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Research Article

Unveiling Twitter's Take: Researching #TurkeyQuake Response & Rehabilitation

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ABSTRACT

Approximately 45000 global deaths are caused by natural disasters annually, though the human impact in terms of injuries, homelessness, economic losses, and psychological impact is much larger. In the disaster aftermath, social media platforms such as *Twitter*, and *Facebook*, are often used by communities to stay connected, share experiences, and access vital information and resources as needed to support disaster response and recovery. *Twitter* with a user base of more than 350 million daily active users, has emerged as an excellent resource for communication under such circumstances. However, published evidence regarding the role of Twitter in the post-disaster scenario, especially in relief, recovery, and rehabilitation is very limited but promising.

The current study is an attempt to study the role of Twitter in the 2023 Turkey earthquake. using prominent hashtags. The positive, neutral, and negative frames of reference have been identified by using sentiment analysis. The techniques of discourse analysis and sentimental analysis were utilized for the study. The study reflected that Twitter has played an excellent role in disseminating information, advocacy, and coordinating relief and recovery operations, but it promotes negative discourse.

Keywords: Hashtag research, turkey earthquake, social media in disasters, disaster recovery, rehabilitation, Twitter during disasters.

Introduction:

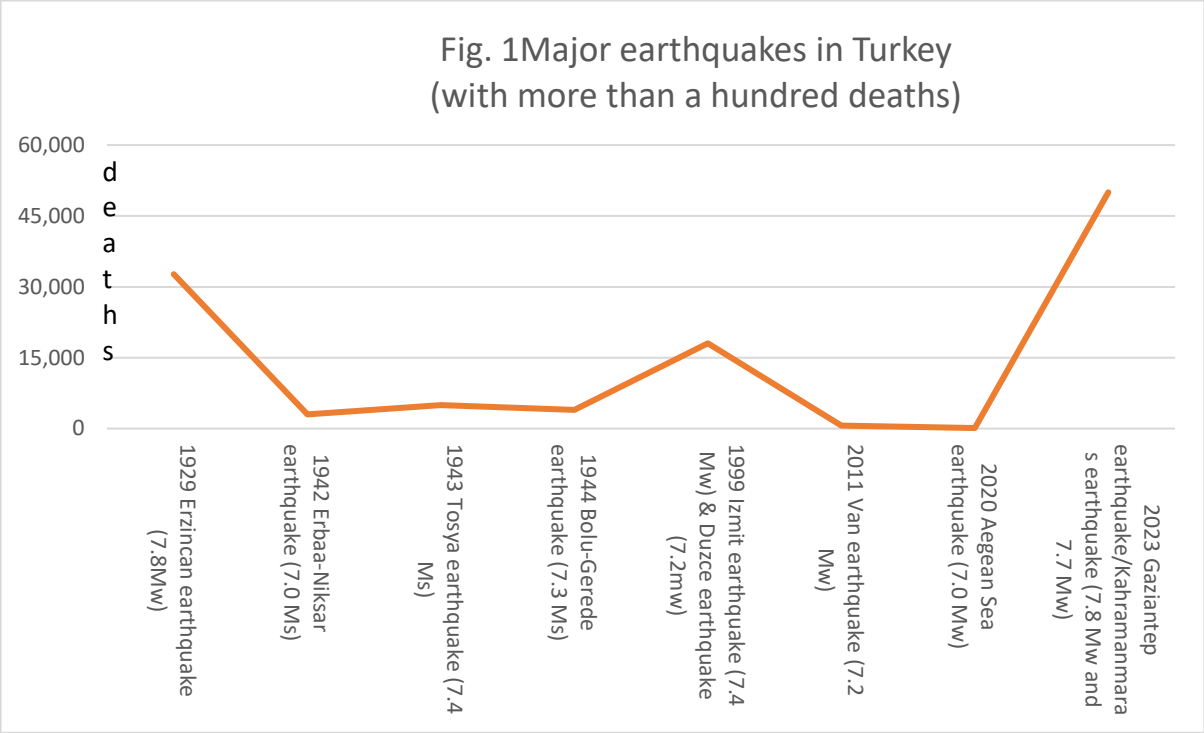
Earthquakes are considered as worst natural hazards which may develop into catastrophic disasters causing widespread devastation in an upward spiral & destroy life & property (Shah, 2020). Furthermore, earthquakes are the most unpredictable hazards and dangerous geological phenomena (Oral et al., 2015). According to the 'National Earthquake Information Centre,' more than 20,000 earthquakes of moderate to high magnitude hit the globe every year (USGS, 2022). According to, 'The global facility for disaster reduction and Recovery (GFDRR),' the earthquake caused extensive damage even more than the 1939 Erzincan earthquake.

On 6 February 2023, the earthquake in Turkey and Syria caused extensive damage and destruction to life and property. The 7.8 Mw devastating earthquake in Turkey and Syria created wreaking havoc in both countries. It shook the whole world with different sentiments and sorrowful stories of people who either died or were wounded. According to a World Bank report, the total damage due to the earthquake has been estimated at $34 million, including the damage to both residential and non-residential houses (Gunasekera et al., 2023).

The Historicity of Earthquakes in Turkey:

Turkey has a strategic location and is in high-intensity seismic zones. The country is surrounded by seismically active plates which consequentially makes Turkey vulnerable to high-magnitude earthquakes. Surrounded by African, Arabian, and Eurasian plates on the southern and northern sides respectively, the earthquakes in Turkey mostly occur due to the collision and tectonic movements of these plates. Geographically, central Turkey is the most seismically active zone because it is the middle point of the East Anatolian Fault (EAF) and the Arabian Plate, both plates being seismically hyperactive and part of the Alpide belt. The Alpide belt is

reportedly the second most seismically active belt only after the Ring of Fire in the Pacific region (Hidayat, 2023). The major earthquakes in Turkey and the casualties caused by those earthquakes have been graphically represented in Figure 1.



It provides an overview regarding the historicity of the Turkey earthquakes during the present and last centuries. The figure has clearly shown that Turkey is vulnerable to high-magnitude earthquakes which can prove catastrophic.

Social Media & Disasters

Media researchers have a critical role to play in examining the different facets of a disaster, especially in post-disaster reconstruction and rehabilitation. In this age of technological advancement and the age of fast internet, social media has played a phenomenal role in different disasters. However, the literature review consulted for this paper shows that there is certainly a need for a paradigm shift that is beyond the scope of the role of social media in disasters. This paper has bridged the gap between social media's role in the disaster aftermath and a deep understanding of post-disaster reconstruction and rehabilitation by comprehensively analyzing hashtags. Hashtag research is a new trend in studying research problems comprehensively. Hashtags are a special type of keyword (also referred to as metadata tag) which includes the symbol hash (#) as the prefix of the keyword (Chang & Iyer, 2012). Hashtag research means the analysis of specific and selected hashtags in research where the data is gathered And interpreted objectively from the hashtags (Casanova, 2022).
Hashtags include countless stories of the earthquake and the sentiment in the aftermath of the disaster. The present study has tried to gauge these stories and sentiments by using certain relevant methodologies to objectively interpret the content. However, social media and social networking sites are disseminating effective information regarding preparedness, recovery, and rehabilitation (Liu et al., 2016). Moreover, in recent years, social media has proved an efficient tool in earthquake preparedness, warning surveillance, and post-disaster reconstruction (Amiresmaili et al., 2021).

Literature Review

According to, 'Quantitative analysis of social media sensitivity to natural disasters', by Theja Bhavaraju et al, social media picturizes an event in a representational way and fabricates different sensitivity levels to produce diverse patterns of communication. The research enunciated the role of Twitter as a social sensor to build a consensus that determines the behaviors of humans in different types of natural disasters (Theja Bhavaraju et al., 2019). The different campaigns on social media activate the government and other policy actors. It has been witnessed that social media has effectively provided detailed information about relief and recovery in post-disaster reconstruction and rehabilitation (Yildiz & Demirhan, 2016).
In Turkey, multiple organizations get involved, from time to time, in volunteering during the crucial phases of a disaster. According to, 'Citizens' Involvement in emergency preparedness and Response: A comparative analysis of media strategies and online presence in Turkey, Italy, and Germany,' by Salvatore Scifo and Yusuf

Salman, the researchers identified not only governmental but also non-governmental organizations that reach to the citizens in the phases of post-disaster recovery and rehabilitation. The study enunciated that the involvement of citizens can fabricate the path in the identification of certain disaster responses vis-à-vis social media (Scifo & Salman, 2015).

According to the United Nations, the recovery phase focuses on the restoration of livelihoods and other facilities to decrease the effects of disaster risk factors. Moreover, it focuses on creating communities to rehabilitate the affected people in an improved fashion (United Nations, 2009). Since the advent of new communication and different facets of technological innovations, social media platforms have gravitated toward a community-driven approach to disseminate appropriate information vis-à-vis social interaction. Moreover, in the case of the *Soma mine* disaster in Turkey, social networking sites provided social support for the people. Twitter was the dominant social media network that people used after the disaster to disseminate information about the tragic disaster (Ozturkcan et al., 2023).

Information dissemination on different social media platforms has provided an important framework for e-governance (Banday & Mattoo, 2013). Consequently, it has fabricated the path toward government reform efforts all around the world. Social media has a variety of functions in disseminating information and communication determinism vis-à-vis socio-political events (Houston et al., 2015). Social media is an important platform to gauge the activities of leaders and influential personalities who by adopting certain frames in opinion expression execute the support exchange in the communication spectrum (Zhao et al., 2019). Social media is advantageous because it's faster, easier, and more reliable (Neubaum et al., 2014). In times of disaster and the aftermath of a disaster, social media is the fastest way to raise funds and campaigns for rehabilitation and reconstruction (Yildiz & Demirhan, 2016). Furthermore, social media provides a participatory and collaborative approach to the instrumentation of relevant data and capacity-building measures, especially in the phase of emergency and warning approaches (Zhang et al., 2019). Additionally, it highlights the urgent need for important frameworks to provide a supportive environment for disaster victims to bring the derailed system back on track (Smith & Wenger, 2007).

The reviewed literature has mostly considered emergency management and the parameters of disaster response. Also, the research has highlighted the burgeoning role of social media in analyzing different situations related to disaster response (Luna & Pennock, 2018). The other relevant research reviewed has entirely emphasized the value of social media usage in post-disaster scenarios (Alexander, 2014). However, the qualitative analysis of the content on social media platforms has not been enunciated well. Attempts have been made to identify different aspects of aid-seeking and aid-providing activities (Zhang et al., 2019) but the potential aspects of the post-disaster scenario were not examined well (Ogie et al., 2022).

Aim and Methodology

There are very limited studies available that have analyzed Twitter hashtags during natural disasters. Those studies have focussed entirely on the role of social media hashtags in disasters, and Twitter content have not been studied. The present study intends to draw a veil on pre-existing gaps to provide a significant and extensive discourse analysis of the content on Twitter vis-à-vis the recent earthquake in Turkey. The study can inspire future research for further advancement in the field of disaster recovery and rehabilitation.

The paper aims to provide insight into Twitter content using Hashtag analysis, studying different themes that are discussed later in the paper. The trending themes under the selected hashtags were studied to understand the purpose of trending themes. Consequentially, the study facilitated the path toward introducing new angles of discourse within the framework of the post-disaster scenario. The study used hashtags to examine why people use Twitter to discuss the 2023 Turkey earthquake, and also to investigate what perceptions are promoted using Twitter hashtags.

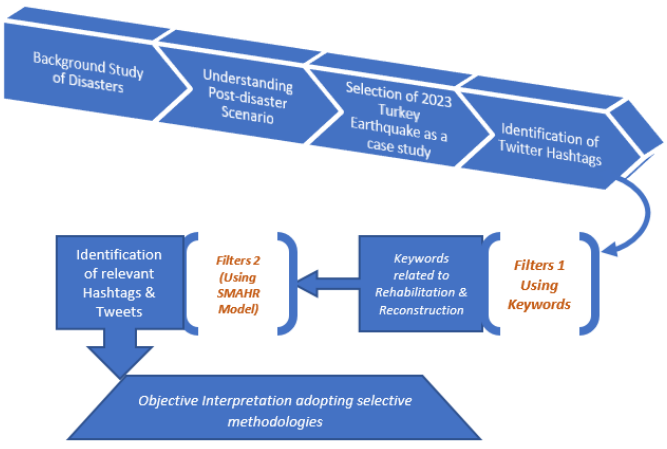


Fig. 2: Research Approach

The methods for the study have been holistically employed to study the discourse significantly. The positive, neutral, and negative frames of reference have been identified by using sentiment analysis. The sentiments and the relevant frames have been recorded by using a social media hashtag monitoring tool namely, Brand24. The positive, neutral, and negative sentiments have been identified based on the lexical features of the tweets recorded. The following methods were employed for the study:

Discourse Analysis: Discourse analysis gauges exemplification of grammar and focuses on the vocabulary analyzed or gauged to investigate features (e.g., lexical features) in the narratives of lived experience (Angermuller, 2015). Moreover, it is the technique where interaction, social practices, meaning-making, and large meaning systems in different settings are studied properly. Additionally, it addresses common questions which can be presented in an accessible and comprehensive way (Taylor, 2013). In the present study, the discourse analysis technique was employed to study the meaning of the content to characterize the purpose and objectives of the study.

Sentiment analysis: In a qualitative research method, the sentiment analysis technique is used to determine whether the content analyzed is positive, negative, or neutral. In the present study, the double methodology approach has been used because there is a need for a deeper understanding of not only the content analyzed but also the context and its specific functions. In the present study, the sentiment analysis technique has been used to gauge the content to allow a better understanding of the overall perceptions of the situation.
The use of hashtags was first enunciated by Chriss Messina, an American blogger, in 2007 (Parker, 2011). The data gathered from the trending hashtags were identified and examined. In the preliminary phase, seven hashtags were identified, out of which 5 hashtags were selected that had strong relevance to the study. The hashtags were studied for a month i.e., 20th February to 20th March 2023. Fig. 3 explains the approach.
The following hashtags were identified for this study: -

a) #TurkeySyriaEarthquake
b) #TurkeySyriaEarthquake2023
c) #OperationDost
d) #earthquakeinturkey
e) #turkeyquake

The hashtags were analyzed using the SMAHR framework, which recommends removing irrelevant and confusing tweets to understand the main context of the hashtag. This process is called *data cleaning*. Then the relevant hashtags were studied by analyzing their lexical features using *discourse analysis*. The data collected has been homogenized by using the second process of the SMAHR model; known as data homogenization. The hashtags included content that encapsulated different facets of the Turkey disaster. However, the researchers selected the specific and relevant tweets of post-disaster reconstruction and rehabilitation. This process is called *data homogenization*. The researchers selected the data based on the tools and frameworks of Social Media Analysis on Hashtag Research (SMAHR). The *data selection* is a crucial process and the researchers focused on analyzing hashtags and the content by the basic essence of the SMAHR model and the methodologies used for the study. The sentiment analysis technique provided great support for the content analyzed and Brand24, an online media monitoring tool used for analysis helps in the assessment of the performance of monitored keywords. It also possesses significant features for Hashtag monitoring and Sentiment Analysis (BRAND24, 2023). A few pictures posted with the selected hashtags are also included in the paper.

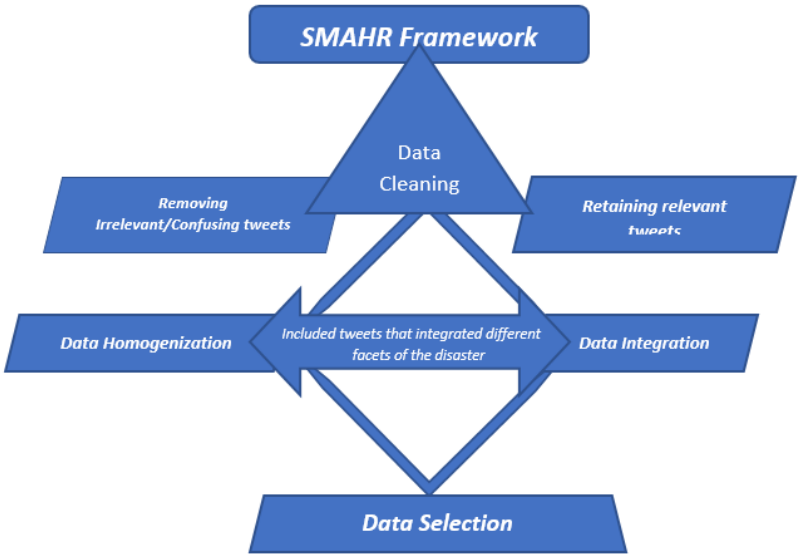


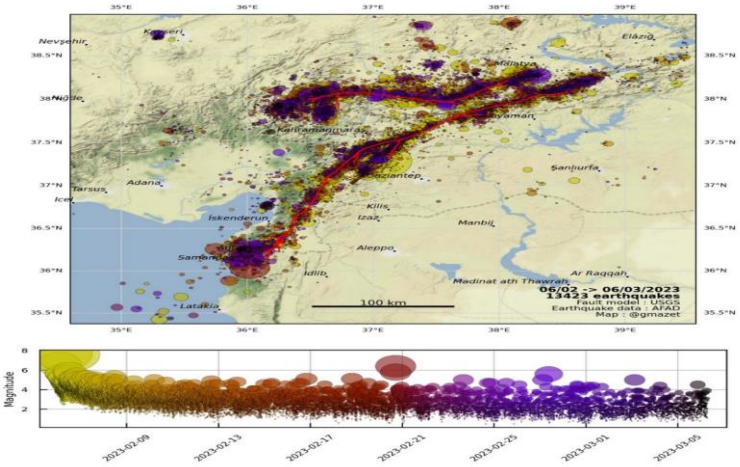
Fig.3: SMAHR Framework adopted for the study

Analysis of #TurkeySyriaEarthquake:

The hashtag (#TurkeySyriaEarthquake) included 99 tweets on Twitter, out of which 73 tweets are having neutral sentiment and 11 are having positive sentiment & 15 reflect negative discourse. About 60% of the content completely focused on post-disaster recovery, reconstruction, and rehabilitation phases based on the lexical features studied. The relevant tweets under the hashtags were qualitatively analyzed using discourse analysis and sentiment analysis.
The Turkey earthquake was of a huge magnitude of 7.8 Mw on the Richter scale and proved disastrous for both Turkey and Syria. About 80% of tweets reflected the magnitude of the earthquake. The researchers selected the

prominent tweets that were either from reliable sources or reflected the post-disaster reconstruction phase concisely. The best illustration in this regard is that in the reconstruction phase, the Turkey-Syria earthquake costs $100bn approximately. International organizations like the United Nations used the Twitter platform to disseminate information and expressed their concern about the increase in cost. Moreover, there were tweets about the campaigns to rebuild Turkey and Syria supporting economically (Kaveri, 2023). The earthquake resulted in more than 50,000 deaths in both countries and millions are homeless (DESK, 2023).

In the post-disaster reconstruction and rehabilitation of the Turkey-Syria earthquake, many international, non-governmental, and media organizations used Twitter as a tool to reflect positive messages. One such example is the tweet of UNDP on 20th March 2022 in which the organization shows its commitment to establishing certain assets to build the community in both Turkey and Syria back on track. Many non-governmental organizations called for support so that the organizations can help the people of Turkey and Syria in these turbulent times. Action-Aid (a non-governmental organization fighting for women's rights and climate challenges) used the hashtag #TurkeySyriaEarthquake vis-à-vis Twitter to spread information about the effects of the earthquake and the rescue operation. Media organizations also used Twitter to disseminate positivity through their opinion and analysis. Syndication Bureau, an opinion and analysis service, enunciated expressions like *"Turkey will rise again."* These expressions created the path toward hope and stability.



Source: Gilles Mazet-Roux, updated map of aftershocks of #TurkeyEarthquake with a reversed color scale to better highlight recent events [@gmazet], (2023 March 13) [Tweet], [Twitter]

The prominent media organizations also reflected the failure and incompetencies of the governmental agencies in Turkey. The government of AFAD was criticized for not using comprehensive strategies in the reconstruction and rehabilitation processes. The people associated with earthquake recovery have no relevant degrees or experiences in the field. Thus, the comprehensive strategy for post-disaster recovery and rehabilitation is not fast enough (Cramer, 2023). The hashtag #TurkeySyriaEarthquake also reflected the love towards animals emotionally. Moreover, in the post-disaster phase of disaster management, not only humans but also animals were rescued to save their precious lives. Organizations like PETA (People for the Ethical Treatment of Animals) posted pictures and videos of cats and dogs which were rescued.

Using Twitter and the hashtag #TurkeySyriaEarthquake, Seismologists tweeted valuable information about aftershocks. Gilles Mazet-Roux, a researcher in Seismology, tweeted that more than 13000 aftershocks were witnessed and recorded in February and March.

Analysis of #TurkeySyriaEarthquake2023:

The hashtag (#TurkeySyriaEarthquake2023) included 100 tweets on Twitter, out of which 25 tweets had a positive sentiment, 58 had neutral sentiment, and 17 were having negative sentiment. About 70% of tweets entirely focused on rescue, volunteerism, appreciation, post-disaster reconstruction, and rehabilitation parameters. The relevant tweets under the hashtag were qualitatively analyzed.

Source: SODEM- Association of social democratic municipalities

The researchers analyzed that the hashtag #TurkeySyriaEarthquake2023 reflected some tweets which were projecting gender neutrality. Such tweets were posted on 'International Women's Day, being observed on March 8 every year. The tweets enunciated that the female volunteers started working tirelessly to execute the rescue operation efficiently and effectively. The keywords like *Women's international day, volunteers, and Appreciation* were repeatedly used in these tweets, highlighting the role of women in disaster recovery and rehabilitation. It also depicted the enthusiasm with which women participated in the rescue, rehabilitation, and reconstruction phases. Most of the volunteers were appreciated in the posts on this occasion. Moreover, many fundraising organizations started different initiatives to rehabilitate the victims. One such example is, Crisis Aid, a fundraising website, which used the hashtag #TurkeySyriaearthquake2023 and started an initiative of collecting funds to rehabilitate and rebuild many areas in Turkey.

According to the report of India Weekly (Indiaweekly, 2023), Indian Americans started different initiatives of raising funds by asking people to donate to rebuilding and rehabilitating Turkey & Syria. They raised over 300K for the victims in Turkey and Syria. Dr. Hemant Patel, former president of the AAPI (American Association of Physicians of Indian Origin), has raised over $230,000. Moreover, Sewa International Houston's AmeriCorps team supported the victims in both Turkey and Syria by organizing different donation drives effectively (Ghosh, 2023).

The hashtag reflected the role of SODEM (Association of Social Democratic Municipalities Sosyal Demokrat Belediyeler Derneği) comprehensively which posted multiple tweets mentioning the role of progressive Turkish municipalities in helping the victims of the earthquake in Turkey.

Analysis of #OperationDost:

Many nations contributed to the relief and rehabilitation operations in Turkey, and Twitter handles & Hashtags were created to spread awareness and promote such initiatives. One such prominent hashtag was studied for this paper i.e., #OperationDost, a Twitter Hashtag created by India. The 70 tweets of the hashtag (#OperationDost) on Twitter were studied, out of which 44 tweets were having neutral sentiments and 14 were having positive views. About 20% of tweets focused on post-disaster scenarios whereas 60-70% focused on rescue operations. The word *'Dost'* has the same meaning in Turkish and Hindi languages respectively. It was a medical mission; India successfully executed it and left no stone unturned to help the people

Source: Polstrat [@teampolstrat] (2023, March 25) *India's overseas Goodwill outreach: Devastation in Turkey and Syria.* #Polstrat lists the various times #India provided a helping hand in times of disaster [Tweet]. [Twitter]

The NDRF (National Disaster Response Force) provided humanitarian assistance and executed relief & rescue operations in various parts of Turkey under the project #OperationDost. As per the tweet, the NDRF team carried out rescue operations for more than 20 hours daily and rescued hundreds of people in the Antakya and Nurdagi cities (Kumar, 2023).

The hashtag reflected the contribution and success of Operation Dost. Under the #OperationDost project, India sent 2 teams comprising 100 personnel NDRF rescue forces who were accompanied by dog forces to carry out the search and rescue operations in Turkey. Furthermore, free medical assistance was provided with efficient doctors and paramedical staff respectively. The tweets with the hashtag #OperationDost also provided statistical information about relief, recovery, and rehabilitation operations in India. While, a good amount of information regarding the ground scenario, needs-at-ground, opportunities, and threats was provided using this hashtag but more of the information provided using this hashtag during the study period was promotional, promoting the operations of the country. One such image posted with this hashtag is included here, which provides information about the devastations caused due to earthquake with the support provided by India.

Analysis of #earthquakeinturkey

The hashtag (#earthquakeinturkey) included 100 tweets on Twitter, out of which 62 tweets had neutral sentiment, 16 had positive sentiment and 22 were having negative sentiment. About 40% of tweets focused on reconstruction and rehabilitation mechanisms. The tweets focussing on relief and rehabilitation were qualitatively analyzed. The tweets mostly reflected on the magnitude of the earthquakes and their repercussions.

Prominent media channels used Twitter and the hashtag #earthquakeinturkey to spread the information as the hashtag was trending on 20th February 2023. The tweets mostly focused on the aftershocks and destruction of buildings. The trending hashtag disseminated information in a well-crafted way and presented the bird's eye view of the devastation and destruction caused by the aftershocks. Moreover, many tweets used the hashtag to disseminate relevant information about seismologists. One such example has been presented below: -

This hashtag and its tweets reflected the vulnerability of earthquakes in Turkey and Syria. A geomorphologist, Tolga Gorum, using the hashtag reflected landslides as one of the consequences of the earthquake. The tweet reflected the status of different landslides that occurred due to aftershocks of the earthquake. Furthermore, it has been identified that an avalanche of fallen rocks (rockfall) caused massive landslides (100 m deep) in Gaziantep and its adjacent areas.

The tweets mostly focussed on providing solidarity and expressing grief. Different reputed colleges including Imperial London College expressed grief over the loss due to the earthquake in Turkey and Syria. According to @newsgrabb (newsgrabb, 2023) Turkey spent $220 million to rehabilitate the people who survived the earthquake. The hashtag also contained certain tweets where the political career of Erdogan was discussed titled, *"Is this the end of erdo?"* Such questions can gravitate the minds of people toward the relationship between natural disasters and the failure of governance.

Analysis of #Turkeyquake

The hashtag (#turkeyquake) included 99 tweets on Twitter, of which 83 tweets had neutral sentiment, 14 had positive sentiment and 16 were having negative sentiment. About 70% of tweets entirely focused on the effect, rescue, and rehabilitation phases.

The hashtag was trending in the month of February because different diplomats and delegations of the European Union arranged conferences and used the Twitter platform for earthquake aid. Additionally, the hashtag included tweets that reflect the responsibilities of the current political regime.

The tweets under the hashtag #Turkeyquake mentioned the series of earthquakes and some organizations used the hashtag to deliver their concern regarding the aid and rehabilitation of Turkey & Syria. Different finance institutions used the hashtag to show their solidarity and support with Turkey & Syria. The Tweet of one of the crowdfunding finance organizations namely, Vent Finance, tweeted, *"Vent is one global family. Our hearts, thoughts, and prayers are with our community in Turkey and Syria at this difficult time."* The words like *hearts, thoughts, prayers* and one *family* exclusively reflect the lexical features of the positive sentiment frame.

Discussion and Results

Under emergencies like disasters, Twitter provides multiple services that include information dissemination, warning alarms, advocacy, risk communication, weather analysis, fundraising, assisting in exploring possibilities for collaborations, and many other such functions (Seddighi, Salmani, & Seddighi, 2020) through the 280 characters message (including glyphs, spaces, URLs, hashtags, and emojis) (Woell Marine, 2022). These functions are vital for designing and implementing interventions post-disasters, which makes its analysis very critical. This paper is based on the findings derived from the analysis of 468 tweets that were posted one month after the Turkey February earthquake. The selection of the tweets was made based on the trending hashtags during disaster relief, recovery, and rehabilitation.

All the hashtags include the data (text, image, videos, etc.) which provided comprehensive information on the post-disaster scenario of the disaster, which is also one of the objectives of the study. Discourse and Sentimental analysis techniques were done using the lexical features of the tweets posted with selected hashtags. It was revealed that about two-thirds (65.4 %) of the tweets posted with the selected hashtags present neutral discourse that focused on information dissemination and recovery and relief operations.

Hashtag #	Tweets	Positive (No./%)	Neutral (No./%)	Negative (No./%)
#TurkeySyriaEarthquake	99	11 (11.9)	73 (73.7)	15(15.15)
#TurkeySyriaEarthquake2023	100	25 (25)	58 (58)	17 (17)
#OperationDost	70	14 (20)	44 (63.9)	12 (17.1)
#earthquakeinturkey	100	16 (16)	62 (62)	22 (22)
#turkeyquake	99	14 (14.1)	69 (69.7)	16 (16.2)
Total	468	80 (17.1)	306 (65.4)	82 (17.5)

The positive, negative, and neutral sentiments were gauged on the lexical features of the discourse. The sentiment analysis was done in congruence with the identification of keywords (Filter 1). The Keywords such as *rehabilitation, reconstruction, recovery, community building, relief,* etc., provide positive sentiments. Keywords like *disaster, devastation, destruction, aftershocks, landslides,* etc., are gravitated in terms of negative sentiments. Keywords like disaster response, mild earthquake, the science of earthquakes, illustrations, weather predictions, support in an earthquake, etc. provide neutrality in the sentiment. Because the keywords not only contain positive lexical features but also negative sentiments; this lexical dichotomy in the sentiment analysis has been mostly recorded during the study timeline.

The analysis revealed that an almost equal number of tweets using the selected hashtags portray positive and negative discourse, though the tweets with negative discourse (17.5%) are slightly higher than the posts with positive discourse (17.1%). The positive tweets instill hope, encouragement, togetherness, and redevelopment using terms like rebuilding, good-hearted people, productivity, dost (meaning friend), reconstruction, flowers, and hopes. These tweets emphasized hope, and productivity and contribute to psychological rehabilitation also. Though limited, there were tweets, that portrayed women's contributions in disasters also. On International Women's Day, the hashtags (#TurkeySyriaEarthquake) reflected the contribution of women and their way of helping the people of Turkey and Syria. The hashtags comprehensively projected the disaster and invited the attention of various international relief and rehabilitation organizations. Thus, the selected tweets could reflect positivity and neutrality in discourse.

The tweets with negative discourse hopelessness, dejection, and discouragement using terms like rubble everywhere, blood & tears, frustrated, mourning brink of death, devastations, horrific and deadly. Table 1 gave an overview of the discourses presented in different tweets with selected hashtags.

The hashtags were predominantly used in the tweets posted for fund-raising initiatives at both national and international levels. These hashtags were used with the organizations like Crisis Aid, Sewa International, SODEM (Association of Social Democratic Municipalities, Sosyal Demokrat Belediyeler Derneği), Imperial College London, and Vent Finance. Moreover, different diplomatic and international organizations/ unions deliver their rehabilitation initiatives. Authentic and reputed organizations like the United Nations and European Union have also used selected hashtags to disseminate information about the conferences on the disaster situation in the post-disaster scenario. The hashtags effectively and efficiently highlighted the tweets of prominent seismologists like Gilles Mazet-Roux. The data and numerical information of the seismologists helped a lot in understanding the discourse. The hashtags enunciated different maps of the earthquake and its aftershocks which helped the researchers in understanding the full-scale devastation of the earthquake.

As Twitter has a huge user base, it has been largely useful in the social and psychological rehabilitation of disaster victims, besides encouraging collaborations in relief, recovery, and rehabilitation operations. However, the negative impact it can cause should also not be neglected. As the number of negative discourse tweets was found more than the positive discourse tweets, the tweets with positive discourses often get shadowed due to the huge traffic of other tweets. Though the numerical data was not gathered for all the tweets, the analysis of two dozen tweets with the selected hashtags revealed that the tweets with promotional and attached emotional videos have invited more re-tweets than other tweets.

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