

ABSTRACT

Social networks on web based have become popular as a medium for disseminating information and connecting like-minded people. The public accessibility of such networks with the ability to share opinions, thoughts, information, and experience offers great promise to enterprises and governments. However, the success of such attempts relies on the level of trust that members have with each other as well as with the service provider. Therefore, trust becomes an essential and important element of a successful social network. In our research, we consider the first comprehensive review of social and computer science literature on trust in social networks. We first review the existing definitions of trust and define social trust in the context of social networks. We then discuss recent works addressing three aspects of social trust: trust information collection, trust evaluation, and trust dissemination. Finally, we compare and contrast the literature and identify areas for further research in social trust.

INTRODUCTION

Trust has been studied in many disciplines including sociology, psychology [1], economics [3], and computer science [4, 5, 2]. Each of these disciplines has defined and considered trust from different perspectives, and their definitions may not be directly applicable to social networks. Formally, trust is a measure of confidence that an entity or entities will behave in an expected manner. In our research, we review the definitions and measurements of trust from the prism of different disciplines, with a focus on social networks. In general, trust literature can be categorized based on three criteria: (i) trust information collection, (ii) trust value assessment, and (iii) trust value dissemination as shown in Figure 1. Each in turn can be further classified: trust information collection into three sources, namely (i) attitudes, (ii) behaviors, and (iii) experiences; trust value assessment according to the data model, namely (i) graph, (ii) interaction, and (iii) hybrid; and trust value dissemination into trust-based recommendation and visualization models. This article uses this categorization and classification scheme to review the literature.

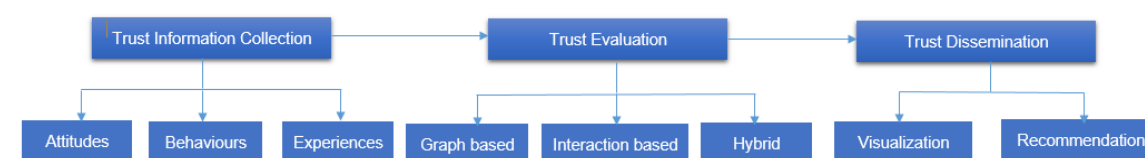


Figure: Building a social trust system- classification

MAIN OBJECTIVES

The research problem of this proposal is to explore novel, effective and efficient approaches to improve the quality of recommendation making by extending the neighborhood and the use of alternative information other than common rating history. In this research, we attempt to address the following some issues:

- ▶ Trust information collection from user behaviours and content for recommender systems
- ▶ Proposal mode for trust value assessment according to the data model
- ▶ Using trust information to generate the trust network for social network recommendation

METHODS

The main focus of our research is to improve automated recommendation making with the help of trust inference and user-interest similarity based on tagging behavior. The contributions of this research can benefit research on recommender systems and online trust management. Throughout the research, we show that commonality of users tagging behavior and inferred trust relationships offer some real benefits to the user. In order to accomplish this, we provide the following:

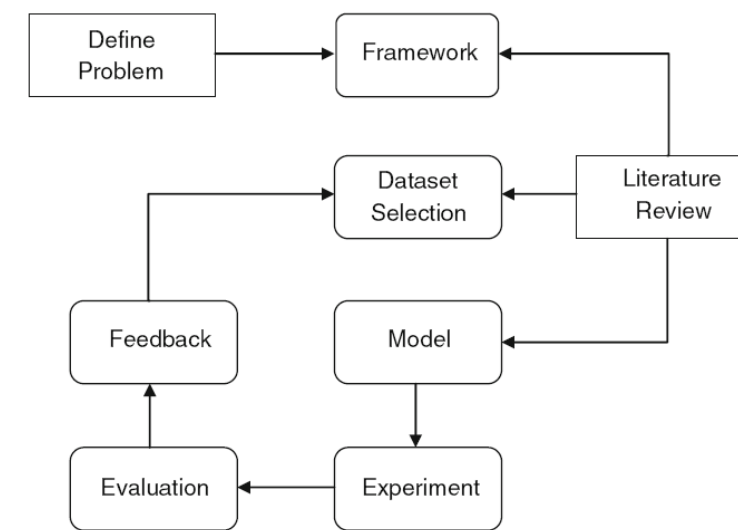


Figure: The proposed research method for our research

Our proposal method has focused on some directions as follow:

- ▶ New knowledge in the area of trust management through a survey on the relationship between trust and interest similarity.
- ▶ Use of a trust inference technique to increase the range/boundary of the neighbors and improve recommendation results.
- ▶ Propose a new trust inference technique which performs better than existing standard trust inference techniques.
- ▶ A new method of trust network generation in the absence of explicit trust rating using social network's information and use it for recommendation making.

RESULTS

We also have some experience for our objectives as follows:

- ▶ Implementation random walk algorithm for trust generation based on user's behaviour



Figure: Comparing between our trust inference with standard trust inference techniques

- ▶ Prediction structure of social network in future based on trust network.

CONCLUSION

We have presented a new algorithm for generating trust networks based on user tagging information to make recommendations in the online environment. The experiment results showed that our propose similarity traditional approach but it performs better while making recommendations by combining another information of user on social network. This proposed technique will be very helpful to deal with data sparsity problems; even when explicit trust rating data is unavailable. The finding will contribute in the area of recommender systems by improving the overall quality of automated recommendation making.

FORTHCOMING RESEARCH

This research can be extended in various directions to overcome the limitations stated in the previous section. Social network provides additional information such as comments, opinions, reviews etc. in addition to the traditional rating data. Future work could integrate rating data with other available information to improve the recommendation quality. Another approach could be to integrate tag data with other information to find the interest similarity to identify similar users. A larger data set from a real-life social network could be used to evaluate the effectiveness of the proposed method to verify its suitability in the online social network environment. The proposed algorithms can be redesigned to improve processing time to perform more efficiently, thus not only providing correct recommendations but also faster processing.

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