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A Survey on Social Network and Attitude Analysis

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ABSTRACT: In today's competitive environment companies are looking for candidates with strong communication skills and social relations skills. Only candidates with these skills will be a strong team player. But for analysing these skills companies are in lack of time and tool support is needed. In this project we design and implement a tool to analyse the employee job attitude using Facebook. For this we extract the Facebook feature. Analyse the employee attitude among co-workers and do report. Once score received from the attitude analysis module it will give the total ranked score using Pearson correlation to rank the candidates. Also it organizes the scores neatly in a report, so that HR can analyse it easily.

KEYWORDS: Social Network, Quantification, Attitude analysis

I. INTRODUCTION

Recruiters look for individuals who would contribute effectively for organizational growth. The importance of a resume is that it acts as the first impression of a candidate. In this competitive world, a candidate should possess a powerful resume that conveys the required information in a manner that it stands out among resumes of contemporaries. The databases of companies hold lakhs of resumes which are unstructured and in free style. The information and the structure contents of resumes will be collection under sub topics; the classification and the representation of information differ from one another.

Hence gathering relevant data from each resume and storing it into the companies' database in a particular format would reduce human effort. There are some difficulties of resume service by unions or commercial companies since they consume too much of time, capacity, money, human effort and so on. These companies require filtered/parsed resumes for the recruitment process. Automated recruitment systems require that Job seekers post their resumes on various websites like Indeed.com, LinkedIn, Naukri.com, Monster.com, Resume builder etc. Certain websites may retrieve unwanted resumes while some may provide very minimum number of resumes. This calls for an approach for qualitative evaluation of resumes.

Also resumes are not complete enough to evaluate person social skills like communication, networking with people, ability for team work and social involvement skills. So we have to gather this information from candidates' Facebook interactions.

Before beginning, we should describe what we mean by employee attitudes and job satisfaction. Employees have attitudes or viewpoints about many aspects of their jobs, their careers, and their organizations. However, from the perspective of research and practice, the most focal employee attitude is job satisfaction. Thus, we often refer to employee attitudes broadly in this article, although much of our specific focus will concern job satisfaction.

II. RELATED WORK

In [1] Keith Douglas McCook "Organizational perceptions and their relationships to job attitudes, effort, performance, and organizational citizenship behaviours" study integrates and expands two models of organizational



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support perceptions, job attitudes, effort, and employee behaviour (i.e., Brown & Leigh, 1996; Netemeyer, Boles, McKee, &McMurrian, 1997). An integrated model was hypothesized, in which Perceived Organizational Support and Perceived Opportunity for Reward impacted job satisfaction, organizational commitment, and job involvement, which in turn influenced effort (work intensity and time commitment), which subsequently impacted Organizational Citizenship Behaviours' (OCBs) and in-role performance. Employee – supervisor dyads were surveyed (n = 279), and structural equation modelling was used to test the hypothesized model and several alternative models. Results indicated that the hypothesized model fit the data well, and fit better than several a priori developed alternatives. Inspection of specific parameter estimates indicated that POS and POR impacted job satisfaction, job involvement, and affective organizational commitment. In turn, job satisfaction influenced work intensity, whereas job involvement influenced time commitment. Contrary to predictions, employee effort did not significantly impact in role performance or OCBs. Limitations, contributions, and practical implications are discussed.

In [2]the purpose of this study was to provide insight on attitudes towards Facebook advertising. In order to figure out the attitudes towards Facebook advertising, a snowball survey was executed among Facebook users by spreading a link to the survey. This study was quantitative study but the results of the study were interpreted in qualitative way. This research was executed with the help of factor analysis and cluster analysis, after which Chi-square test was used. This research expected that the result of the survey would lead in to two different groups with negative and positive attitudes. Factor analysis was used to find relations between variables that the survey data generated. The factor analysis resulted in 12 factors that were put in a cluster analysis to find different kinds of groups. Surprisingly the cluster analysis enabled the finding of three groups with different interests and different attitudes towards Facebook advertising. These clusters were analysed and compared. One group was clearly negative, tending to block and avoid advertisements. Second group was with more neutral attitude towards advertising, and more carefree internet using. They did not have blocking software in use and they like to participate in activities more often. The third group had positive attitude towards advertising. The result of this study can be used to help company's better plan their Facebook advertising according to groups. It also reminds about the complexity of people and their attitudes; not everything suits everybody.

In [3] study identifies three major gaps between HR practice and the scientific research in the area of employee attitudes in general and the most focal employee attitude in particular—job satisfaction: (1) the causes of employee attitudes, (2) the results of positive or negative job satisfaction, and (3) how to measure and influence employee attitudes. Suggestions for practitioners are provided on how to close the gaps in knowledge and for evaluating implemented practices. Future research will likely focus on greater understanding of personal characteristics, such as emotion, in defining job satisfaction and how employee attitudes influence organizational performance.

In [4] study investigates Facebook users' awareness of privacy issues and perceived benefits and risks of utilizing Facebook. Research found that Facebook is deeply integrated in users' daily lives through specific routines and rituals. Users claimed to understand privacy issues, yet reported uploading large amounts of personal information. Risks to privacy invasion were ascribed more to others than to the self. However, users reporting privacy invasion were more likely to change privacy settings than those merely hearing about others' privacy invasions. Results suggest that this lax attitude may be based on a combination of high gratification, usage patterns, and a psychological mechanism similar to third-person effect. Safer use of social network services would thus require changes in user attitude.

In [5]Real-world applications demand effective methods to estimate the class distribution of a sample. In many domains, this is more productive than seeking individual predictions. At a first glance, the straightforward conclusion could be that this task, recently identified as quantification, is as simple as counting the predictions of a classifier. However, due to natural distribution changes occurring in real-world problems, this solution is unsatisfactory. Moreover, current quantification models based on classifiers present the drawback of being trained with loss functions aimed at classification rather than quantification. Other recent attempts to address this issue suffer certain limitations regarding reliability, measured in terms of classification abilities. This paper presents a learning method that optimizes an alternative metric that combines simultaneously quantification and classification performance. Our proposal offers a new framework that allows the construction of binary quantifiers that are able to accurately estimate the proportion of positives, based on models with reliable classification abilities.



In [6]Forman was the first in identifying and naming the quantification problem. A (novel) machine learning task which deals with correctly estimating the number of elements of one class in a set of examples. Many problems in real applications can be seen as quantification problems. Examples are how many products will be bought? How many clients will be given bank credit? How many pieces will fail? It is especially important when the training dataset does not represent a random sample of the target population. Examples have the same presentation (several input features and a nominal output feature), but

- The test set is considered as a whole versus to apply to a single example alone.
- To determine the test class distributions versus individual predictions for each example.
The output of the quantification problem is a real value, but
- The test set is considered as a whole versus to apply to a single example alone.

The Main features

- Use a probability estimator instead of a classifier.
- Forman did not consider probabilities because “probability estimates depend explicitly on the class distribution; the calibrated probabilities would become uncalibrated whenever the test class distribution varies”.

In [7]address the problem of *quantification*, a supervised learning task whose goal is, given a class, to estimate the relative frequency (or *prevalence*) of the class in a dataset of unlabelled items. Quantification has several applications in data and text mining, such as estimating the prevalence of positive reviews in a set of reviews of a given product or estimating the prevalence of a given support issue in a dataset of transcripts of phone calls to tech support. So far, quantification has been addressed by learning a general-purpose classifier, counting the unlabelled items that have been assigned the class, and tuning the obtained counts according to some heuristics. In this article, we depart from the tradition of using general-purpose classifiers and use instead a supervised learning model for structured prediction, capable of generating classifiers directly optimized for the (multivariate and nonlinear) function used for evaluating quantification accuracy. The experiments that we have run on 5,500 binary high-dimensional datasets (averaging more than 14,000 documents each) show that this method is more accurate, more stable, and more efficient than existing state-of-the-art quantification methods.

In [8]Class distribution estimation (quantification) plays an important role in many practical classification problems. Firstly, it is important in order to adapt the classifier to the operational conditions when they differ from those assumed in learning. Additionally, there are some real domains where the quantification task is itself valuable due to the high variability of the class prior probabilities. Our novel quantification approach for two-class problems is based on distributional divergence measures. The mismatch between the test data distribution and validation distributions generated in a fully controlled way is measured by the Hellinger distance in order to estimate the prior probability that minimizes this divergence. Experimental results on several binary classification problems show the benefits of this approach when compared to such approaches as counting the predicted class labels and other methods based on the classifier confusion matrix or on posterior probability estimations. We also illustrate these techniques as well as their robustness against the base classifier performance (a neural network) with a boar semen quality control setting. Empirical results show that the quantification can be conducted with a mean absolute error lower than 0.008, which seems very promising in this field.

In [9] the increasing availability of digitized text presents enormous opportunities for social scientists. Yet hand coding many blogs, speeches, government records, newspapers, or other sources of unstructured text is infeasible. Although computer scientists have methods for automated content analysis, most are optimized to classify individual documents, whereas social scientists instead want generalizations about the population of documents, such as the proportion in a given category. Unfortunately, even a method with a high percent of individual documents correctly classified can be hugely biased when estimating category proportions. By directly optimizing for this social science goal, we develop a method that gives approximately unbiased estimates of category proportions even when the optimal classifier performs poorly. We illustrate with diverse data sets, including the daily expressed opinions of thousands of people about the U.S. presidency. We also make available software that implements our methods and large corpora of text for further analysis.

In [10] Verbal autopsy procedures are widely used for estimating cause-specific mortality in areas without medical death certification. Data on symptoms reported by caregivers along with the cause of death are collected from a medical facility, and the cause-of-death distribution is estimated in the population where only symptom data are available. Current approaches analyse only one cause at a time, involve assumptions judged difficult or impossible to satisfy, and require expensive, time consuming, or unreliable physician reviews, expert algorithms, or parametric statistical models. By generalizing current approaches to analyse multiple causes, we show how most of the difficult assumptions underlying existing methods can be dropped. These generalizations also make physician review, expert algorithms, and parametric statistical assumptions unnecessary. With theoretical results, and empirical analyses in data from China and Tanzania, we illustrate the accuracy of this approach. While no method of analysing verbal autopsy data, including the more computationally intensive approach offered here, can give accurate estimates in all circumstances, the procedure offered is conceptually simpler, less expensive, more general, as or more replicable, and easier to use in practice than existing approaches. We also show how our focus on estimating aggregate proportions, which are the quantities of primary interest in verbal autopsy studies, may also greatly reduce the assumptions necessary, and thus improve the performance of, many individual classifiers in this and other areas. As a companion to this paper, we also offer easy-to-use software that implements the methods discussed herein.

II. THERIOTICAL ANALYSIS

In the related work section all the classification is quantitative. Any of the classifier algorithms is used to generalize the messages as positive, negative or neutral based on which the person attitude can be determined and rated. This can play a significant role in identifying a person attitude from any social network for any legal cause.

Based on the analysis done in related work it is suggested quantitative approach gives the conclusion or specific number out of certain range, which gives an efficient way to identify and rate an any attitude to specific number. For example company HR would like to rate a person on attitude like aggressiveness, team player, how social the person is based on the ratings between 1 to 10 for these attitudes can help to hire a good employee along with the strong technical skills. Attitude of a person plays major role in an industry along with the technical skill. If a person is very strong technically but he is not ready to share is knowledge with the team members and if he is not ready to help team members it is a problem for an organization.

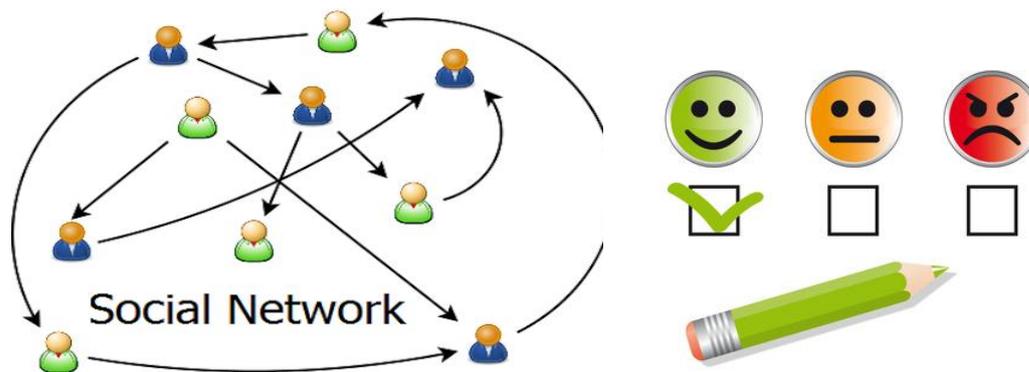


Figure: 1.1 Social Network, People attitude can be positive, neutral or negative



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