proceedings/2015/presentations/21](https://lib.dr.iastate.edu/itaa_proceedings/2015/presentations/21)

This Event is brought to you for free and open access by the Conferences and Symposia at Iowa State University Digital Repository. It has been accepted for inclusion in International Textile and Apparel Association (ITAA) Annual Conference Proceedings by an authorized administrator of Iowa State University Digital Repository. For more information, please contact [digirep@iastate.edu](mailto:digirep@iastate.edu).



## **Investigation of Micro-blogging marketing strategy of Fashion brand: via big data and machine learning methodology**

Ruirui Zhang<sup>a</sup>, Shan Xue<sup>b</sup>, Leslie Davis Burns<sup>c</sup>

<sup>a</sup> *Department of Fashion Design and Retailing, Framingham State University, Framingham, MA., U.S.A.*

<sup>b</sup> *School of Electrical Engineering & Computer Science, Oregon State University, Corvallis, OR, U.S.A.*

<sup>c</sup> *School of Design and Human Environment, Oregon State University, Corvallis, OR, U.S.A.*

Keywords: Micro-blogging, social media marketing, sentiment analysis, machine learning

Brands use micro-blogs to communicate with and engage potential consumers who have chosen to “follow” the specific brand. Increasing numbers of people are using smartphones to receive micro-blogs and instantly share their thoughts or sentiments through the micro-blog platforms. Thus, micro-blogging has become an important component to companies’ marketing strategies (Jansen, Zhang, Sobel & Chowdury, 2009). However, there is limited research on how fashion brands use micro-blogging to communicate with and engage consumers. Therefore, the purpose of this study is to investigate how fashion brands use micro-blogging to market and what sentiments they have in the micro-blogs environment in Chinese Fashion market. Specific questions were: (1) what micro-blogging strategies are of selected fashion brands? To address this question, researchers selected four representative fashion brands and analyzed all posted micro-blogs in Wei-Bo in three random weeks, 2013. Then, researchers qualitatively coded the sampled micro-blogs and determined an accurate defining category level for Machine Learning method. After this, researchers set up classification models to automatically analyze a whole year data via Machine Learning Technique. The analyzing result showed how fashion brands are marketing currently in micro-blogging. (2) What brand sentiments are of fashion brands in micro-blogging? To address this question, researchers analyzed customers’ comments in these four brands micro-blogs in the past twelve months, and found customers’ opinions within these micro-blogs. This analysis provided all sentiments in those fashion brands, and the weight of each sentiment, positive or negative.

### *Methods*

Researchers collected all the tweets posted by those brands in the randomly selected three weeks in 2013. There were 89 tweets from H&M, 42 from Forever21, 63 from Burberry and 10 from Chanel. Then researchers manually classified each tweet. Through the content analysis, researchers found out that there were five categories: (1) Posting of picture (collage) or web-link (video) with short sentences to promote their new products, (2) Posting of online and offline sales information, (3) Instantly broadcasting brand events (e.g., brand related social or commercial activates, fashion runway show), (4) Communicating with their followers or customers (e.g., initiating a question or reply their followers, provide customer service), (5) Posting of celebrities and fashion leaders’ pictures wearing the brands’ products. Those five categories serve as the

classes/labels that any micro-blog can be classified to, which are the basis for Machine Learning classifiers. Researchers classified micro-blogs and sentiments by Machine Learning methodology in the following standard procedure: (1) data collection, (2) data labelling, (3) features setup, (4) model training, (5) classifier validation and (6) prediction. The used learning model was Supported Vector Machine (SVM), which is a well-developed Machine Learning model for classification. To build the dataset, Researchers download all the micro-blogs and their comments, posted during May 2012 ~ May 2013 in Wei-Bo. The collected information for every micro-blog includes the posting time, the text content, the number of comments, cite times, whether original or not and with or without pictures. For the comments, the posting time, corresponding micro-blog ID and content were recorded.

### *Results*

More than 5,000 of the micro-blogs posted by fashion brands and 143,000 of customers' comments were analyzed. It is seen that at least 30% of their micro-blogs are used to promote new products. Compared to Forever21 and H&M, Burberry and Chanel had no micro-blogs about sales information and preferred broadcasting fashion events and showing brand celebrities. However, micro-blogging patterns differed from each other even between the luxury brands. 36% of Burberry micro-blogs used celebrities' images; while Chanel used 60% of their micro-blogs to promote their brand culture event. Forever21 prefers communication with customers (61%), but H&M takes more actions on promoting new products. In terms of comments sentiment prediction, the fans of luxury brands have higher positive sentiment. For Forever21 and H&M, more criticism can be seen from the followers, especially complains regarding product design and quality.

### *Conclusion*

Fashion brands are using their own micro-blogging strategies to promote brand awareness and image, and to encourage customers' brand involvement. The current social marketing strategies for fashion brands posts micro-blogs in the following five categories. For fast fashion brands, such as Forever21 and H&M, new product promotion and consumer relationships management in micro-blogs is encouraged by researchers. Chatty communication style or "polite humor" sentences are preferred. Posting question to trigger more customer involvement is suggested for the companies targeting in young generation. However, Luxury brands ought to consciously post information in micro-blogs. Glamorous high-quality pictures and videos are recommended to be posted in micro-blogs to significantly catch followers' attention. And simplistic description of their product and brand can help to build positive sentiment. In addition, online reply to customers' comments and chatting with customers, as well as posting sales information frequently may injure luxury brand's image.

### *References:*

Jansen, B.L., Zhang, M.M., Sobel, K. & Chowdury, A. (2009). Twitter power: tweets aselectronic world of mouth. *Journal of The American Society for Information Science and Technology*, 60(11), 2169-2188.