Student Research Abstract: Analyzing the Effect of Brand Building Activities on Brand Image using Topic Modeling Techniques

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1. PROBLEM AND MOTIVATION:

Corporate brand building activities are used by companies to influence the behavior of customers. Corporate brand building activities comprise of Cause Related Marketing (CRM), sponsorship, Corporate Social Responsibility (CSR) activities etc. There exists plethora of studies that have examined the impact of brand building activities on the brand / company image [5], [8] using consumer survey method. Still, quantifying the effects of brand building activities is complex as these activities bring intangible benefits to the company (such as brand image, reputation, positive word of mouth), that may be materialized only in the long run [9]. However, with increasing usage of social media and internet by consumers and companies, the web may work as rich source of information for analyzing impact of brand building activities on company / brand image. Therefore, there is a necessity of a system which can analyze the impact of brand building activities on the brand / corporate image using web data (news, blogs, and Social media data etc.). In this work, a unique methodology for analyzing the impact of brand building is proposed. This work would also contribute to the development of new social media metric for measuring the impact of marketing activities on brand image.

2. BACKGROUND AND INNOVATIVENESS OF WORK:

Despite the intangibility of effects of brand building activities, there exists plethora of studies that have examined the impact of these marketing activities on brand image/reputation[6][7].

Most of these studies have used survey based approach and experiment design approach to analyze the effect of brand building activities. To the best of our knowledge, there is hardly any study that has applied text mining technique to web data for examining the impact of brand building activities.

Brand image refers to the set of associations consumers hold about a particular brand[7]. Brands also have set human related characteristics associated with it. The set of human related characteristics associated with a brand is termed as "Brand Personality"[1]. Brand Image and brand personality can be captured by fetching important keywords associated with a brand. Social media data about a brand can be used to determine a brand's general associations (i.e. its image) [5]. Hence, we propose that topic extraction techniques may help us in getting important keywords associated with a brand/corporate firm. We will be applying topic extraction techniques, in our work, to capture brand associations from the web data available for the brand.

3. DESCRIPTION OF METHODOLOLDY AND IT'S UNIQUENESS:

3.1 Overall Architecture and Methodology:

Various stages of the system are shown in figure 1. A novel approach has been proposed for examining the impact of brand building events on brand image. In first step, the event for the analysis is identified. In second step, data related to brand is collected. We would collect 6 months pre event and 6 month post event data from news websites, blogs, and social media websites. Data would be organized into time slices. Dynamic Topic Model (DTM) [4] would be applied to time sliced data. It would provide a picture of how topics in a time period have evolved from topics in previous time periods. Dynamic Topic model would provide us with important time periods that would be analyzed in next phase. After dynamic topic modeling; we would have time periods that are important for examining the impact of event on brand image. Latent Dirichlet Allocation (LDA) [2] or Correlated Topic Model (CTM) [3] technique would be applied to the data belonging to these pre event and post event time periods. Topics of pre event and post event time periods would be compared to see the effect of event on the brand image. LDA assumes that topics emerging

from the corpus of text are not co-related with each other. CTM relaxes this assumption and allows the topics to be correlated. Depending upon the suitability of topic modeling technique during experiments, either LDA or CTM would be used for topic modeling. Finally, pre event topic structure and post event topic structure would be compared for examining the impact of event of the brand image. Some of the methods for comparing pre and post event brand image are following: 1. Comparing brand personality related associations before and after the event. 2. Some other unique associations that would be attached to brand after the event. 3. Whether negative associations of brand disappears after the event.

3.2 Research Methodology:

This is based up on experimental research design and empirical research design. Experimental research design would be used to determine the parameters (Size and number of time periods) and combination of techniques. Empirical research design would be used to empirically validate the effect of brand building events/activities on brand image.
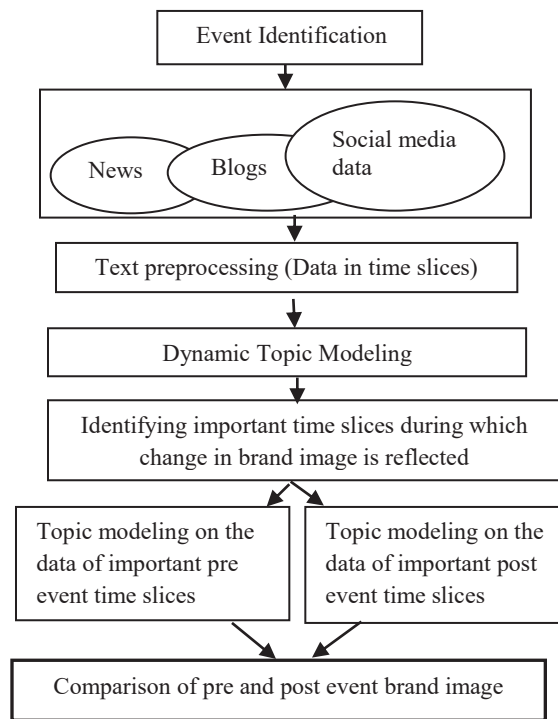

Figure 1

4. CHALLENGESOF THE STUDY:

Some plausible challenges that we anticipate during implementation are summarized as below:
- Applying topical extraction techniques to heterogeneous text data
- While analyzing impact of one activity , isolating the effects of other events would be a challenge

- Deciding on the optimal time window for which we would collect and analyze data for brand building events.

5. RESULTS AND CONTRIBUTIONS

As per current research plan, a working prototype is expected to be completed by January, 2016. Preliminary results can be obtained after the prototyping phase of the methodology. The potential contributions of the thesis can be summarized as follows:

- A novel methodology/framework for extracting brand/corporate image using multiple heterogeneous text data available on the web.
- A novel methodology/framework for analyzing impact of brand building activities using web data.

6. REFERENCES:

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