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COMPARING THE BASIC CONCEPT OF NETWORK ANALYSIS WITH SOCIAL NETWORK ANALYSIS

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ABSTACT

The rapid development of Social network leads to the heavy daily usage of users in Socialization and Communicating. It increases the social contacts by making connections through social media. The term Social Network Analysis is used to help the understand the basic concept of identifying how the peoples are interacting. So Social Network Analysis (SNA) is a method for visualizing our people and connection power, leading us to identify how we can best interact to share knowledge. This has lead to rise a question about the difference between network analysis and Social Network Analysis. The effort have been made in the scholarly journals are to provide evidence that Social Networking Analysis and Network Analysis. The purpose of the study is to discuss the comparative study of network analysis with SNA. In addition of this paper mention the individuality of Social Network Analysis and Its Software. This paper aims to provide specialty of Social Networking Analysis.

Keywords: Social Networking Analysis (SNA), Network Analysis (NA), SNA Software.

I.INTRODUCTION

Network analysis provides a vocabulary for describing structure and model that capture the common properties of all networks and a set of methods applicable to the analysis of networks in general. The concepts and methods of network analysis are grounded in a formal description of networks as graphs. Methods of network analysis primarily originate from graph theory as these are applied to the graph representation of network data. It provide a structural view based on the types and patterns of relationships emerge from individual connectivity and that the presence or absence of such types and patterns have substantial effects on the network and its constituents. The patterns of relationships may not only be used to explain individual performance but also to hypothesize their impact on the network itself. It also called network evolution. Network analysis also applies statistical and probabilistic methods and to a lesser extent algebraic techniques. Data collection of network analysis is typically carried out using standard questionnaires and observation techniques that aim to ensure the correctness and completeness of network data.

II.SOCIAL NETWORK ANALYSIS

Social network is a new term in communication world. It provide the social structure of network. Social network analysis (SNA) is the process of investigating social structures through the uses of networks and graph theories. SNA characterize network structures in terms of nodes such as individual actors, people, or things within the network and the ties, edges, or links according their relationships or interactions that connect them. Social structures commonly visualized through social network analysis include social media networks, memes spread, friendship and acquaintance networks, collaboration graphs and bio data etc.

Social network analysis is the mapping and measuring of relationships and flows between people, groups, organizations, computers or other information/knowledge processing entities. The process of social network analysis typically involves the use of questionnaires and/or interviews to gather information about the relationships between a defined group or network of people. The responses gathered are then mapped using a software tool specifically designed for the purpose. This data gathering and analysis process provides a baseline against which can then plan and priorities the appropriate changes and interventions to improve the social connections and knowledge flows within the group or network.

SNA is a different approach to social phenomena and therefore requires a new set of concepts and new methods for data collection and analysis. In a social networking Analysis the records and Data collection is carried out using the social interaction like publication databases, meeting notes, newspaper articles, documents and databases of different sorts are used to build a model of social networks. Social Network Analysis provides an avenue for analyzing and comparing formal and informal information flows in an organization. Finally Social Network Analysis is an approach to analyzing organizations focusing on a network-based view of the relationships between people and/or groups as the most important aspect.

III. GOAL OF SOCIAL NETWORK ANALYSIS

- Social Network Analysis is to shows the relationships between people and/or groups by means of diagrams.
- SNA is to study the factors which influence relationships such as the age, cultural background, and previous training of the people involved and also to study the correlations between relationships.
- SNA is to draw out implications of the relational data, including bottlenecks where multiple information flows funnel through one person or section, situations where information flows does not match formal group structure, and individuals who carry out key roles that may not be formally recognized by the organization.
- Social Network Analysis is to make recommendations to improve communication and workflow in an organization.

IV. SNA SOFTWARE AND NETWORK ANALYSIS SOFTWARE

Social Network Analysis Software is a software which facilitates quantitative or qualitative analysis of social networks. This SNA software describing features of a social network either through numerical or visual

representation. Social Networks can consist of direct linkages between nodes or indirect linkages based upon shared attributes, shared attendance at events, or common affiliations. SNA software generates these features from raw network data formatted in an edge list, adjacency list, or adjacency matrix also called sociomatrix, often combined with individual or node-level attribute data. Some SNA software can perform predictive analysis. This includes using network phenomena such as a tie to predict individual level outcomes, using individual-level phenomena to predict network outcomes such as the formation of a tie/edge or particular type of triad, or using network phenomena to predict other network phenomena.

The majority of network analysis software uses a plain text ASCII data format, some software packages contain the capability to utilize relational databases to import and/or store network features.

Network analysis software generally consists of either packages based on graphical user interfaces (GUIs), or packages built for scripting/programming languages. In general, the GUI packages are easier to learn, while scripting tools are more powerful and extensible. Widely used and well-documented GUI packages include NetMiner, UCINet, Pajek (freeware), GUESS, ORA, Cytoscape, Gephi, SocNetV (free software) and muxViz (opensource). Other SNA platforms, such as Idiro SNA Plus, have been specifically developed for particular industries such as telecoms and online gaming where massive data sets need to be analyzed.

Visual representations of social networks are important to understand network data and convey the result of the analysis. Visualization often also facilitates qualitative interpretation of network data. With respect to visualization, network analysis tools are used to change the layout, colors, size and other properties of the network representation. All of the tools above contain visualization capabilities. NetMiner, igraph, Cytoscape, muxViz and NetworkX have the highest level of functionality in terms of producing high-quality graphics. Interactive Data Visualization technology often includes social network analysis capabilities. In this technology, other forms of data visualization are used to interact with social network graphs. These forms of visualization include a variety of charting visualizations, tables, time lines and maps and the ability to display data in any of these forms while also applying functions to explore the data in an interactive user experience. For example, complex social network graphs can be filtered using summary chart visualizations or timelines to isolate portions of the social network graph that are of interest to the analyst.

Interactive Data Visualization Technology may also include the ability to integrate data and publish dashboards or templates to report results. Also worthy of mention are the variety of tools built primarily for network visualization, some of which also contain social network analytic features. These include general purpose visualization tools such as SocNetV and Tulip; tools designed for medical applications such as SocioMetrica; tools designed for law-enforcement and intelligence organizations such as i2 Analyst's Notebook, SilentRunner Sentinel, KeyLines by Cambridge Intelligence, SVAT and Sentinel Visualizer; tools designed for corporations and businesses such as NodeXL, RapidNet, Keyhubs, Idro, Ipoint, Polinode and Sonamine.

V. CONCLUSION

Networking Analysis provide a structure and model based on the types and patterns of relationships among the network and its constituents. Social networking Analysis is the process of investigating social structures through the use of network and graph theories. However this paper presents the basic concept of Network analysis and Social Network Analysis.

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