

Exploring Social Media through Formal Concept Analysis- Study of tweets on ‘Swacchata Hi Seva’ Campaign

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Abstract: Social media is proving a great factor and platform for getting the in time response on a particular topic. The digital social media interaction is increasing with the advent of time. In the given work a way is suggested to make use of analysis tools to understand the interactions and precious. Formal Concept Analysis is used to by means of Conexplorer. A response to a social statement on twitter is observed and analysed using Conexplorer.

I. INTRODUCTION

Informal organization investigation concentrates on examples of relations between and among individuals, associations, states, and so on. It plans to depict systems of relations as completely as would be prudent, recognize unmistakable examples in such systems, follow the stream of data through them, and find what impacts these relations and systems have on individuals and associations. Interpersonal organization investigation offers an extremely encouraging potential for breaking down human-human associations in online groups (exchange sheets, newsgroups, virtual associations) [1] Interpersonal organization examination depends on a suspicion of the significance of connections among communicating units. The informal organization viewpoint includes hypotheses, models, and applications that are communicated as far as social ideas or procedures. Alongside developing interest and expanded utilization of system investigation has come an agreement about the focal standards fundamental the system point of view. [2]

System investigation depends on the instinctive idea that these examples are vital highlights of the lives of the people who show them. System investigators trust that how an individual lives depends in extensive part on how that individual is tied into the bigger web of social associations. Many accept, also, that the achievement or disappointment of social orders and associations regularly relies upon the designing of their inside structure [3]

II. SOCIAL NETWORK

A Social network is a social structure made up of people (or associations) called "hubs", which are tied (associated) by at least one particular sorts of interdependency, for example, kinship, connection, normal intrigue, money related trade, hate, sexual connections, or connections of convictions, information or glory. Interpersonal organization

investigation sees social connections regarding system hypothesis comprising of hubs and ties (moreover called edges, connections, or associations). Hubs are the individual performing artists inside the systems, and ties are the connections between the performers. The subsequent chart based structures are frequently extremely intricate. There can be numerous sorts of ties between the hubs. Research in various scholarly fields has demonstrated that interpersonal organizations work on many levels, from families up to the level of countries, and assume a basic part in deciding the way issues are fathomed, associations are run, and how much people prevail with regards to accomplishing their objectives. In its least difficult frame, an interpersonal organization is a guide of indicated ties, for example, companionship, between the hubs being examined. The hubs to which an individual is along these lines associated are the social contacts of that person. The system can likewise be utilized to gauge social capital – the esteem that an individual gets from the informal organization. These ideas are frequently showed in an informal organization outline, where hubs are the focuses and ties are the lines. [4]

III. FORMAL CONCEPT ANALYSIS (FCA)

FCA is a connected branch of Lattice Theory, a scientific train which empowers formalization of ideas as essential units of human considering and breaking down information in the question trait shape. Started in mid 80s, amid the most recent three decades, it turned into a well known human-focused instrument for learning portrayal and information examination with various applications. FCA incorporate Information Retrieval with an emphasis on perception viewpoints, Machine Learning, Data Mining and Knowledge Discovery, Text Mining and a few others. It is apparent that FCA will be progressively depending on relevant learning and organized information and FCA can enhance both inquiry pre-preparing and question post

processing of present day IR frameworks. Among the said advancements that could advantage from FCA are question extension, web look expansion, ontology based data recovery, questioning and exploring RDF , and numerous others. In any case, the group needs to try to convey a far reaching FCA-based instrument for data recovery and incorporate it with existing inquiry and ordering considering both the characteristic many-sided quality issues and the issue of good highlights age.[5]

IV. RELEVANT STUDY

J. Blomberg et al in their paper entitled “Twitter and Facebook Analysis” clarifies two things, right off the bat, how to scan web-based social networking destinations for a particular arrangement of individuals, get together the openly accessible information, and present it in a process capable shape to the investigator? Besides, how following occasions on Twitter can enable us to comprehend antecedent action to occasions, for example, riots? The proposed plan helps in dissecting and understanding the informal communities and online networking as a rule. Quickly the paper chats on the ways one can get data from Online networking website like facebook and twitter. This paper additionally clarifies and accentuates on various and novel methodologies for web-based social networking recovery. The proposed component portrays how we can unite freely accessible online networking into a solitary interface. In worry with this four stages to manufacture web-based social networking application utilizing SNA are proposed viz – Client passage of information, find connections, envision the system and accumulate online networking are specified. This paper likewise talks about different approaches to screen the online networking by dissecting the things, for example, gathering verifiable information, break down recorded information and screen ongoing tweet stream for things of intrigue. [6]

Ralph Gross & Alessandro Acquisti in their paper entitled “Information Revelation and Privacy in Online Social Networks” mainly focused on patterns of information revelation in online social networks and their privacy implications. Online interpersonal organizations are both vaster and looser than their disconnected partners. It is workable for some individual's profile to be associated with several companions straightforwardly, and a great many others through the system's ties. Numerous people in a man's online broadened system would barely be characterized as real companions by that individual; in truth many might be finished outsiders. In presentation creator has clarified how Examples of individual data disclosure are variable, Right off the bat, the falsification of identifiability changes crosswise over various sorts of locales. The utilization of genuine names to (re)present a record profile to whatever remains of the online group might be supported (through

specialized particulars, enrollment necessities, or social standards) in school sites like the Facebook, that try to interface members' profiles to their open personalities. Besides, the kind of data uncovered or inspired regularly circles around side interests and interests, yet can walk from that point in various ways. Third, per availability of data is profoundly factor. Advance this paper additionally centered around Interpersonal organization Hypothesis and Security System hypothesis has additionally been utilized to investigate how removed hubs can get interconnected through moderately couple of irregular ties. Protection suggestions related with online long range interpersonal communication rely upon the level of identifiability of the data gave, it's conceivable beneficiaries, and its conceivable employments. Indeed, even long range interpersonal communication sites that don't transparently uncover their clients' characters may give enough data to recognize the profile's proprietor. Encourage this paper likewise examined about the sorts and measure of data uncovered. The Facebook offers clients the capacity to uncover an expansive and shifted measure of individual data.

By making the utilization of the data they gives on the web, clients open themselves to different physical and digital dangers, and make it amazingly simple for outsiders to make computerized dossiers of their conduct. In security suggestion part creator concentrated on individual information gave and restricting protection inclinations are sparingly utilized. Because of the assortment and lavishness of individual data uncovered in Facebook profiles, their perceivability, their open linkages to the individuals' genuine characters, and the extent of the system, clients may put themselves in danger for an assortment of assaults on their physical and online persona. Some of these dangers are normal likewise in other online informal communities, while some are particular to the Facebook.[7]

Kevin Lewis et al in their paper entitled “Tastes, ties, and time: A new social network dataset using Facebook.com” covers the potential of Internet-based communication technologies for improving network research. Writer here, clarifies two things, right off the bat, present another open dataset in light of controls and embellishments of a well known interpersonal organization site, Facebook.com. They stress five particular highlights of this dataset and feature its favorable circumstances and constraints opposite different sorts of system information. Furthermore, they introduces engaging discoveries from first influx of information. Subgroups characterized by sexual orientation, race/ethnicity, and financial status are portrayed by unmistakable system practices, and understudies sharing social connections and additionally statistic characteristics tend to share countless inclinations.[8]

V. PROPOSED SCHEME

In this section we describe the method in which we explore the association between entities and their attributes. We make use of formal concept analysis for understanding the concept and studying their relations and behavior. As prerequisite for the analysis we gathered the information from tweeter. We have used the tweets for a post from The Board Of Control For Cricket In India (BCCI). The tweet was regarding ‘Swachhata hi Seva’ movement during an international cricket match. The response tweets to this have been manually read and corresponding remarks have been made. Few attributes were pre assumed and corresponding views of the user were noted. This information was used to

create a lattice and identify the relation between various attributes. Conexplorer is used to form the lattice for given objects and attributes. Seven attributes viz. irrelevant, cricket, neutral, favour, PM, suggestion and against. The tweets relevance with more or more attributes was noted manually. Total 77 tweets were analysed and consequent attributes were marked. FCA analyses the relation and percentage contribution of the attributes. Also the categorization of tweeter with same opinion is well displayed. Note: The tweets are used only to study the FCA and its implementation and does not bear any intension to favour or oppose users opinion.



Figure1



Figure2

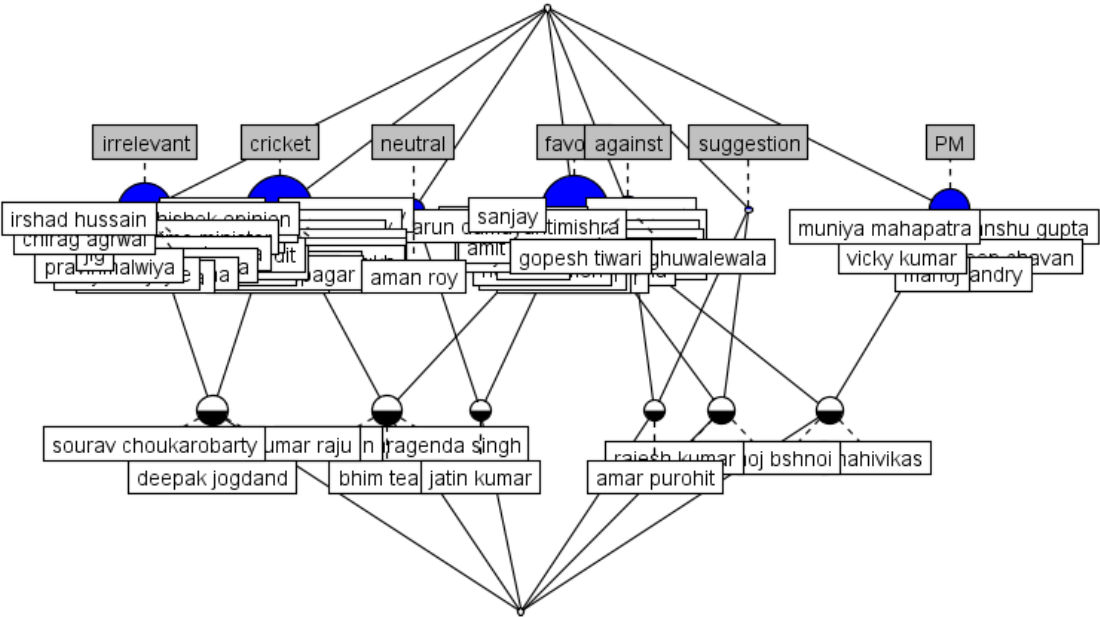


Figure3:Full Lattice

A	B	C	D	E	F	G	H
muniya ma...				X			
satya talat...	X						
hitesh	X						
noon mem...	X						
pratik jain	X		X				
sunny beni...	X						
jatin kumar	X					X	
yogesh pa...			X				
bhim team	X		X				
vibhash	X			X			
sanjit shar...			X				
irshad hus...							X
poll buzz			X				
sanjoy sanju	X						
sourav cho...			X				X
aanmol ku...	X						
dr pravin p...			X				
vicky kumar				X			
manoj				X			
mahivikas	X			X			
rahulvandry				X			
pradeep c...				X			
ruchi singh	X						
chirag agr...							X
sunil jangid			X				
jig							X
rajesh ku...	X				X		
pravinmal...							X
subhajit			X				
satyanavja...							X
rajdeep ku...			X				
ashvin			X				

Figure4: Sample marking of attribute

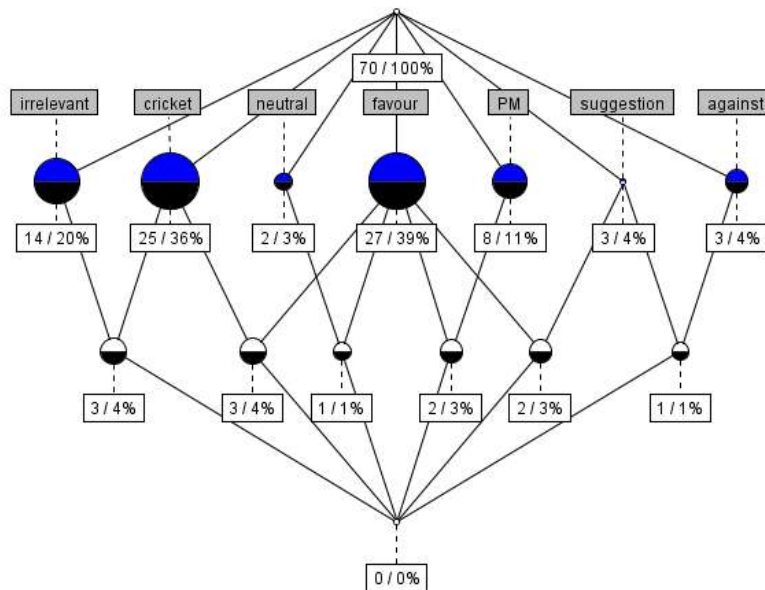


Figure 5: Number and percentage constituted by attributes

VI. CONCLUSION

It is evident from the generated graphs that the tweets(user) have various attributes. These attributes may be related or separate. The study shows the way in which tools like FCA can be used to understand the interactions of user on social media. It is worth mentioning that, the like opinion users are clubbed into clusters. As the number of interactions increases the repose of the concept becomes more evident and precise. Infuture we recommend the mathematical analysis of the concept.

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