



Knowledge Sharing in the Online Social Network of Yahoo! Answers and Its Implications

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Abstract- Query and Explanation (Q&A) websites such as Yahoo! Explanations provide a platform where users can post query and receive explanation. These systems take advantage of the collective intelligence of users to find information. In this paper, we analyze the online social network (OSN) in Yahoo! Explanations. Based on a large amount of our collected data, we studied the OSN's structural properties, which reveals extremely distinct properties such as low link symmetry and weak correlation between thus and outdegree. After studying the knowledge base and behaviors of the users, we find that a small number of top contributors explanation most of the query in the system. Also, each top contributor focuses only on a few knowledge class. In addition, the knowledge class of the users are highly clustered. We also study the knowledge base in a user's social network, which acknowledge that the members in a user's social network share only a few knowledge class. Based on the findings, we provide guidance in the design of spammer detection algorithms and distributed Q&A systems. We also propose a friendship-knowledge adapt Q&A framework that synergistically combines current OSN-based Q&A and web Q&A. We accept that the results presented in this paper are crucial in understanding the collective intelligence in the web Q&A OSNs and lay a essential for the evolution of next-generation Q&A systems.

Keywords- Yahoo! Answers, question and answer platforms, online social networks, collective intelligence, user behavior

I. INTRODUCTION

A social associating service (also social associating site or SAS) is a platform to build social networks or social relations among people who share akin interests, activities, backgrounds or real-life connections. A social network service consists of a image of each user (often a profile), his or her social links, and a variety of additional services. Social network sites are web-based services that allow entity to create a public profile, create a list of users with whom to share connections, and view and annoyed the connections within the system. Most social network services are web-based and provide means for users to collaborate over the Internet, such as e-mail and instant messaging. Social network sites are varied and they absorb new information and communication tools such as mobile connectivity, photo/video/sharing and online journal. Online community services are sometimes considered a social network service, though in a broader sense, social network service usually means an lone-centered service whereas online community services are group-centered. Social associating allow users to share ideas, pictures, posts, activities, events, and interests with people in their associate. The main types of social associating services are those that contain category places

(such as former school year or classmates), means to attach with friends (usually with self-description pages), and a recommendation system related to trust. Popular methods now combine many of these, with American-based services such as Facebook, Google+, LinkedIn, Instagram, Reddit, Pinterest, Vine, Tumblr, also Twitter widely used worldwide. Web-based social networking services make it possible to attach people who share interests and activities across political, economic, and geographic borders. Through e-mail and burning messaging, online communities are created where a gift economy and reciprocal altruism are encouraged through aid. Information is suited to a gift economy, as information is a nonrival good and can be gifted at practically no cost.

academic have noted that the term "Social" cannot account for technological features of the social network floor alone. Hence, the level of network sociability should determine by the actual performances of its users. Consulting to the communication theory of uses and gratifications, an increasing amount of child are looking to the internet and social media to fulfill emotional, affective, personal integrative, social centralizing, and tension free needs. With internet technology as a additive to fulfill needs, it is in turn affecting everyday life, including relationships, academy, church, entertainment, and family. Companies are using social media as a way to learn about potential employees' personalities and behavior. In big situations a candidate who might otherwise have been hired has been rejected due to abusive or otherwise unseemly photos or comments posted to social associates or appearing on a newsfeed. Facebook and other social associating tools is increasingly the object of scholarly research. Scholars in many fields have going to investigate the impact of social networking sites, investigating how such sites may play into issues of identity, aloofness, social capital, youth culture, and education. Research has also suggested that entity add offline friends on Facebook to maintain contact and often this blurs the lines between work and home lives. Several websites are birth to tap into the power of the social networking model for philanthropy. Such models provide a means for connecting otherwise fragmented industries and small organizations without the resources to reach a deeper audience with interested users. Social networks are providing a different way for individuals to broadcast digitally. These communities of hypertexts allow for the sharing of information and ideas, an old concept placed in a digital environment.

II. EXISTING SYSTEM

In existing system OSN-based Q&A systems have been developed. In an OSN-based Q&A system, users post and answer questions through the OSN to take asset of the collective intelligence of their friends. Specifically, a centralized server identifies possible comment from the questioner's friends in his social network, and forwards the question directly to them. The rising popularity of OSN services has spurred a larger amount of research on OSNs. Most researchers studied network structure and growth patterns. Backstrom et al. investigated the evolution of network structure and group membership in MySpace and Live Journal and showed that homophily can be used to improve predictive models of group membership. Zhu measured and analyzed an online content voting network, Digg. He studied the structural properties of Digg OSN and the impact of OSN on user digging activities, and investigated the issues of content promotion and content filtering. Kwak et al. studied the OSN structures in Twitter. Viswanath et al. studied the network structure of Facebook, with an emphasis on the evolution of activity between users. Mislove et al. analyzed the structures of multiple OSNs: Flickr, YouTube, LiveJournal and Orkut, and found they share some similar features. Yahoo! Answers (YA). A number of researches have been conducted on YA in other attitude. Adamic et al. studied the content attribute of the answers, based on which, they tried to predict whether a appropriate answer will be chosen as the best answer. Su et al. studied the quality of human reviewed data on the Internet using the answer ratings in YA. By using comfortable analysis and human coding, Kim et al. studied the selection criteria for best answers in YA. Cao et al. proposed a category-based framework for search in YA. The framework uses language models to adventure categories of questions for improving answer search. Gyöngyi et al. performed an analysis on the YA data attracting on the user base, and studied several aspects of user behavior, such as activity levels, roles, interests, connectedness and character. Liu et al. presented a general prediction model with a variety of content, structure, and community-focused features to call whether a question author will be satisfied with the answers submitted by the community participants. As far as we know, our work is the first to study the structure, user behavior, and user knowledge in the YA OSN from the angle of knowledge sharing oriented OSN. Knowledge sharing has been studied for a long time. Initially, it was largely studied within organizational settings. The Internet gave rise to OSNs that aim at aiding collaboration between people by providing an environment for mutual sharing and interaction. Expert location systems have been proposed to

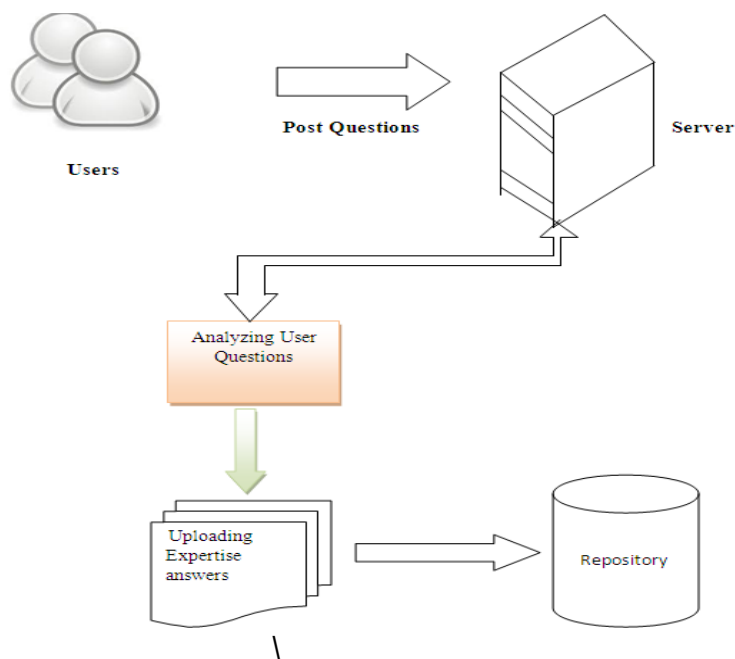
facilitate users to identify the experts of interests. Numerous online Q&A systems also have emerged in the Internet, in which the anonymous users post and respond to others' questions. However, the latency in receiving a satisfying answer to a question is high. Some works focus on finding similar questions in the archive for a given question to retrieve historical high quality answers in Q&A systems. Some works studied Q&A behaviors in OSNs. Morris et al. studied how people use status messages in an OSN to ask questions. Similar to the status message, Hsieh et al. proposed a market-based Q&A service called MiMir, in which all questions are broadcasted to all users in the system. However, by using status messages, only direct friends of a user can see the questions. Also, the broadcasting generates high overhead. White et al. developed a synchronous Q&A system called IM-an-Expert, which automatically identifies experts via information retrieval techniques and facilitates real-time dialog via instant messaging without broadcasting. However, IM-an-Expert focuses on the direct friends of a user. Yang and Chen proposed a social network-based system for supporting interactive concert in knowledge sharing over a peer-to-peer network. They found that applying social network-based concert support to knowledge sharing helps people find relevant content and knowledgeable collaborators who are willing to share their knowledge with. Adamic et al. analyzed the YA categories and sought to understand YA's knowledge sharing activity. They clustered categories according to content characteristics and patterns of interaction among the users. They found that some users focus narrowly on specific topics, while others participate across categories. This work focuses on analyzing YA's knowledge sharing activity from the perspective of YA categories, while our work is from the perspective of YA OSN.

III. PROPOSED SYSTEM

In this paper, it analyzes the OSN in YA, a popular online Q&A website. The main contribution of this paper is an extensive trace-driven inquiry of OSN structure, user behavior, user knowledge base and their relationships. By sharing the opinion in the online social network, it spreads easily and fast among the users. We can predict the user interest or behavior from the collection of users. By analyzing the user opinions, business applications can easily find out the user needs and satisfactions. A social networking service (also social networking site or SNS) is a platform to build social networks or social relations among people who share akin interests, activities, backgrounds or real-life connections. A social network service consists of a image of each user (often a profile), his or her social links, and a variety of additional account. Social network sites are web-based services that allow individuals to create a public profile, create a list of users with whom to share contact, and view and cross the contact within the system. Most social network services are web-based and provide means for users to collaborate over the Internet, such as e-mail and instant messaging. Social network sites are varied and they absorb new information and communication tools such as mobile connectivity, photo/video/sharing and online journal. Online community services are sometimes considered a social network service, though in a broader sense, social network service usually means an lone-centered service whereas online community services are group-centered. Social associating sites allow users to share ideas, pictures, posts, activities, events, and interests with people in their network. A recent but developing interest for organizations and groups has been to augment and manage their knowledge and expertise. With an impetus from cutback, down-sizing, and internationalization of personnel, the search for new ways to access, maintain, and advocate the organization's intellectual assets has become vital for many organizations. One action is to provide an organizational memory, some record of the organization's knowledge. To do this, we would like to appreciate how much computer systems can be used to augment or supplement existing learning and knowledge mechanisms within system, groups, and communities. In this paper, it analyzes the OSN in YA, a popular online Q&A website. The main contribution of this paper is an extensive trace-driven analysis of OSN structure, user behavior, user knowledge base and their relationships. By sharing the opinion in the online social network, it spreads easily and fast among the users. We can predict the user interest or behavior from the collection of users. By

analyzing the user opinions, business applications can easily find out the user needs and satisfactions. The proposed system contains the following sequence of works. Initially, the user interface design for the user is designed to access the secure Social Network. It consists of user registration and user login. The registration form contains the user's personal information like user name, age, profession, address, mobile number, etc. After registration and login, there is option to form the friends list. The friend suggestions will be there to add a new friend. Accept/ Reject option will be there for accept or reject the friend request. If the friend request is send to the particular user, notifications details are send to the requested user. Through this process, friend circle are formed for each users. Users can also share the information's in their timeline. They have the option for sharing of opinions. It gets the policy of the users and the contents what want to share. As per the policy of each data sharing, the data will share for only the users who all have the access rights. Users can share the questions in online social networks. Users can post the questions by selecting the particular field. These details are stored in the database. Users can also enter their comments for the particular field. They can also rate the fields. Experts who are expertise in the particular field can register their personal details. This form includes the experts name, age, address, mobile number, email id, etc. They can login in to the system with the respective username and password. They can view the users posted questions in the selected field. Experts can view the questions in all fields. And they can submit their opinions or their experiences in social network. These details are shared among the users in the OSN. So many of users can get advantage by viewing the expert's opinions. And they can answer for their questions in their expertise areas. Admin can login to the system with the respective username and password. Admin can view the user opinions. He can add the services. Admin can view the report of user interest that is chose by the users. Admin can cluster the individual user behavior. Admin can view the feedbacks given by the users. By analyzing the expert's opinions and the user comments, we know the importance of the particular field. We can capture the user needs and expectations easily and accurately. Social network is the important one for sharing the information quickly and can also get the response quickly. The user opinions are stored in the log files. Opinions of users can be varied or it can be closely related or relevant to each other. The information's collected from the user are their comments, user's ratings and their reviews. Admin can analyze these opinions and predict the user interest or behavior. Admin can produce the result in the form of graph. So we can view the status of the fields easily. At last, the particular result can be clustered or grouped together. We can group the result for the single query and thus admin know the user interest for the particular query. User ontology can be achieved in this module. Admin can view the particular field details here. Admin can generate the report based on the user reviews. He can generate the result in the excel sheet.

IV. ARCHITECTURE DIAGRAM



V. CONCLUSION

Regarding YA as a knowledge-oriented OSN, we have investigated the collective intelligence in the YA OSN in terms of OSN structure, user behavior and knowledge, and the knowledge base in a user's social network. The main contribution is an extensive trace-driven analysis of OSN structure, user behavior, user knowledge base and their relationships. From this analysis we find out the top contributors whose profiles indicate the general and details (Knowledge Categories) KCs they are knowledgeable in. By sharing the opinion in the online social network, it spreads easily and fast among the users. We can predict the user interest or behavior from the collection of users. By analyzing the user opinions, business applications can easily find out the user needs and satisfactions. It can also apply in other applications like sports, health and education.

VI. FUTURE WORK

In the future, we can extract the knowledge base of the non-top contributors by data mining their question and answer traces and investigate the relationship between their knowledge base and behaviors. We can analyze both the contributors and non contributors. From this we can predict both the behaviors.

REFERENCES

1. B. M. Evans and E. H. Chi, "An elaborated model of social search," *Inform. Process. Manage.*, vol. 46, no. 6, pp. 656–678, 2010.
2. L. Terveen, W. Hill, B. Amento, D. McDonald, and J. Creter, "Phoaks: A system for sharing recommendations," *Commun. ACM*, vol. 40, no. 3, pp. 59–62, 1997.
3. M. S. Ackerman, "Augmenting organizational memory: A field study of answer garden," *ACM Trans. Inform. Syst.*, vol. 16, pp. 203–224, 1998.
4. L. G. Terveen P. G. Selfridge, and M. D. Long, "Living design memory: Framework, implementation, lessons learned," *Human- Comput. Interaction*, vol. 10, no. 1, pp. 1–37, 1995.
5. E. Amitay, D. Carmel, N. Har'El, Ofek-Koifman, A. Soffer, S. Yogev, and N. Golbandi, "Social search and discovery using a unified approach," in *Proc. 20th ACM Conf. Hypertext Hypermedia*, 2009, pp. 199–208.