

SOCIAL MEDIA BASED PLATFORM FOR COMMUNITY MOBILIZATION AND MOTIVATION DURING AND POST PANDEMIC

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CERTIFICATE

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ABSTRACT

The corona pandemic has forced us to remain indoors. All our outdoor activities somehow have to be curtailed or we need to adopt to a new method of carrying out those activities while remaining indoors. Community mobilization, awareness and perception management by traditional means now have to adopt online means. Certain social media platforms have reached even the remotest corner of the country. Facebook is a very popular social media platform used even in the remote North Eastern Region of India like Manipur. Among the social media platforms, Facebook is the most popular. The impact of social media uses in consumer perception management, for propaganda, as an effective alternative tool for social mobilization and as a tool for higher studies have been widely studied. Streamyard is a web-based live streaming studio that is cloud-based and can unite remote guests and share computer screens. It enables video sharing streaming directly to Facebook, YouTube, Periscope, Linked In live. The Pangals have been in Manipur since 615 AD, although the majority of them arrived in 1606 AD and were given the local Meitei, the original Manipuri women to marry. The Pangals have migrated to other states and also to Bangladesh during the seven-year devastation (1819 -1826 CE). The Pangals follow Islam and they have a unique and original culture which has resulted from adopting the local Meitei culture so the Pangals become one of the original inhabitants of Manipur. There are instances of stereotyping against this community. The socio-economic status of the community is very low and the number of educated individuals are also very less compared to other communities. The motivation of youngsters through the success stories of pioneers in the community is a proven method. In this research work, the case study of perception management by mobilising through awareness campaigns with social media post, web talk, and online streaming of interviews of successful people of Pangal community have been carried out. The analysis of the case study is carried out through an online survey and opinion mining through the scraping of Facebook comments. The data collected is recorded in a web portal, called Pangalpedia. Pangalpedia is based on the MediaWiki platform similar to Wikipedia. Data collected in this portal will be used for further work in future. A methodology of community mobilization, motivation and perception management using Facebook and its validation through opinion mining and online survey has been proposed in this thesis. This methodology can be employed in the various domain in Business, Education, Government, Health and General Public Mobilization for Social Changes.

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LIST OF SYMBOLS AND ABBREVIATIONS

SM – Social Media

LSA – Lilong Sports Association

NPO – Non-Profit Organisation

SNS – Social Networking Sites

AI – Artificial Intelligence

ANN – Artificial Neural Network

ML – Machine Learning

TF – Term Frequency

TF-IDF – Term Frequency Inverse Document

MND – Multinomial Naïve Bayes

SVM – Support Vector Machine

RNN – Recurrent Neural Network

CNN – Convolutional Neural Network

VADER – Valance Aware Dictionary sEntiment Reasoner

UGC – User Generated Contents

RTMP – Real time Messaging Protocol

HTTPS – Hypertext Transfer Protocol Secure

TLS(SSL) – Transport Layer Security(Secure Sockets Layer)

DTLS – Data Transport Layer Security

LIST OF SYMBOLS AND ABBREVIATIONS

AES – Advance Encryption Standard

CSRF – Cross-Site Request Forgery

XSS – Cross-Site Scripting

PTM – Pangal Thawanmichak (Pangal Star)

CELTA – Certificate in English Language Teaching to Adults

IDO – Integrated Development Organisation

AMU-AAM – Aligarh Muslim University Alumni Association Manipur

MMOF – Manipur Muslim Online Forum

ABA – Athletics Brothers Association

KIYC – Kshetri Iril Mapal Youth Club

PYC – Phoudel Youth Club

AKSA – All Kwakta Sports Association

PYA – Progressive Youth Association

TMYSC – Tairen Makhong Youth Sporting Club

CCYPAC – Chingkhram Chingning Young Progressive Athletic Club

LCAA – Literary and Competition Awareness Association

CHAPTER 1

INTRODUCTION

The corona (Covid-19) pandemic has forced us to remain indoors, thus all our outdoor activities somehow have to be curtailed or we need to adopt a new method of achieving goals by remaining indoors. Community mobilization, awareness and perception management by traditional means have to adopt online means. Certain social media platforms have reached even the remotest corner of the country. Facebook is a very popular social media platform used even in the remote North Eastern Region of India like Manipur. Using Facebook for community mobilization is much faster than email [1]. Facebook is primarily used for social purposes [2]. Among the social media platforms, Facebook is the most popular [3]. The impact of social media on consumer perception management is widely studied. Social media can be successfully used for propaganda and perception management [4]. Social media can become an effective alternative tool for social mobilization [5].

1.1 STREAMYARD WEB-BASED LIVE STREAMING PLATFORM

StreamYard is a web-based live streaming studio that is cloud-based and can unite remote guests and share computer screens. It enables video sharing streaming directly to Facebook, YouTube, Periscope, Linked In live. [6]

1.2 THE PANGALS

The Pangals have been in Manipur since 615 A D, although the majority of them arrived in 1606 AD and were given the local Meitei, the original Manipuri women to marry [7]. The Pangals had migrated to other states and also to Bangladesh during the seven-year devastation (1819 -1826 CE). The Pangals follow Islam and they have a unique and original culture which has resulted from adopting the local Meitei culture so the Pangals become one of the original inhabitants of Manipur. Out of total 60 Manipur Legislative Assembly constituencies, Pangals inhabited villages/towns fall in 26 Assembly segments. Their socioeconomic conditions in comparison with other communities in Manipur is bad. The educational status have slightly improved from 2001 Census figure of 58.6% to 70.5% in 2011 Census. The status of girl's education have improved, now there are quite a few girls topping in graduate and post-graduate courses. They are also undergoing higher education doing PhD and quite a few of them are doing various professional courses. Three girls recently topped the MBBS entrance test beating other communities. Girls have been selected in competitions for recruitment of Assistant Professor conducted by Manipur Public Service Commission. However, the participation in politics by Pangal women is very limited. Not a single women have been elected in Manipur Legislative Assembly. In Panchayat level quite a few of them are elected. Ms Hasina is the first Adhyaksha of a district among the Pangals.

1.2.1 Contributions of Pangals

Pangals brought the Arabic, Persian and Bengali scripts that helped establish Manipur as a civilized community in the comity of ethnic and racial peoples and identities. Both Meitei identity and Muslim identity were separately preserved even as they intermingled and intercourse with time. Loan words, existing occupational particularities, cultural markers, undying religious ethos and their very interactions within and without Manipur are testimony to this civilization component of the Muslim community. They were such a vibrant community that by 1606 AD there are records that they had their own Muslim Personal Law Board which is unique in the whole of the Indian Peninsula and even in the eastern world taken together. They brought medicine practitioners, identified medicinal plants, enriched flora and fauna, brought mango, dates etc among such items. They also brought civilizational item as “transplantation” of rice cultivation that ensued after the wide cast of rice seeds in arable soil with and without water according to seasonal patterns and availability of water. Muslims had a sufficient self-relying economy that helped to establish Manipur as a self-sufficient economy as a whole. But in the wider perspective, no society or civilization is self-sufficient without interaction with the outside worlds in all walks of life, social, economic and political [7]. During king Khagemba’s reign, there were great agricultural development and Manipur society were a more diverse and plural society with the settlement of Pangals. Pangals contributed to the enrichment of the economy and cultural life of Manipur. Thus Pangals enjoyed equal social status as other communities [8].

1.2.2 Educational Status of Pangals

The Muslims of Manipur did not give much importance to education (General Education) earlier but after realizing the significant importance of education, the children were encouraged to go to schools and colleges. There was a tendency of only males achieving higher educations and most girls drop out or just leave education after matriculation. However, the outlook has changed and girls’ education is equally emphasized now. The literacy rate of the Muslims of Manipur in Census 2001 was found to be 58.6% as against Manipur State’s literacy rate of 70.5%. The literacy rates for male and female Muslims were 75% and 41.6% respectively as against the state’s rate of 80.3% and 60.5%. Among the dropout students aged 5-14 years, 26% of the students discontinued due to heavy pressure of household activities and 21% could not continue their studies due to economic reasons[9]. In 2011 Census the literacy rate of Pangal improved to 70.5% overall (male – 80.3% and female- 60.5%) against the state’s rate of 76.94% overall (male - 83.58% and female - 70.26%). The contributions of Pangal CSOs like Literary and Competition Awareness Association (LCAA) now merged with Integrated Development Organisation (IDO), Aligarh Muslim University Alumni Association Manipur (AMU-AAM), Manipur Muslim Online Forum (MMOF), All Manipur Meitei Pangal Welfare Association (AMMPWA), All Manipur Muslim Students Organisation (AMMSO), All Manipur Muslim Girl Students’ Union (AMMGSU) and others in improving the educational status of Pangals are plausible.

1.2.3 Pangals in Sports

Many Manipuri Muslims have participated in games and sports at state and national levels on record since 1949. Some of them were selected for the Asian games, SAARC games, Commonwealth Games but it is disappointing that due to the state government's apathy in Visa problems ruined their chances of participation. Many Muslim youths were selected or employed mainly in the Security Forces and some State Government departments. The contribution of one particular club, "*Lilong Sports Association (LSA)*", is commendable. It has assisted and trained athletes whose achievement certificates helped them in getting jobs in the Central Agencies and State Departments [10]. Some other Pangal clubs which had produced National and International players are Athletic Brothers Association (ABA), Kshetri Iril Mapal Youth Club (KIYC), Phoudeh Youth Club (PYC), All Kwakta Sports Association (AKSA), Progressive Youth Association (PYA), Chingkhame Chingning Young Pioneer Athletic Club (CCYPAC), and Tairen Makhong Youth Sporting Club (TMYSC). Abdullah was a legendary Pangal Polo Player of world fame, Ziauddin and Zaheruddin are two National Volleyball Players. Fatima Begum Yumkhaibam was an International Pangal Women Football Player. The younger generations are equally contributing in Manipur being the "*Power House of Sports in India*".

1.2.4 Pangals in State Administration

The participation of the Pangals in the administration of the state is described by Salam Irene, in the introduction of her book [11] "*The Muslims of Manipur*" as follows :
"From among the Muslims who came to Manipur in 1606 AD, the King appointed Muhammed Shahni as one of the 'Pongba Tara' (Ten Ministers). He was the first Muslim to be so appointed. Separate administrative departments were set up for the governance of the Muslims; like the Mangkan Shang and the Pangal Shanglen. Each Muslim Khul (village), had a Muhallah attached to the Masjid. A Muslim Panchayat was also constituted in 1891-92 with five Muslim members. When Maharaja of Manipur constituted a Manipur State Constitution Making Committee on 12th December 1946 of fourteen members, one member was a Muslim. So also in the Interim Council of 1947, Maulvi Bashiruddin Ahmed was made a minister. According to the Manipur State Constitution Act of 1947; the state assembly reserved three seats for Muslims. In the election to the State assembly in 1948, five Meitei-Pangals were elected. And when Manipur attained Statehood, Muhammed Alimuddin was elected as the first Chief Minister. Ever since a Muslim has always held one or more cabinet rank since 1972. Muslim women however played no direct role in administration, governance and politics till very recently although they have participated in the Nupi Lan of 1939 (Women's War) and mass movements such as those to preserve the territorial integrity of Manipur and to prevent human rights violations. However, because of their late state in education, the Muslims are largely a backward community and there is requirement of special programmes to ensure them a rightful position in society." Out of the 60 members Manipur state assembly up to 31 percent reservation in all government job and 20 seats exclusively reserved for the 29 officially recognised tribal groups. However, there is no reservation for Pangals in Manipur state assembly and only 4% reservation in government job and professional course are given [12].

1.2.5 Socioeconomic Status of Pangals

The socio-economic status of the community is very low compared to other communities. 69% Pangal household has no drainage system. 8.78% of the Pangals inhabited villages doesn't have domestic electric connection. Majority of households monthly income are less than Rupees 2000/- per month. The average monthly per capita expenditure is Rupees 474/- . Only 5.49 % of Pangal inhabited village have access to safe drinking water. 62.11% of the villages inhabited by Pangals does not have irrigation facility. 62.0% of the total household lives in Katcha house. 71.31% of the total population are out of the labour force. Moreover, 90 % of female are outside the labour force. Among the male 50.25% work as self-employed and 21.39% worked as regular salaried/wage employee. In the case of female 41.40% are self-employed and 35.31% are working as household unpaid helpers. 40.27% are engaged in Agriculture. The result of the Socio-Economic Survey 2004, shows that the economic condition of the Pangals community is not sound. With the higher percentage of low-income house-hold, most of the income is spent on consumption leaving little scope for saving and investment[9].

1.2.6 Stereotyping of Pangals

Of late Pangal faced discrimination, marginalised, stereotyped by political actors and fellow Manipuri. The common stereotypes held by Meitei and other non Pangals is that they are anti-social and prone to thievery. There are instances of stereotyping against this community. In the 1993 Pangal Massacre 130 Pangals were killed [13]. Md Hasmad Ali, a primary school teacher was killed alleging as cow theft [14]. In the 2016 Yangbi Garden, Mayang Imphal incident two Pangal students were killed. In March 2016 Holi incident six Pangal boys were beaten up [15]. In the April 2018 Eviction of Awaching Kshetri Bengon Mamang Village incident, 74 houses were destroyed and 400 Pangals were rendered homeless. In April 2018 Mantripukhri Eviction incident, several Pangal youth were beaten up. In 2018 a young Pangal entrepreneur was killed by a mob at Thouraojam village alleging theft [16]. In the May 2018 Protection of Manipur People Bill Drafting Committee, no representatives of Pangal were included. In June 2018 Inner Line Permit Bill, **“Definition of Original settlers”**, Pangals were not included [12]. In July State Delimitation Committee, Pangals were not included. In October 2020 DM University admission list vacancy marked for Meitei Pangal were allotted to Meitei, which lead to the demand for a 4 pc reservation in Education for Pangals [17]. Pangal although is the category in the census, but the colloquial word – Pangal has in time acquired prejudices by what majority community prefix and suffix with this word, that most people with political sensitivity now prefer the English replacement – Muslim[18]. Some local media are blatantly biased and indulge in malpractices like revealing all private information and highlighting the community only if the offender is a Pangal. These media are consistently trying to create baseless stereotypes against already marginalised Pangal community. Due to the weak socioeconomic conditions some Pangal unemployed disoriented youths fell prey to drug lords, usually powerful well connected people from other communities and become their drug retailer. The kingpins never surfaced on ground but names of these disoriented Pangal youths are reported in the front page, creating negative image and proclaiming Pangals as drug traffickers.

Most of these media tend to ignore the admirable achievements of Pangals. This has been going on since a long time. Some recent incidents are – back in the year 2020, a Pangal footballer Nawaz Khan who was selected for Indian Super League (ISL) Team along with other Manipuri Players was not acknowledged by the local media, apparently because of the fact that Nawaz Khan was a Pangal and others were Meitei. This led to immense outrage among the Pangal community. Under tremendous pressure the media had to make a clarification statement the next day. Even after so much backlash from Pangals and various Intellectuals they have not amended their ways. In May 2021, Pangal football player Md Yasir who was selected for the World Cup Qualifying Match along with 5 other Manipuri Players was not acknowledged by some local news channels and print media. This shows their ulterior motive i.e. creating a negative image and proclaiming Pangals as anti-social elements [19].

1.3 MOTIVATION OF YOUTHS THROUGH SUCCESSFUL AND INSPIRING STORIES

The motivation of youngsters through the success stories of pioneers in the community is a proven method. Motivation is the process by which activities are started, directed, and continued so that physical or psychological needs or wants are met (Petri'1996). There are different types of motivation. In extrinsic motivation, a person performs an action because it leads to an outcome that is separate from the person (Ryan &Deci,2000). In contrast, intrinsic motivation is the type of motivation in which a person performs an action because the act itself is fun, rewarding, challenging, or satisfying in some internal manner. Men are social animals, we live in a world filled with people. We keep interacting with other people on a daily basis. Such interactions provide ample opportunity for the presence of other people to directly or indirectly influence others behaviour, feelings, and thoughts of each individual in a process called social influence. There are many forms of social influence. People can influence others to follow along with their own actions or thoughts, to agree to do things even when the person might prefer to do otherwise, and to be obedient to authorities. We know attitudes are tendencies to respond positively or negatively toward ideas, persons, objects, or situations. Interaction with other people who hold a certain attitude can help an individual form that attitude. Attitude can also be formed through watching the actions and reactions of others to ideas, people, objects, and situations. Thus seeing the success stories, the struggles, the best practices, and the attitude of successful people from his own background will definitely help a student in forming a positive attitude. This will enable him to become a successful individual in life. Persuasion is the process by which we try to change the belief, opinion, position, or course of action of another person through argument, pleading, or explanation. The key elements in persuasion are the source of message, the message itself, and the target audience. Using the appropriate elements we can persuade the youngsters for social change. **“The case study of perception management of the Pangals by mobilising through awareness campaigns with social media post, web talk, and online streaming of interview of successful people is being proposed.”** The analysis of the case study can be carried out through an online survey. The data collected can be recorded in a web portal. Data collected in this portal can be used for further work in future.

CHAPTER 2

LITERATURE SURVEY

The Literature survey follows the accepted method of Keyword Search from Peer Review Journals and Conferences reports. The most cited and where analytical deductions are available are being sorted out. It also includes certain books and government reports.

(Wang et al., 2014) analyzed the differences in mobilization speed between users of Facebook and e-mail. They include other factors that may influence mobilization speed. They find out that although more people used e-mail to recruit, the mobilization speed of Facebook users was faster than that of those that used e-mail. This gives us use of Facebook as a Mobilization tool and Facebook Mobilization is much faster than email. (Goh et al., 2013) addresses the use of one of the most widely known social networking tool, Facebook as a learning tool for the higher education of students, with emphasis on developing countries such as Malaysia. The purpose of their study was to identify student's perception of using Facebook as a learning tool. (Kawaljeet Kaur Kapoor et al., 2018) discusses the findings of 132 papers (in selected IS journals) on social media and social networking published between 1997 and 2017. Overall, this study identifies multiple emergent themes in the existing corpus, thereby furthering the understanding of advances in social media research. They found that among the social media platform Facebook is the most popular. (Boyte KJ, 2017) has done a qualitative case study and examines how social media was used as a platform for propaganda warfare waged by clandestine bloggers and special operations commandos (known as trolls). It uses manipulation of public perceptions of events by controlling an element of rhetoric known as narratives. (Dunu et al., 2015) examines how social media could be deployed for transformational mobilization and development. The role of social media in promoting social mobilization as a means of development in Nigeria was studied. (Youbi et al., 2020) introduce a framework for social media impact, which include the most important role in enhancing the deployment of social media in crisis to minimize the negative impact on education's sustainability. This framework can be used as a strategic decision-making tool for the analysis of the gaps and inefficiencies in any social media plan that is deployed and the management challenges arising from the pandemic. (Chiroma et al., 2017) presents a comprehensive review of recent studies that employ Facebook as a tool for teaching and learning in institutions of higher education. (Tye et al., 2018) present a Social Media enabled Social Movement the Electoral Reform in Malaysia and the significant role of social media in empowering citizens towards change in their community. (Hou et al., 2015) present findings from interviews with 26 small NPOs' social media professionals on how they use multiple social media sites to support public engagement. Small NPOs use multiple social media sites to engage with different stakeholders toward various ends. (Moitra et al., 2018) presents a case study of a voice-based community media platform in rural central India and the experiments it has undergone with multiple community mobilization strategy over five years. They analyze different phases of community mobilization and draw insights related to how technology platforms can be appropriated by special actors to drive their agendas.

(Thao Thanh Nguyen and Alla G. Kravets, 2016) describes the module for Analysis of the social network Facebook Graph API. The study identifies the areas of interest of the user, analyze comments on Facebook to identify trends. (E. J. Villota and S. G. Yoo, 2018) carry out a study on social influence produced by the contents published on Facebook. By executing the Asch experiment, they have illustrated how such social influence can change the behaviour of users on Facebook. Through this experiment, they could identify how the social influence type called "conformity" is present in online social network platforms and how this influence can make changes in the behaviour of people.

The Literature review yields the fact that current uses of social media include the following:

- Awareness campaign
- Advertising tool
- Alternate communication tool
- Using for higher education
- Using as Perception Management Tool

But a proper framework and process for uses of social media along with an analytical machine to optimize the knowledge creation, its delivery and action projects to bring social change is not available. The importance of the research is given in [Figure 2.1] below:

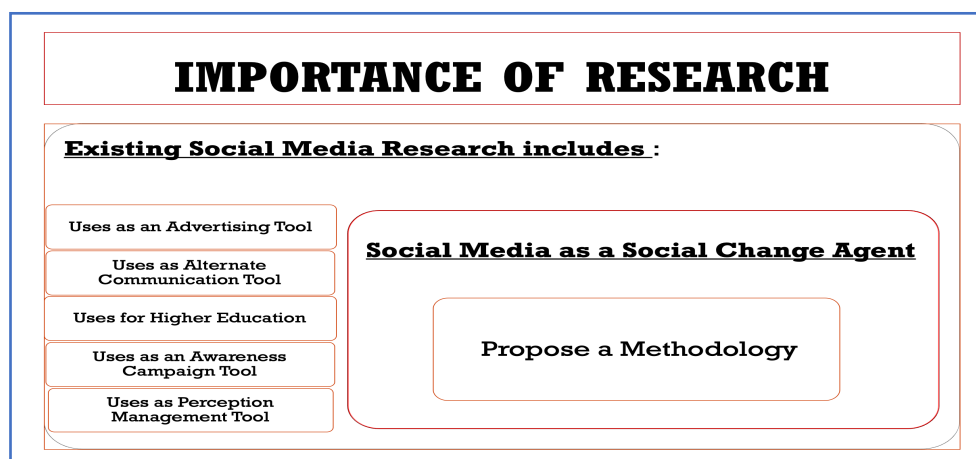


Figure 2.1: *Importance of the Research*

CHAPTER 3

INTRODUCTION TO ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

The formal definition of Artificial Intelligence (AI) was given by Lugger and Stabbfield in 1990, as:

“ The branch of computer science that is concerned with the automation of intelligent behaviour.”

AI is a subdivision of computer science devoted to creating computer software and hardware that imitate (copy) the human mind. Generally, AI covers the areas of knowledge, cognitive systems, neural network, deep learning, robotics, machine learning, natural language processing and chatbot etc. AI is any techniques that enable the machine to solve a task in anything like humans do. AI is a set that includes Machine Learning which is algorithms that allow the computer to learn from examples without being explicitly programmed. Machine Learning include Artificial neural networks(ANN) a brain-inspired machine learning model. Deep Learning is in turn a subset of ANN, which uses deep artificial neural networks as models and automatically builds a hierarchy of data representation. AI is generally represented by the following diagram.[**Figure No 3.1**]

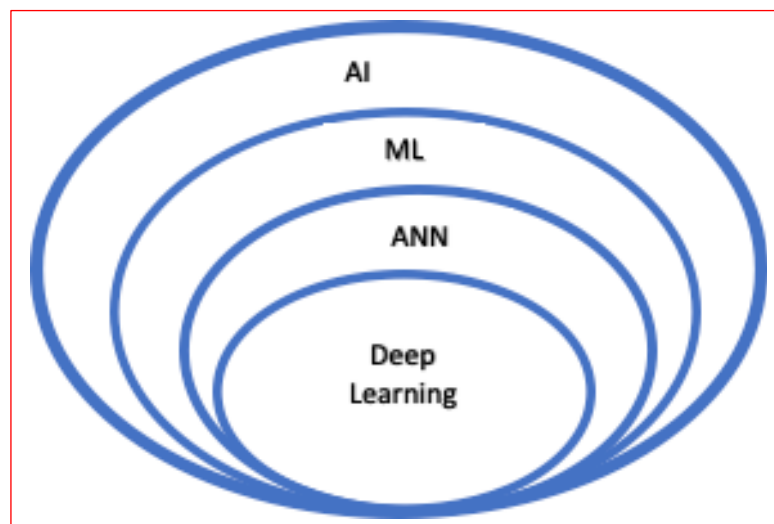


Figure No 3.1: *AI as a Set.*

AI has impacted almost every industry including construction, cybersecurity, healthcare, manufacturing, transport, education, information technology, business intelligence, and supply chain management etc.

Thus the technology landscape of AI includes the following domains:

- Autonomous System
- Neuromorphic computing
- Machine Learning
- Cognitive Cyber Security
- Deep Learning
- Robotic Personal Assistant
- Neural Network
- Autonomous Surgical Pattern
- Pattern Recognition
- Next-Generation Cloud Robotics
- Natural Language Processing
- Thought Controlled Gaming
- Chabot
- Real-Time Universal Translation
- Real-Time Emotional Analytics
- Virtual Companions

3.1 COMMON APPLICATIONS OF AI

Some common applications of AI in various sectors are listed below:

- 1) Agriculture
 - Crop and Soil Monitoring
 - Agriculture Robots
 - Smart Farming
 - Predictive Analysis
 - Prevention of illegal Fishing
- 2) Cyber Security
 - Spam filter
 - Fraud detection
 - Intrusion Detection
 - Botnet Detection
 - Secure Authentication
- 3) Education
 - Smart Content
 - Virtual Facilitator
 - Personalised Learning
 - Proctoring
 - Adaptive Learning

- 4) Finance
 - Fraud Prevention
 - Credit Decision
 - Streamline Bank Processes
 - Client Segmentation
 - Marketing
- 5) Government
 - Targeted Campaign
 - Public Opinion Monitoring
 - Streamline Government Services
 - Citizen Digital Identification
 - Identifying Fraud Claims
- 6) Health Care
 - Automated Image Diagnosis
 - Robot-Assisted Virtual Nurse Assistant in Surgery
 - Dosage and Diagnosis Error Detection
- 7) Law
- 8) Manufacturing
 - Predictive Maintenance
 - Process Automation
 - Personalised Manufacturing
 - Streamline Industrial Workforces
- 9) Media and E-Commerce
 - Music
 - Movie
 - Games
 - Advertising Campaign
 - Customer Service
- 10) Social Media
 - Chabot
 - Facial Recognition
 - Augmented Reality Filters
 - Locate Criminals
 - Surveillance and Security

3.2 MACHINE LEARNING AND ITS APPLICATIONS

Machine Learning (ML) is programming computer to optimize a performance criterion using examples data or past experiences. We have a model defined to some parameters, and learning is the execution of a computer programme to optimize the parameter of the model using the training data or experience. The model may be predictive to make predictions in the future, or descriptive to gain knowledge from data or both. Machine Learning is using the theories of statistics in building mathematical model because the core task is making inference from a sample. [20]

According to Arther Samuel (1957), Machine Learning is defined as:

“Field of study that gives computers the ability to learn without being explicitly programmed.”

The formal definition of Machine Learning is given by Tom Mitchell (1997) as:

“A computer programme is said to learn from experience E concerning some class of task T and performance measure P , if its performance at Task T , as measured by P , improves with experience E .”

ML can be generally classified into the following categories:

3.2.1 Supervised Learning

In supervised learning, the data set is tagged and we try to find the relationships between the label set and the feature set, which is the knowledge and properties we can learn from the tagged dataset.

The steps involved in supervised learning are

- Determine Training Examples: Deciding what type of data to use as the training set.
- Assemble Training set: Input objects and corresponding output objects representing the real world used are gathered.
- The feature representation of a learned function is determined.
- The structure of Learned Function and corresponding Learning algorithm is determined.
- Design is completed by running the learning algorithm on the gathered training set.
- Accuracy of the Learned Function is Evaluated

The most widely used supervised learning algorithms are given below:

- Support Vector Machine
- Linear regression
- Logistic regression
- Naïve Bayes
- Linear discriminant analysis
- Decision tree
- K-nearest neighbour algorithm
- Neural Networks(Multilayer perceptron)
- Similarity learning

Some of the applications based on supervised learning are given below:

- Email
- Handwriting recognition
- Face recognition
- Speech recognition
- Information retrieval
- Operating System
- Computer vision
- Intrusion detection
- Signature detection

3.2.2 Unsupervised Learning

In unsupervised learning, the training set is not tagged and it tries clustering, probability density estimation, finding association among features and dimensionality reduction.

Some of the commonly used algorithms are given below:

- Clustering
- Anomaly detection
- Neural network
- Approaches for learning latent variable models

Some of the applications using unsupervised learning algorithm are given below

- DNA Classification: Understanding Genomics
- Organising Large computer cluster
- Social network analysis
- Market segmentation
- Astronomical data analysis
- Medical records
- Computational biology
- Analysis of gene expression data: Cancer diagnosis
- Speech activity detection
- Acoustic factor analysis for Robust speaker verification.

3.2.3 Reinforced Learning

Reinforce learning is used to solve problems of decision making. It is based on output with an agent out to take decision outcomes in an environment to maximize some notion of long term reward. A reward is given for correct output and a penalty for wrong output.

Some of the commonly used reinforced learning algorithms are

- Q- learning
- Temporal difference
- Deep Adversarial Network

Some Applications using reinforcement learning are given below:

- Traffic forecasting services
- Computer Games
- Machinery applications
- Stock market analysis
- Semantic annotation of ubiquitous learning environment

3.2.4 Recommender System

It is the technique by virtue of which online users can customize their sites to meet customer's tastes.

Some applications using the recommender system are given below:

- Mobile learning environment
- Computational advertisement
- Sentiment analysis/Opinion analysis
- Database mining
- Self-customizing programs

3.3 TEXT CLASSIFICATION

Text classification is the categorization of the text in some predefined categories. A classifier takes the text input and analysed it then automatically assigns them to the predefined categories. Mainly three approaches of text classification are available in Natural Language Processing (NLP).

- Rule-Based System: Using a handicraft linguistic rule text is separated into an organized group.
- Machine Based Classification: Based on past observation on datasets and continuous learning.
- Hybrid Based System: Uses a combination of both Rule-based and Machine based methods.

3.3.1 Machine Based Classification

The steps involved in Machine Learning text classification are as follows:

- Pre-processing: Unlike structure data, features are not explicitly available in text data. Thus, pre-processing of the raw data is required.
- Feature extraction: Feature extraction can be done in various ways. The common methods are a bag of the word and word embedding method.
- Training
- Prediction

Popular Machine Learning Algorithm used in Text Classification are Naïve Bayes group of the algorithm, Deep Learning, and Support Vector Machine. These Algorithm are discussed briefly in the succeeding paras. The algorithm is chosen based on the type of data sets available. The performances of each Algorithm is compare through any analytical method such as confusion matrix etc. and the most appropriate algorithm is chosen for the model we are working with.

Another method very popular with Natural Language Processing (NLP) is Transfer Learning methodology. In transfer learning, the knowledge of previous task is utilised depending on the problem and data. Its direct adaptation of the concept of using the past experience and knowledge by Human Brain while dealing with a new situation.

For feature extraction, the common method is a bag of word method. The other method is word embedding. In word embedding similar meaning words have similar representation. Each word is mapped to one vector and the vector values are learned. e.g. Word2Vec, GloVe

3.3.2 Bag of Word Method

In the bag of word method, a dictionary of all the word is created. It convert each document into a vector. There are three ways to convert word into vectors as given below:

- Count vector method: In this, we count the occurrences of each word in the document.
- Term Frequency Vector Method: It is calculated for each word, it is the frequency of each term in the word

$$\text{Term Frequency (TF)} = \frac{\text{Number of occurrences of word in the document}}{\text{Total number of words in the document}}$$

- Term Frequency Inverse Document (TF-IDF): In the TF-IDF method, it measures how important a word is to the document in the corpus.

$$TF - IDF_i = TF_i \times \log \left(1 + \frac{N}{N_i} \right) \quad (3.1)$$

Where,

N = Total number of document in the corpus
N_i = Number of document that contain word i

3.3.3 Naïve Bayes Algorithm

It is the most popular text classification algorithm. The Multinomial Naïve Bayes (MNB) is used for small dataset and computational resource are low. It is based on Bayes Theorem. The probability of A, if B is true is equal to the probability of B if A is true times the probability of A being true divided by the probability of B being true.

$$P \left(\frac{A}{B} \right) = \frac{P \left(\frac{B}{A} \right) \times P(A)}{P(B)} \quad (3.2)$$

Thus what we are doing is any vector that represents a text will have to contain information about the probabilities of the appearance of certain words within the texts of a given category, so that the algorithm can compute the likelihood of the text's belonging to the category.

3.3.4 Support Vector Machine(SVM)

It is another powerful text classification Machine Learning Algorithm. It requires more computational resources, but the result is faster and more accurate. SVM draw a line/hyperplane that divides a space into two subspace, one subspace contains vectors that belong to the category, and another subspace contains vectors that do not belong to that category. The best hyperplane is the one with the largest distance between each category.

3.3.5 Deep Learning

These are a set of algorithm and techniques inspired by how the human brain works. Two main deep learning architecture for text classification are Convolutional Neural Network (CNN) and Recurrent Neural Network (RNN). Deep Learning requires more training data.

3.3.6. Sentiment Analysis using VADER

Valance Aware Dictionary for sEntiment Reasoning (VADER) is a lexicon and ruled based approach developed by C J Hutto and Eric Gilbert in 2014 [21]. It is available under the MIT license. It is rule based model used for generalized sentiment analysis that entrusts a dictionary that further maps the lexical features to their defined emotional intensities. It is trained explicitly on social media datasets (social media text, NY Times editorials, movie reviews, and product reviews) and require no training data. Researchers reviewed already available dictionaries that categorized words without context meaning into their binary classes. Thus, some additions were made to these dictionaries to produce the VADER dictionary. The working of VADER consists of five heuristics that can be split into the following:

- Typical negations, Punctuation usage are used to understand the sentiment intensity.
- Capitalised words are checked for additional signal emphasis
- Degree modifiers are checked such as the intensity boosters
- Polarity shift due to conjunctions
- Catching Polarity Negation
- Emoji, Slags, Emoticons
- Compound Score Generation

Although it is domain agnostic, it is especially suitable for Social Media Analytics. The advantages of VADER are:

- No training data required
- Emoticons, slags, conjunctions, and punctuations etc. are incorporated
- Domain Agonistic
- Best suitable for Social Media

CHAPTER 4

INTRODUCTION TO SOCIAL MEDIA

Social Media as per Kaplan and Heinlein (2010) is defined as, “A group of Internet-based applications that build on the ideological and technological foundation of web 2.0, which allows the creation and exchange of user-generated content.” The availability of social media on mobile phone and web-based technologies gave an easy platform through which individuals and communities share, discuss, co-create and modify user-generated contents. It introduces substantial and pervasive changes to communication between organisations, communities and individuals. Keitzmann & Hernken (2011) review the definition of Social media and identified four common features unique to then-current social media services

- Social media are web 2.0 Internet-based applications
- User-generated content(UGC) is the lifeblood of the social media organism
- The user creates service-specific profiles for the site OS app that are designed and maintained by the social media organisations.
- Social media facilitate the development of the online social network by connecting a user’s profile with those of other individuals or groups.

Social media as a unique form of communication integrates multiple sources and are a means of dissemination of both internally and externally generated information about a firm, industries, and society in general.

In 2019 Merriam Webster define, Social Media as, “forms of electronic communication through which users create online communities to share information, ideas, personnel messages, and other content.”

In 2010 Kaplan and Heinlein Classified Social Media into the following five groups :

- Social Networking Sites (SNS) e.g. Facebook
- Blogs e.g. Twitter
- Cooperation Projects e.g. Wikipedia
- Content community e.g. YouTube
- Virtual social world e.g. Second life

4.1 SOCIAL NETWORKING SITES(SNS)

The term “Social Network” was initially given by Barnes in 1954. It refers to the social relationship that existed among groups, individuals and social structure and emanated from such relationship.

In 2002 according to Lin, “Social networks were just mere bulletin boards and individual websites with the use of discussion area and email messages which constituted the main form of communication.”

Gradually chat rooms and instant message services were developed. The advent of web 2.0 triggered blogs to become popular. Consequently, there are a large number of social network sites such as Facebook, Twitter, Skype, YouTube, Google+, Instagram, Linked In, etc.

According to “Statista” [www.statista.com], Facebook is the most popular Social networking site. As of October 2020, the active users in millions for 10 social networking services are given below in [Table No 4.1] :

Table No 4.1: *Number of Active Users in different SNSs.*

Sno	SNS	Users in Million
1.	Facebook	2,701
2.	You Tube	2,000
3.	WhatsApp	2,000
4.	Facebook Messenger	1,300
5.	We Chat	1,206
6.	Instagram	1,158
7.	Tiktok	689
8.	QQ	648
9.	Douyin	600
10.	Sine Weibo	523

4.2 FACEBOOK

In Feb 2004, Mark Zuckerberg created Facebook called “**thefacebook**” at Harvard University [22]. In 2005 it allowed access to over 800 college and university networks. In 2006 it allowed access to 22,000 commercial organisations. A major expansion was in 2006 when it was allowed to people above 13 years and a valid email. The Facebook Wall was developed in 2004, Facebook Photo in 2005, Newsfeed, API and Mobile App in 2006, Facebook platform and video in 2007 and 2008 Facebook in Spanish, German, French language were launched. The Like button and payments were introduced in 2009, Facebook place in 2010 and in 2011 Timeline and video calling were introduced. People use Facebook for various objectives, some common objectives are :

- Socializing
- Entertainment
- Self-seeking
- Information
- Education
- Business

4.2.1 Facebook Page and Facebook Live Streaming

The primary system of Facebook through which users are exposed to content posted by people across the globe is the news feed. Facebook select around 1500 updates in the news feed. Facebook page is attached to personal profiles so Facebook knows who owns the page but pages are designed for business or a cause. It has several features available including Analytics advertising and post scheduling.

There are six options for creating a page [22] :

- Local business or Place.
- Company, Organisation or Institution.
- Brand or Product
- Artist, Band or Public figures.
- Entertainment.
- Causes or Communities.

Each page type has a dropdown menu with an extensive list of categories. the profiles of individuals are updated on the page at regular intervals.

4.2.2 Live streaming.

Live streaming was started in August 2015 [22]. Streams appear on the news feed and users can comment in real-time. After the end of the Life Session, the broadcast is saved as a post to the streaming page automatically. The Facebook mobile app also supports live streaming [22]. Live streaming and its interactive is given by live comments by the viewers. It is like holding a public meeting to mobilize and motivate. The viewers also have the freedom to watch the live event afterwards. This is a powerful mechanism for motivation. The messenger video conference can also go live in the Facebook live status. Facebook has enabled its screen sharing feature for messenger allowing us to share a conference call to a friend or large conversations via messenger rooms. At present, up to 16 people in the messenger room can be shared.

4.3 STREAMYARD CLOUD-BASED ONLINE BROADCAST APPLICATION

The StreamYard is a multi-broadcasting cloud-based web Application. It uses RTMP (Real-Time Messaging Protocol) and can broadcast to any application that uses this protocol [6]. The learning curve for this tool is very less. It allows multiple guests to be invited in a live streaming video. A total of 10 guests can be simultaneously on one screen. The overlay, band and sticker allow us to create a professional look of the stream. The application is best with the google chrome browser [**Figure No 4. 1**].

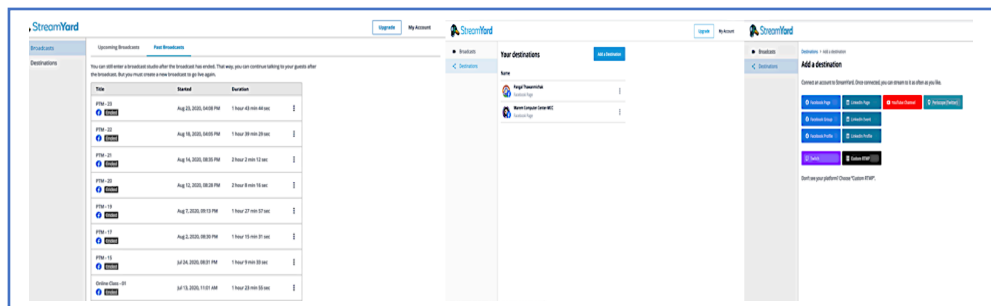


Figure No 4. 1: Screenshot StreamYard

4.3.1 General Architecture

StreamYard is a distributed system with a micro-service architecture. Each service is given the minimum permissions required to operate. All services operate inside a Virtual Private Cloud with rules that prevent unauthorized requests from entering the StreamYard network. Most services are not accessible through the public internet; only services that must communicate with clients are accessible.

4.3.2 Data Transfer and Encryption

StreamYard forces HTTPS for all services using TLS (SSL). Inside the streaming studio, all incoming and outgoing video and audio streams are encrypted using DTLS [6]. When a broadcast is live, video and audio data is decrypted on the StreamYard servers so that the various video sources can be mixed and transcoded into the final outgoing feed. The final feed is encrypted for all social platforms that support RTMPs.

All customer data is encrypted at rest using AES-256, or AES-128, depending on the type of data [6].

4.3.3 Operational Security

StreamYard utilizes identity and access management system to give all users, services and systems the minimum permissions necessary to operate.

4.3.4 Attack mitigation

StreamYard claimed to have the following protections against any cyber-attack [6].

- Prevents CSRF, XSS, injections and other types of attacks.
- Rate limits login attempts and other types of request.
- Does not store passwords. Users log in using One Time Codes sent to their email address.

4.4 WIKIMEDIA PLATFORM FOR PANGALPEDIA WEB PORTAL

MediaWiki is a collaboration and documentation platform supported by a vibrant community. It's powerful, multilingual, free and open, extensible, customizable, reliable, and free of cost. The platform is used directly to host the Pangalpedia web portal. The web portal is hosted at <http://pangalpedia.com/index.php/Pangalpedia> [Figure 4.2]

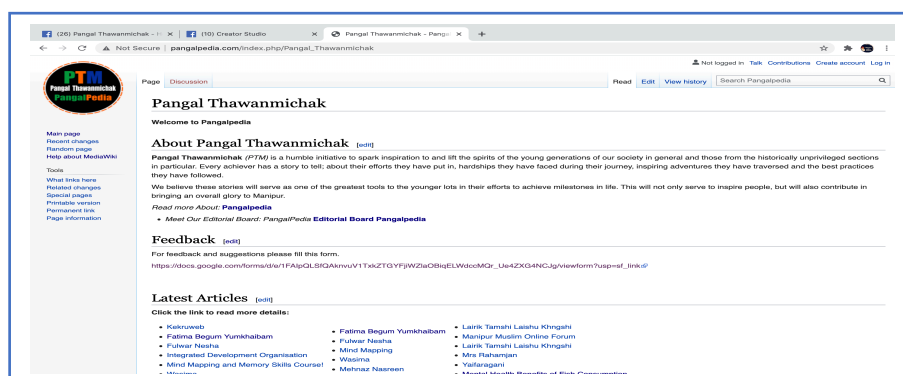


Figure 4.2 : Pangalpedia Web Portal

CHAPTER 5

PROBLEM DEFINITION

The Literature review yields the fact that, *Current uses of social media are limited to awareness campaign, advertising, as an alternate communication tool and using it for higher education. But a proper framework and processes for uses of social media along with an analytical machine optimize the knowledge creation, its delivery and action projects to bring social change is not available.*

Most of the existing uses of social media utilized the analytics provided by the application itself or some third parties tools such as google analytics. These have limitations of a utility for modification of the input parameters to the analytic machine. To address this gap it is proposed to investigate possibilities of using *Social Media as a change agent*, an proposing a framework for the same.

The research will try to answer the following questions:

- Can Facebook be a Social Change Agent in the North Eastern Region of India?
- Can we have a Framework for Community Mobilization, Motivation and Awareness during and post Pandemic?

The constraints of the research are:

- The time period of the Study: The time period of the study is restricted to less than a year.
- Regional and only one community Data: The data proposed to be collected is from a particular region i.e. North Eastern India only. It will be addressing one community only as a testbed.
- Limited to online collection of Data and Response: The method being propose for collection of data is online method only.
- No previous Study or Record: There is no previous study being carried out in this particular area and the specific region, thus no frame of reference for comparison is available.

The broad context of the research will touch upon the following domains.

- Social Media
- Machine Learning
- Covid -19 Pandemic
- North Eastern Region of India
- Community Mobilization

However, the specific subject domain is **Machine Learning** and its uses in Social Media Analytics.

5.1 OBJECTIVE OF THE RESEARCH

The objective of the research lies in finding an alternative way of life during Natural Calamity like Pandemic. It is proposing a framework for community mobilization, awareness, motivation and perception management during and post-pandemic and the framework is to be used for motivation of the underprivileged community towards a brighter future. It will also be an experimental setup to examine if Social Media can be used as an Effective Anti-Stereotyping Tool. In the course of execution of the proposed framework we can find out problems and suggested solutions for online activities during and post Pandemic period in the North Eastern Region of India. This research is also proposed to be used for finding out if Social Media can be used as an alternate Motivational Tool.

5.2 RESEARCH METHODOLOGY

The proposed research methodology to be used is mixed of Qualitative and Quantitative Approach. Data collection is proposed through Facebook scraping and Online Survey. The work involved the following activities [**Figure 5.2**].

- Creating a Facebook Page targeting Pangal community with a proper tagline.
- Projection of Pioneers of the community in various domain by posting their profiles on the Facebook Page.
- Personal Interviews of the achievers using Cloud based online platform and broadcasting it live in the Facebook Page.

- Ascertaining the public response through online survey.
- Scraping of the Facebook page.
- Analysis of the Data and Deductions.
- Retaining the Data collected in a Web Portal for future Research

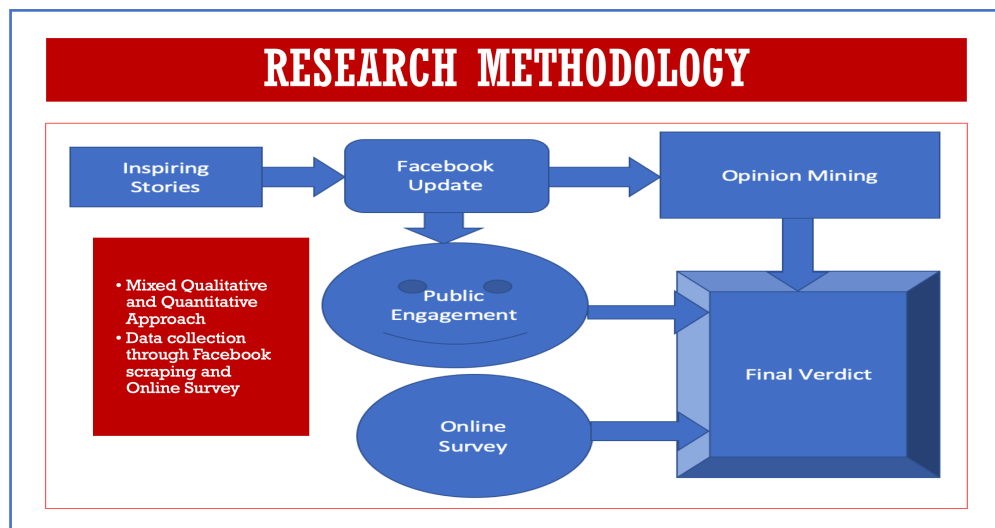


Figure 5.1: *Research Methodology*

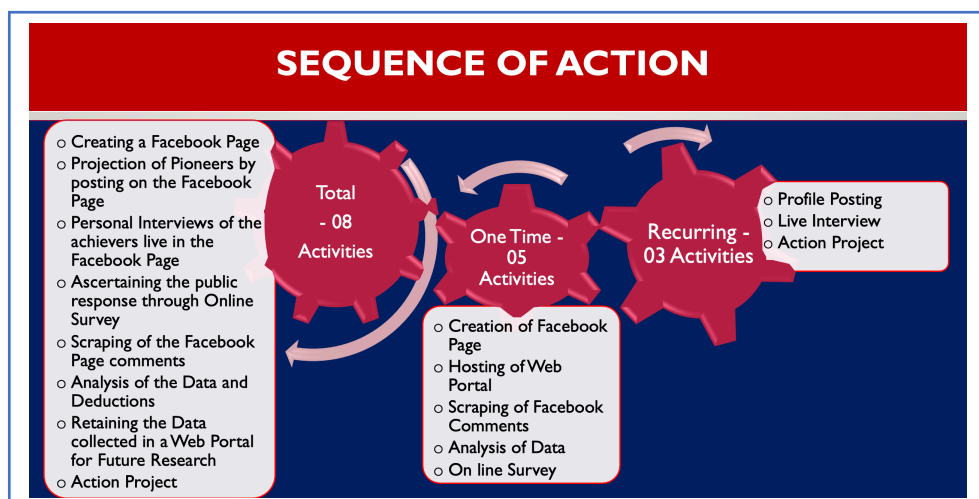


Figure 5.2: *Sequence of Actions*

CHAPTER 6

THE PROPOSED SOLUTION: FRAMEWORK

In view of the above problems in the art, the present proposal provides a framework and processes for community mobilization, motivation, and empowerment during and post pandemic. The framework and processes includes, a knowledge creation component, a knowledge delivery component, a data analysis component and a project execution component. The data analysis component include sentiment analysis and classification through machine learning to ensure the optimal knowledge creation and delivery for mobilization, motivation and empowerment of the target community. It also filter the action project to be executed towards achieving its goal of social change during and post pandemic. The knowledge creation component takes input from primary and secondary sources. Based on the target community and the expected outcome the parameters can be manipulated. The knowledge delivery component also act as a source of data for analysis. The other source of data is obtained through online survey and live interviews. The selection of individuals to be interviewed is based on the reaction analysis of the profile of the individual by the data analysis component. The data analysis component also give feedback to improve the knowledge creation and delivery. The categorization by classification of the data by machine learning gives actionable output for the project execution component. Using the framework and processes of the present proposal the data analysis component can optimized the knowledge creation and delivery towards achieving the stated goal. This allows high degree of customization of the framework with less implementation efforts. The accompanying drawings which are incorporated as part of this specification, illustrating the embodiments of the proposal. It also serve to explain the principle of the proposal along with the descriptions.

6.1 BRIEF DESCRIPTION OF THE DRAWINGS

The preferred embodiments of this proposal will be described in detail with reference to the following figures wherein;

- [Figure : 6.1] is a block diagram of a framework for Social Media based community mobilization, motivation and empowerment during and post pandemic, in accordance with the proposal.
- [Figure : 6.2] is schematic diagram showing the sources of knowledge creation used by the knowledge creation component of [Figure : 6.1].
- [Figure : 6.3] is a diagram showing the processes of knowledge creation and delivery in case of inspiring story creation as an example.

- [Figure : 6.4] is schematic diagram showing source of data and the output of the data analysis component of [Figure : 6.1].
- [Figure : 6.5] is schematic diagram showing the various actions and categories of projects carried out in the project execution component of [Figure : 6.1].
- [Figure : 6.6] is a schematic diagram representing the flow of information for community mobilization, motivation and empowerment during and post pandemic in accordance with the present framework.

6.2 DETAILED DESCRIPTION OF THE EMBODIMENTS

[Figure : 6.1] is a block diagram of the framework for social media based community mobilization, motivation, and empowerment during and post pandemic 10. The framework 10 includes a knowledge creation component 11, a knowledge delivery component 12, a data analysis component 13, and a project execution component 14.

In [Figure: 6.1] the knowledge creation component 11 includes inspiring stories and information component 15. The inspiring stories and information component is used to create the knowledge and presented in the knowledge delivery component 12. The reactions to this knowledge is analysed using the data analysis component 13. Based on the feedback of the data analysis component 13, the knowledge creation 11, and the knowledge delivery 12, are optimized to get the desired result. In the course of data analysis 13, if there are actionable outcome, it is passed on to the project execution component 14.

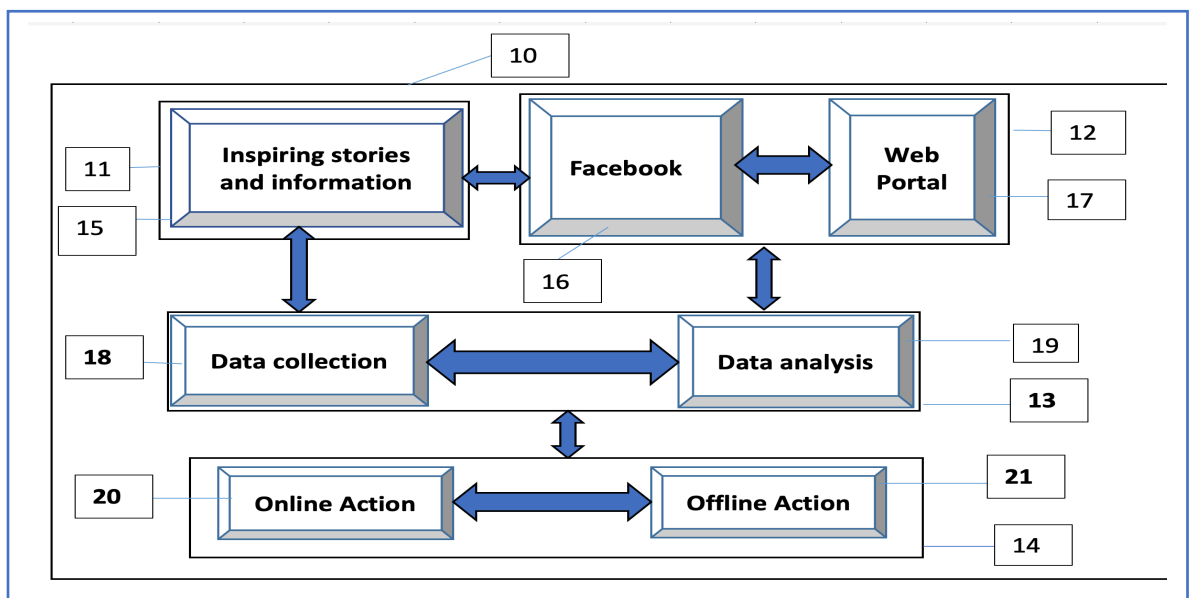


Figure: 6.1 : Block Diagram of the Framework

[Figure : 6.2] is a schematic diagram showing the processes of knowledge creation. The source of knowledge can be primary 23, which can be individual 27, or it can be from a third party 28. The other sources of knowledge are secondary sources 22, which can be a book 25, news report 24, or online sources 26.

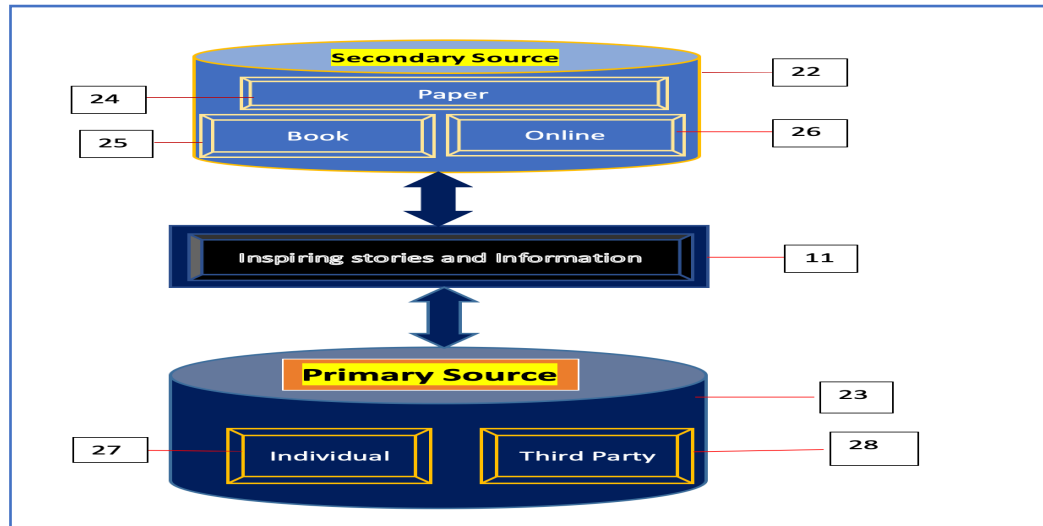


Figure 6.2 : Source of Inspiring Stories

[Figure : 6.3] gives an example of creating and delivery of inspiring story 15. The first process P1 is gathering the information either from the primary sources 23, or the secondary sources 22. The second process P2 is selection criteria of the profile for example inspiring, effective, or valuable based on the feedback from data analysis component 13. The next process is presentation of the profile as a Facebook post P3A.

The feedback from data analysis component 13 dictates whether the individual is to be interviewed live or not, thus the live interview process P3B is optional. The last process is profile preservation P4 which is hosting of the profile in the web portal 17.

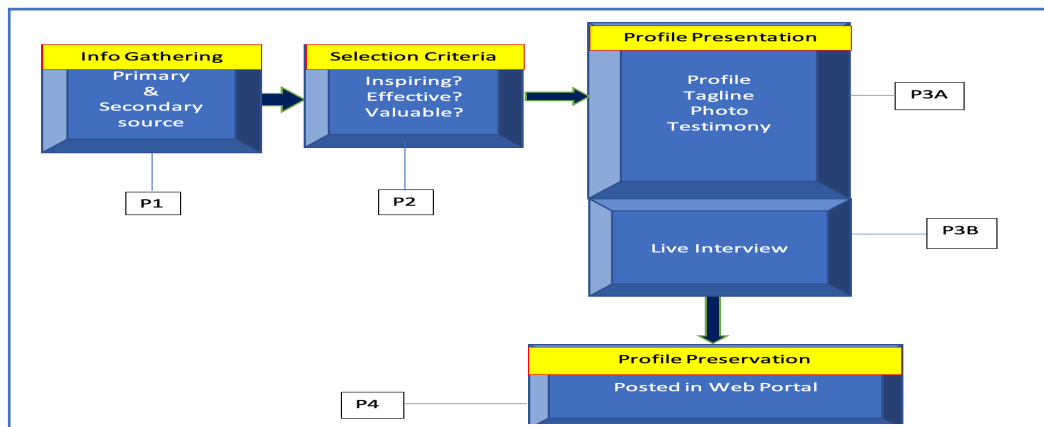


Figure 6.3 : Knowledge Creation and Delivery

[Figure : 6.4] is schematic diagram showing the processes in the data analysis component 13. It consist of reaction and survey report collection by scraping the Facebook post and live event reactions P5 and the online survey report P6. The data analysis consist of sentiment analysis of the reaction P7 and classification of the reactions P8 using machine learning algorithm. The feedback and action part is segregated as feedback for optimizing knowledge creation and presentation P9, the actionable points P10, scheduling live interview event P11, and generating a report P12 for logging and documenting the outcomes.

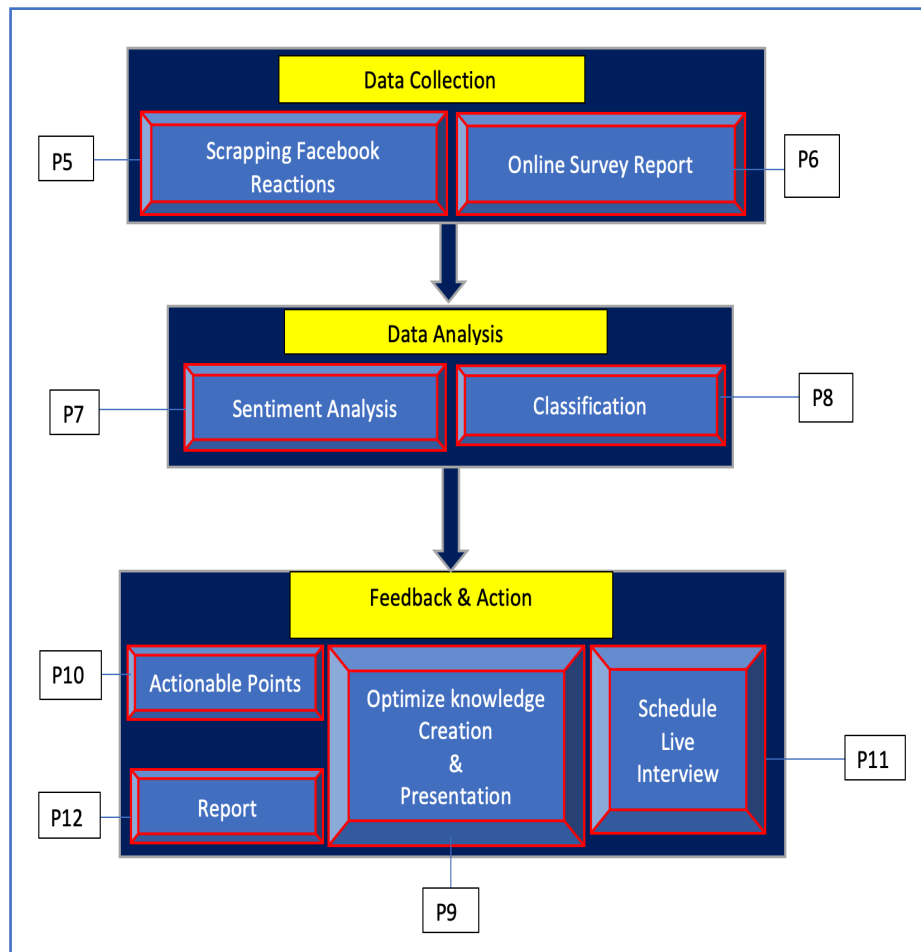


Figure 6.4 : Data Analysis

[Figure : 6.5] is schematic diagram showing the various actions and category of projects carried out in the project execution component 14 of [Figure: 6.1]. The action project process P10 can be carried out in online action mode 20, or offline action mode 21. Online action 20 can be fund raising event P13 or conducting a conference, class, or awareness through google meet or zoom P14. The offline action 21 can be holding an event or campaign P15 or delivery of services to the beneficiaries P16. The services can be getting admission for underprivileged student or delivery the charity

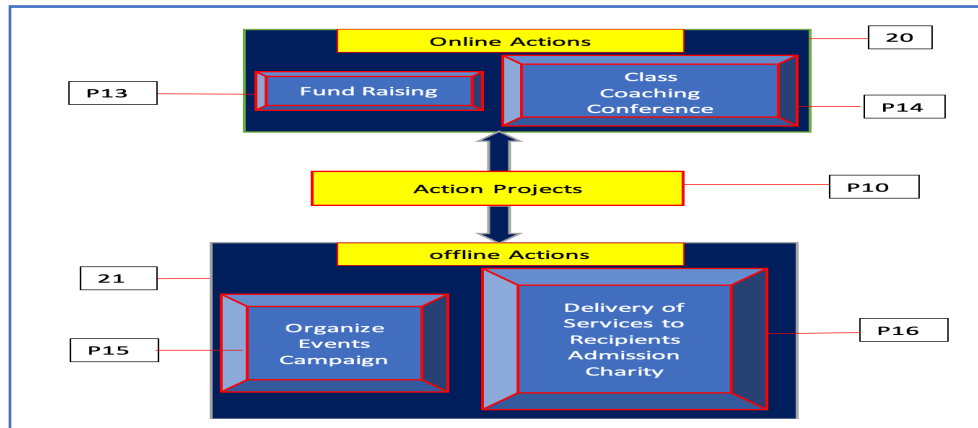


Figure 6.5: *Action Projects*

[Figure : 6.6] is a schematic diagram representing the flow of information in the social media based framework for community mobilization, motivation and empowerment during and post pandemic 10. As already discussed the information or knowledge is created from the primary and secondary sources which are collected through WhatsApp, email or directly and the profile is created with proper tagline along with the testimonies. The profile or information is uploaded as Facebook post. The reactions of the post is collected along with the online survey report. These are analysed by machine learning. Based on the feedback the profile and information creation and presentation is optimized. The decision to interview live a particular individual whose profile is uploaded is taken based on the reaction analysis. The analysis also filter out the actionable information, which could be carried out in online and offline mode. The online project could be fund raising, conduct conferences, coaching etc. the offline event will be delivery of the services or holding offline events. The analysis report can be generated for future references. Finally the knowledge created is retained in a web portal for future reference and research.

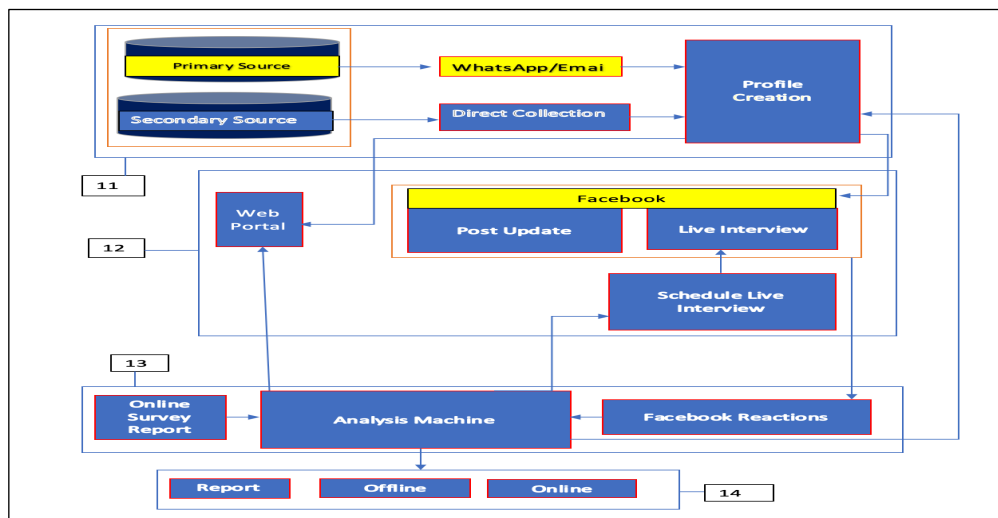


Figure 6.6 : *Flow of Information*

6.3 SUMMARY OF THE FRAMEWORK

The summary of the proposed framework is given above in [**Figure : 6.7**]. It consist of various components. It is the implementation model of Framework described in the section 6.2 . The details of the third party tools and applications used in the implementation model is also given out. The picture used in the figure is taken from the actual implemented model. The arrows gives out the direction of the flow of information which has already described in [**Figure 6.6**] above. The detailed descriptions of the various components are given below.

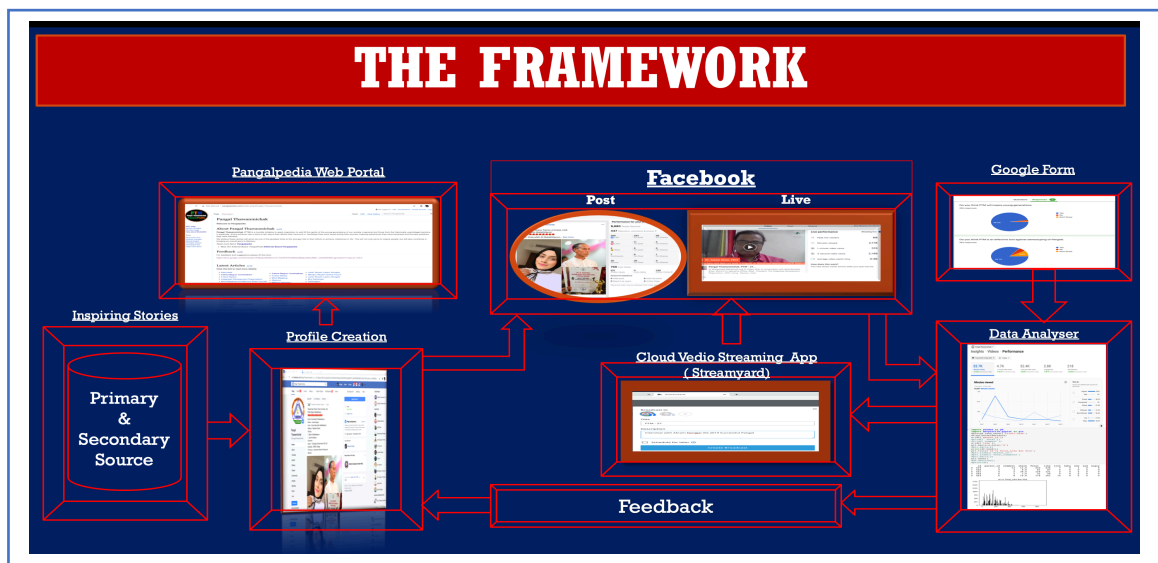


Figure : 6.7: *The proposed Framework*

6.3.1 Inspiring Stories

The inspiring stories [Figure No 6.8]of the particular community being addressed can be obtained from two sources. The primary and secondary sources. The primary sources are the individual himself/ herself, family and friends and general public. The method of collection of data is through WhatsApp or mail. The secondary sources consist of books, papers, news reports, and online resources. These are to be directly collected and properly edited.

Dr. M. Naziruddin Khan : Educational Journey

He is not only the first Ph. D in Physics from Pangal community but also has inspired and encouraged many other PhD aspirants.

Personal Details:

Birth Place: Lilong Hangamthabi,(Haorou)
Residence: Lilong Tamyai
Sagei Clan: Makak
Father: Md. Kamaruddin (locally- Jalal police)

Schooling

The early Education of Dr. M. Naziruddin Khan, PhD started from the Baby K. G. English School, Hangamthabi.

A brief history of the first English Medium School of Lilong

The first English School in Lilong was **The Public English School**, which was founded in 1963 and continued till 1970 under the following committee members:

1. Khulakpam Haji Md. Isahuddin Shah (Retd: Accountant)
2. Dr. Shaikh Maneruddin (Ex speaker)
3. Oja Ashraf Ali (locally known as Ashraf Khonsi)

The Second School

In 1978, Baby K.G. English school was founded at the residence of Haji Md Isahuddin Shah, Hangamthabi, Harou. The committee members were:

1. Khulakpam Haji Isahuddin Shah, (Retd: Accountant)
2. Oja Md. Zeinulabuddin (Oja Zolia), Turel Ahanbi

The school was later shifted near the Chingkhom Kabut Gate, where the old model Manipuri house is still existing. The school was established with the help of donation from locals, in the form of money and building construction materials. Unfortunately, the school was able to run only for 5 years (1978-1983).

In 1985, another School with the same name was started by some founding members of Integrated Development Organisation Lilong Ipham at the present Location of IDO Headquarter, Lilong Ipham. Now Islamic Baby English School is located in Lilong, Mairankhur, and is one of the elite Pangal English Medium School in Manipur. Currently it is having around 1000 students and has produced many brilliant students including Position Holders.



Figure No 6.8 : Inspiring Story

6.3.2 Profile Creation

The profiles [Figure 6.9]are to be edited in a proper and appealing format with an attractive tagline to inspire and attract people. The related supporting photo or certificates and citations are also included.

Pangal Thawanmichak
Published by Manipuri Pangal [?] · 28 August ·

Alhaj Roushan Khan DCO (Rtd) , NongjaiMayum
Founder Secretary ISECO (Now IDO)

Alhaj Roushan Khan is one of the leading pioneers for his contributions in the field of Education, Socio-economic and Cultural development among the Pangal community in Manipur. Among his contributions, the foundation of ISECO(The Islamic Social Educational and Cultural Organization), now Integrated Development Organization(IDO) in 1983, establishment of The Islamic Baby English School...

Continue reading



Performance for your post

14,983 People Reached

1,143 Reactions, comments & shares

1,011 Like	605 On post	406 On shares
46 Love	40 On post	6 On shares
1 Haha	0 On post	1 On shares
1 Wow	0 On post	1 On shares
2 Sad	0 On post	2 On shares
1 Angry	0 On post	1 On shares
41 Comments	35 On Post	6 On Shares
41 Shares	40 On Post	1 On Shares

1,256 Post Clicks

180 Photo views	0 Link clicks	1,076 Other Clicks
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NEGATIVE FEEDBACK

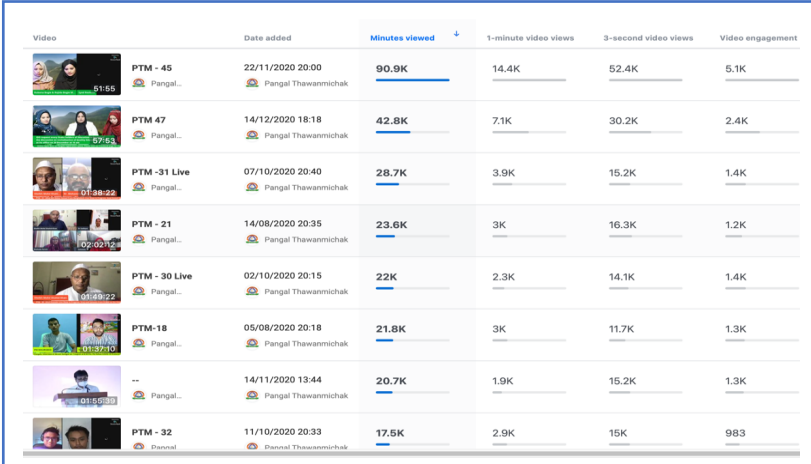
☐ Hide post ☐ Hide all posts
☐ Report as spam ☐ Unlike Page

Reported stats may be delayed from what appears on posts

Figure 6.9 : Profile Creation

6.3.3 Facebook

The activities on Facebook consist of two types, one the posting of the profile and secondly the live event hosting. The inspiring stories update is scheduled in a regular interval based on the public response and feedback. Interviews of the individuals are scheduled, and a Facebook event is created one week in advance before hosting the actual event to inform the page followers. Through necessary coordination with the individual, the questions are prepared. The broadcasting of the live video is done using StreamYard [Figure No 6.10] live streaming web based application. The comments and questions of the viewers are displayed live on the screen. The questions are answered by the guest in situ to give a feel of actual participation by the viewers.











Video	Date added	Minutes viewed	1-minute video views	3-second video views	Video engagement
 PTM - 45 Pangal...	22/11/2020 20:00 Pangal Thawannichak	90.9K	14.4K	52.4K	5.1K
 PTM 47 Pangal...	14/12/2020 18:18 Pangal Thawannichak	42.8K	7.1K	30.2K	2.4K
 PTM -31 Live Pangal...	07/10/2020 20:40 Pangal Thawannichak	28.7K	3.9K	15.2K	1.4K
 PTM - 21 Pangal...	14/08/2020 20:35 Pangal Thawannichak	23.6K	3K	16.3K	1.2K
 PTM - 30 Live Pangal...	02/10/2020 20:15 Pangal Thawannichak	22K	2.3K	14.1K	1.4K
 PTM-18 Pangal...	05/08/2020 20:18 Pangal Thawannichak	21.8K	3K	11.7K	1.3K
 -- Pangal...	14/11/2020 13:44 Pangal Thawannichak	20.7K	1.9K	15.2K	1.3K
 PTM - 32 Pangal...	11/10/2020 20:33 Pangal Thawannichak	17.5K	2.9K	15K	983

Figure No 6.10 : Live Interview Broadcast

6.3.4 Data Analyser

The analysis of the comments in the Facebook post and the live events are captured using a scraping tool. The feedback is also obtained through online survey. Data is analysed with Machine Learning.

6.3.5 Feedback

Feedback obtained through the Data Analyser is used to improve the Profile to be updated, its frequency, the contents and the decision to select guest for the Live Interview. The output of the Data Analyser Module also consist of some action points which may directly affect the community.

6.3.5.1 Online survey through Google Form

A google form was created with the following questions in order to capture the feedback of the viewers. The sample include various location and profile of the users to have a holistic view. It is a random sampling based on voluntary participation. The form were circulated through the web portal, through Facebook post including personal message through messenger and through WhatsApp message.

6.3.5.2 Online Survey Questions : Pangal Thawanmichak

There are a total of 16 Questions that were collected from random users through the use of Facebook post, WhatsApp message, and hosting the link in Pangalpedia web portal.

- Email address*
- Please Enter Your Name*

- Please Enter Your Phone Number*

- Please Enter Your Profession
- Please Enter Your Address

- Do you think PTM will inspire young generations.
- Do you think PTM is an effective tool against stereotyping of Pangals.

- Do you think PTM is an example of good usage of Social Media

- Do you think PTM will motivate younger generation.

- Do you think PTM will change people's perceptions about Pangals.

- Do you think PTM should continue its initiative.

- Do you think using Social Media Platform is more effective than using other traditional media like , newspaper, TV, Radio etc in this age of Internet.

- During Pandemic do you think PTM is the best option available for awareness, motivation, and inspiring the Pangals.

- How effective is PTM in achieving its goals of mobilisation, motivation, and inspiring the Pangals.

- How you came to know about PTM.

- Any Suggestions about the Pangal Thawanmichak and Pangalpedia initiative.

6.3.6 Pangalpedia Web Portal

The profile data collected and any other relevant data discovered during the research work is hosted in a Web Portal called Pangalpedia. The community members are also to be encouraged to share data related to the community by creating a user profile in the Web Portal. It acts as a wiki of the community for future research on the community.

Mission and objectives being clearly spelt out. The mission statement, the mission, the activities to be carried out to accomplish the mission and the various objectives to be fulfilled by the mission are elaborated below:

6.3.6.1 Mission Statement of Pangalpedia

“ Pangalpedia is a humble initiative to spark inspiration to and lift the spirits of the young generations of our society in general and those from the historically unprivileged sections in particular. Every achiever has a story to tell; about their efforts they have put in, hardships they have faced during their journey, inspiring adventures they have traversed and the best practices they have followed. We believe these stories will serve as one of the greatest tools to the younger lots, in their efforts to achieve milestones in life. This will not only serve to inspire people, but will also contribute in bringing an overall glory to Manipur.”

6.3.6.2 Mission of Pangalpedia

The mission is to encourage and lift up spirits of the younger generations of our society in general and Pangals in particular. Pangal/Meitei-Pangal/Manipuri-Muslims are an economically and historically underprivileged people of Manipur. The Pangal Thawanmichak will carry out a mission to find out individuals from the community who have excelled in different streams. The power of each success story to ignite the minds of our younger generation. Every achiever in any field has an inspiring story to share; about the struggles they have made, hardships they have faced, challenges they have met and the best practices they have followed. This mission will help in forming a depository of information from a large collective of Pangal Stars. This will serve as a comprehensive data-bank of various stories of struggles, obstacles, notes of inspiration and visionary ideas to address our societal problems in a systematic manner. This compilation will be helpful for human development, particularly for the Pangal community. This effort will strongly help in strengthening nation building process.

The Mission will be carried out with the following activities:

- Awareness and Mobilization.
- Motivation through Success stories of the Pioneers amongst Pangals.
- To ensure lifting the morale of struggling students with helping hands from Pangals successful stars.
- Creating a database for future Reference and Research.

- To ensure an objective knowledge building process in historical, social and cultural realms of the Pangal community; free of unscientific, stereotypical and biased knowledge productions.
- To promote free flow and exchange of knowledge across the spectrum of our society; inculcate the sense of rootedness, dedication and overall development of our country.

6.3.6.3 Objectives of Pangalpedia

The mission include the following objectives [Figure No 6.11]:

- To facilitate education to the most deprived section of our society.
- To spread awareness of education to the public.
- To encourage meritorious students, leap from lower to higher levels of study.
- To organize career-counselling and guidance programs, so as to help in solving problems faced by students in career selection.
- To promote youths in the field of Arts, Culture and Science & Technology.
- To assist people of the Pangal community to acquire different levels of skills through appropriate developmental courses.
- To encourage youths to actively take part in various traditional, professional and adventure sports.
- To encourage cultural activities with a vision to protect traditional art forms, songs, language and food.
- To protect our environment by encouraging public participation in conservation of our environment.
- To bring harmony to the Manipuri society.
- To participate in nation building process.

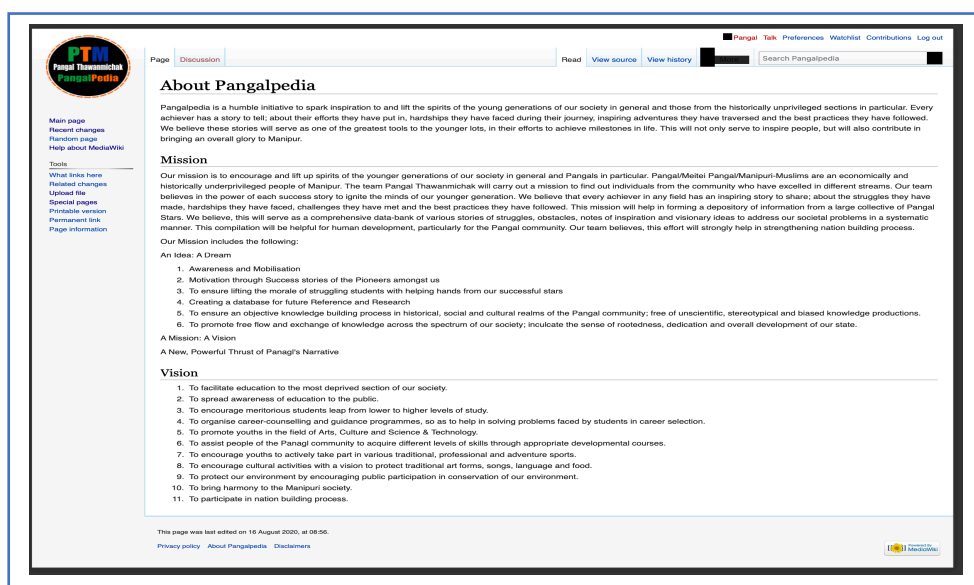


Figure No 6.11 : Objectives of Pangalpedia

6.3.7 Action Projects

Action projects consist of online and offline activities. These actions are suggested by the followers of the page. These action projects include web talks for career counselling and awareness, free online coaching, fund raising event, online quiz competition, and sponsoring of offline charity.

Some Examples of Action Projects are listed below:

- **Quiz Competition:** Online Quiz Competition [Figure 6.12] on different subjects were being conducted for students of various categories. The Quiz Competitions were sponsored by various online platforms active in Manipur state.



Figure 6.12: Example of Action Project: Online Quiz Competition

- **Career Counseling:** Online career counseling [Figure No 6.13] of various career options were carried out. The individuals already successful in the same careers were approached to conduct the event. Students were allowed to asked their doubt and clarification insitu were carried out.

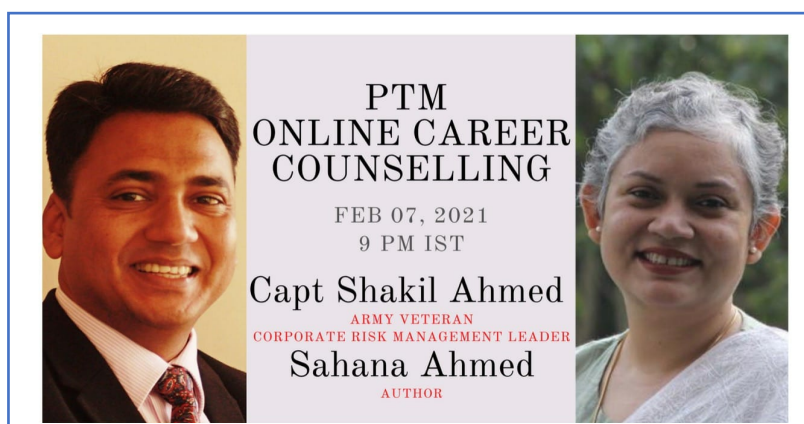


Figure No 6.13: Example of Action Project: Career Counseling

- **Online Coaching:** One Month online coaching [Figure No 6.14] for English Speaking was carried out. The Google Meet platform was used for the coaching. A CELTA Certified Trainer Assistant Professor volunteer for coaching the students. It was well received by the students. Around 100 students registered for the course.

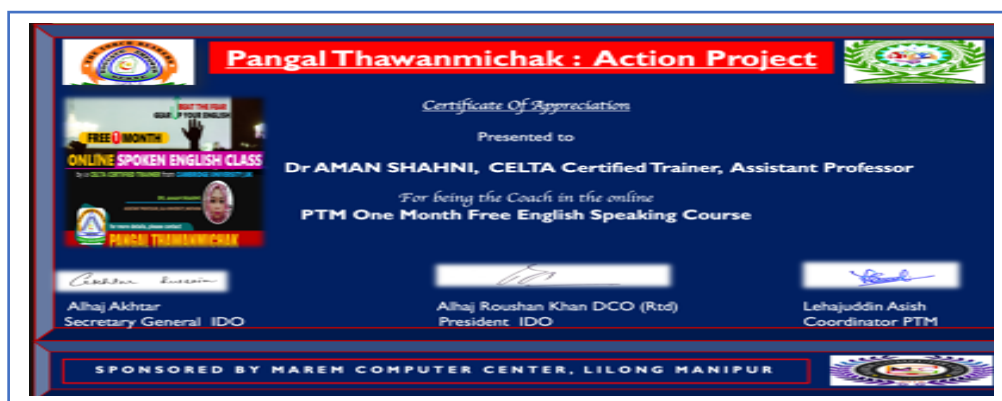


Figure No 6.14: *Example of Action Project: Online Coaching*

- **Awareness Campaign:** Awareness campaign [Figure No 6.15] on various issues were carried out. It includes awareness on New Education Policy 2020, Awareness of Drug abuse, Awareness of Girls Education and early marriage, Awareness on concept of Citizen lobbyist and Awareness on movement against vote for cash.



Figure No 6.15: *Example of Action Project: Awareness Campaign*

- **Sponsoring Education of Economically Weak Students:** During the interview of the Pangal Stars some of them offered to sponsor education of girl child, may offered monitory help, give procedural guidance for study abroad and other forms of sponsorship.

CHAPTER 7

ANALYSIS AND DISCUSSION OF THE RESULTS

The observations of the case study in the form of the feedback through online survey, the sentiment analysis of the comments and the general response of the public through various analytical data obtained through inbuilt Facebook analytics tools are listed below. These results are discussed in the succeeding paras.

7.1 FEEDBACK THROUGH ONLINE SURVEY

The online survey was carried out, using Google form. The samples is random and based on the voluntary response by the followers of the Facebook page. The form was shared on the Page, in WhatsApp groups and also hosted in the Pangalpedia web portal. The response shows very encouraging and positive results. The response indicate the following:

94.2% of the total response feel that using social media for motivation of younger generation is a good usage and 96.3% of them feel that it will definitely motivate the younger generation [**Figure 7.1**].

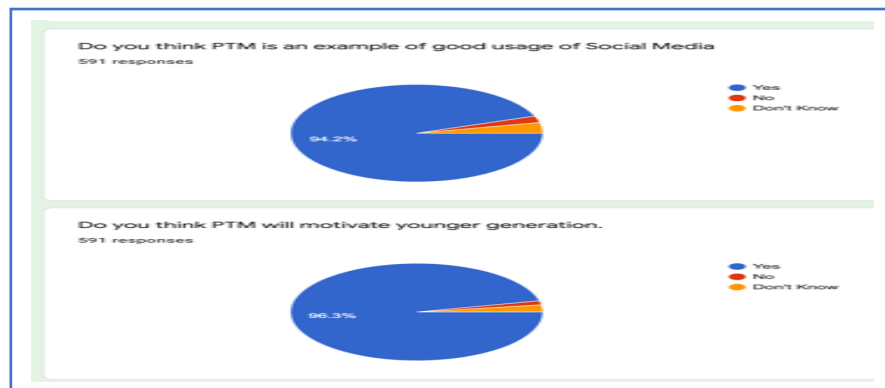


Figure 7.1: *Usage of Social Media For Motivation*

95.4% feel that posting inspiring stories in social media will inspire them and 79.7% feel that social media can be an effective anti-stereotyping tool[**Figure 7.2**].

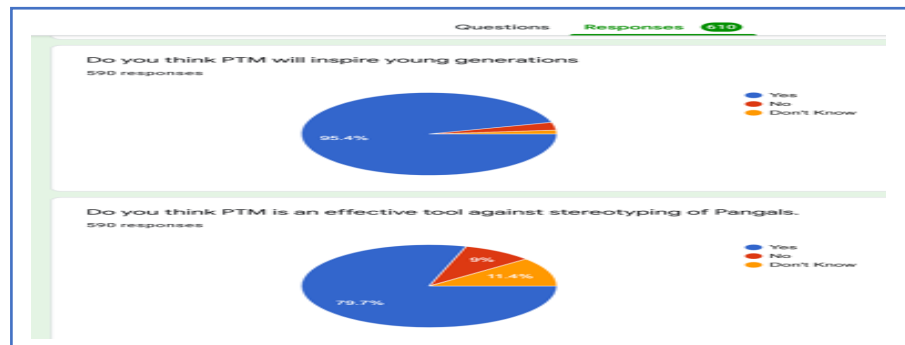


Figure 7.2: *Social Media as Inspirational and Anti-stereotyping tool*

85.7% believed social media can change perception of people about a community and 94.4% wanted the initiative of posting positive news about a community to bring a positive perception about the community to continue [Figure 7.3].

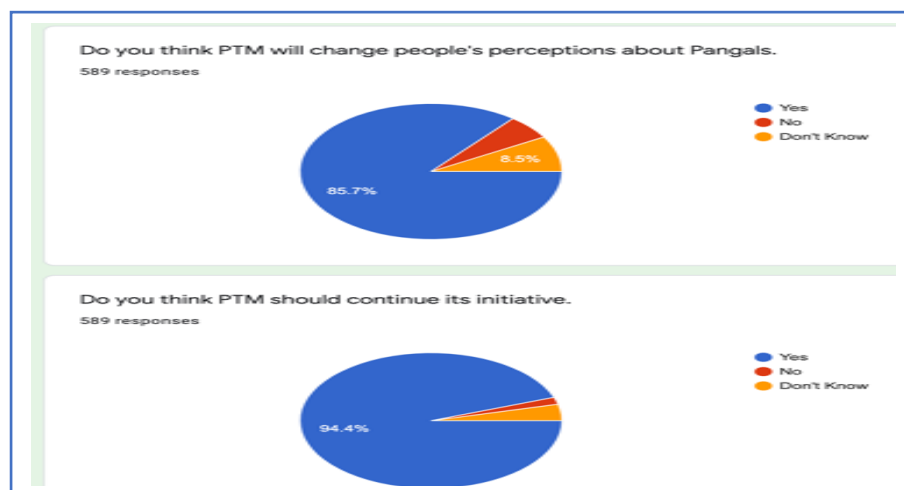


Figure 7.3: *Social Media Changing People's Perception*

81.3% feel using social media is more effective than other traditional media in this age of internet and 87.1% feel that social media is best option available for awareness, motivation and inspiring a community during pandemic [Figure 7.4]

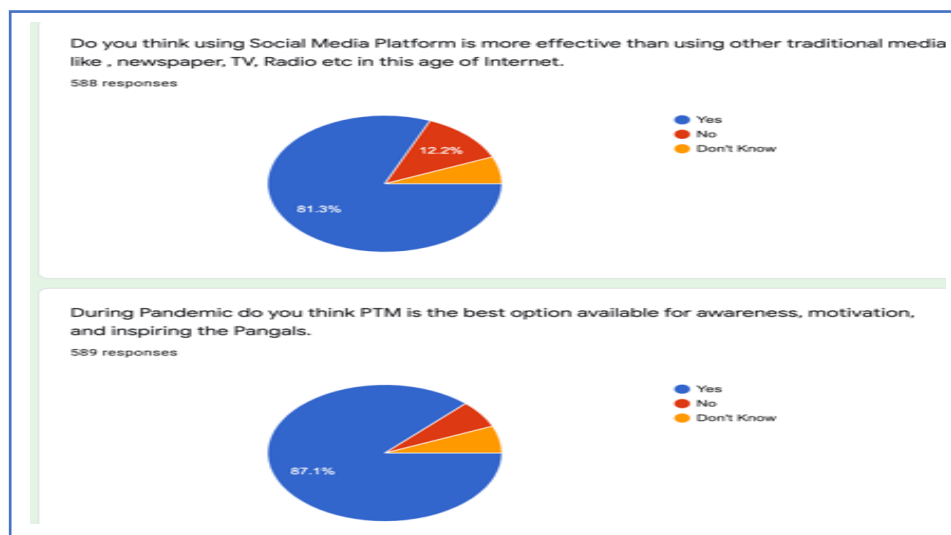


Figure 7.4: *Social Media as an Alternative Awareness and Motivation Tool during Pandemic*

On the question of how effective social media in mobilisation, motivation and inspiring of Pangals, 54.6% of the respondents feel it is very effective whereas 41.6% feels it is just effective. 65.9% comes to know of this case study through Facebook thus, proving the popularity of Facebook [Figure 7.5].

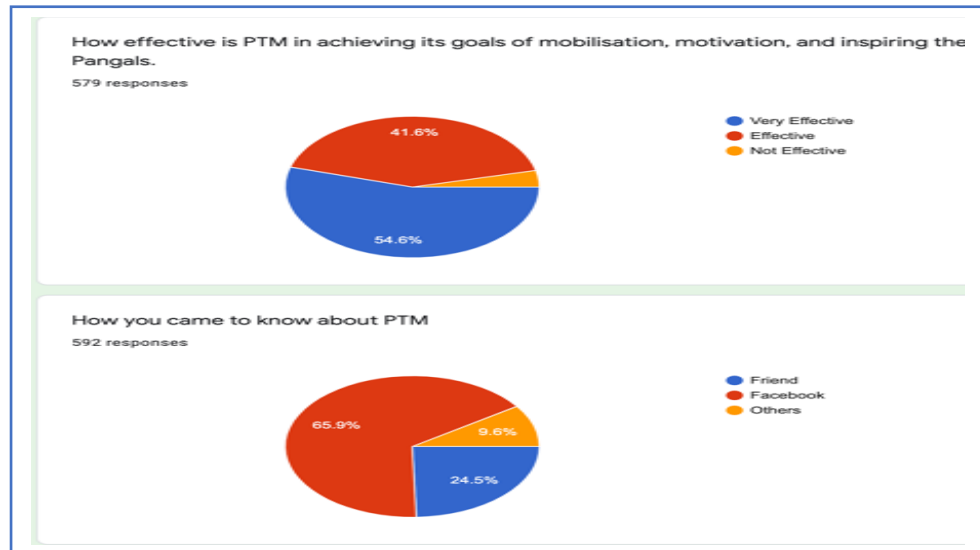


Figure 7.5: Effectiveness of Social Media as Mobilisation and Motivation Tool

7.2 ANALYSIS OF COMMENTS

The Sentiment Analysis of the comments posted in the Facebook post and Live interview from 01 June 2020 to 31 August 2020, for 500 post have been analysed. The outcome shows 46.7% as positive, 52.7% as neutral and only 0.7 is negative. Thus effectively more than 99% have positive sentiments [Figure 7.6].

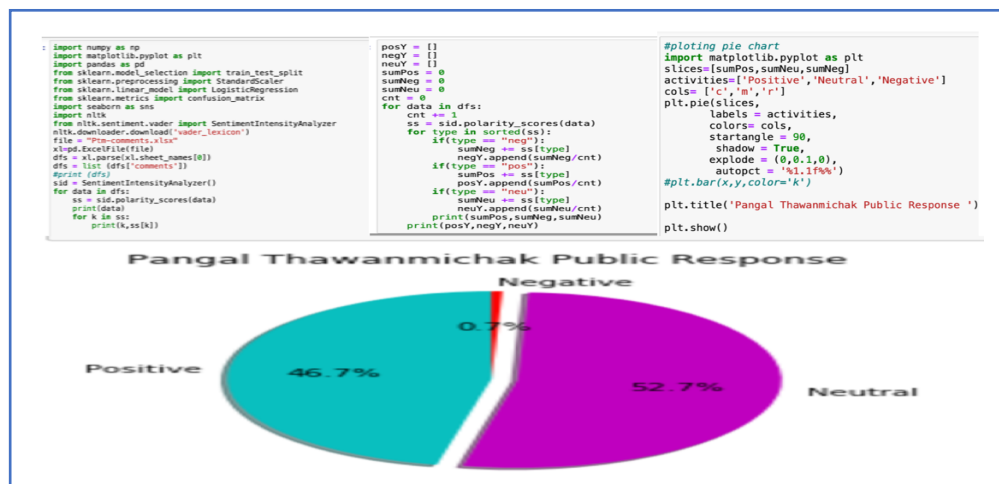


Figure 7.6 : Sentiment Analysis of the Comments

7.3 PUBLIC RESPONSE TO THE PANGAL THAWANMICHACK FACEBOOK PAGE

The popularity of the page can be judged by various insights provided by Facebook. The page has a positive impact to the Pangal community as it could receive an ever-increasing number of followers within a short period of time. The page has a follower of 15k plus and the overall reach of the page is above 100k. People come forward with ideas and suggestions. After just one month of hosting the page, people voluntarily started sharing their achievements through email and WhatsApp messages. Follower of the page is given in [Figure: 7.7].

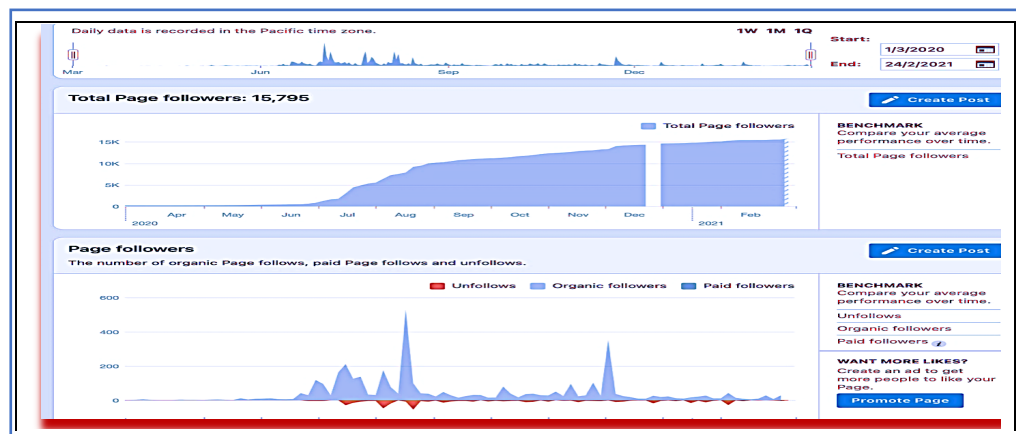


Figure 7.7: Increasing followers of the Page

The age group of the users the page reached is from 18 years to 44 years which indicates that the target audience is the expected and the desired age group. The percentage of men is 79% and that of women is 21%. The geolocation where the page reached indicates the area where Pangals are populated. However, the reach of the page is worldwide. Thus, it indicates that the perception management will be effective in those areas where Pangals are populated. This also proves that Facebook is effectively reaching the target community and geolocation. [Figure:7.8]

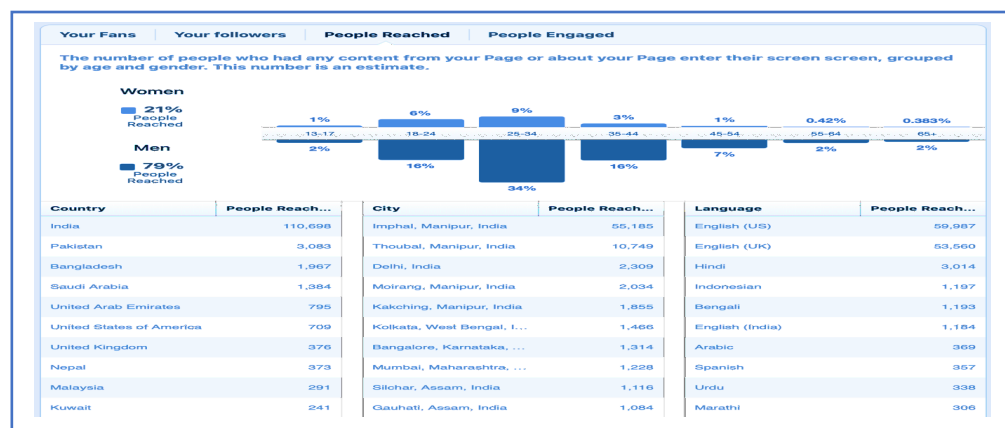


Figure 7.8: Peoples' age group and geolocation reached by the page

The page view summary from 02 June 2020 to 23 February 2021 is given in [Figure:7.9]
The maximum people check out the purpose of the page by viewing the home page.

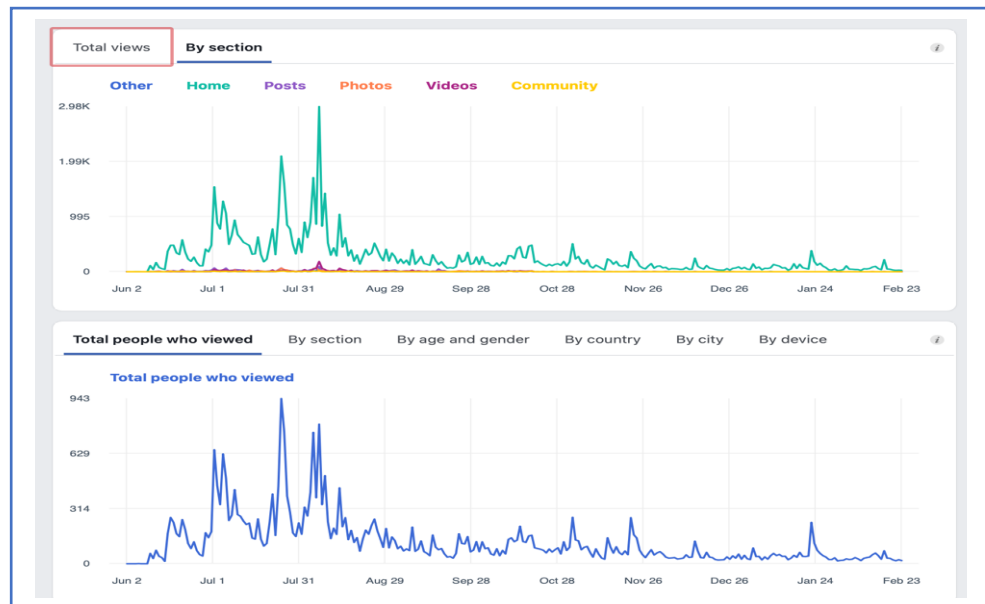


Figure 7.9: Page View from 02 June 2020 to 23 February 2021.

The post reached for the period 1/6/2020 to 24/2/2021 shows a peak of 100k in August 2020 [Figure: 7.10].

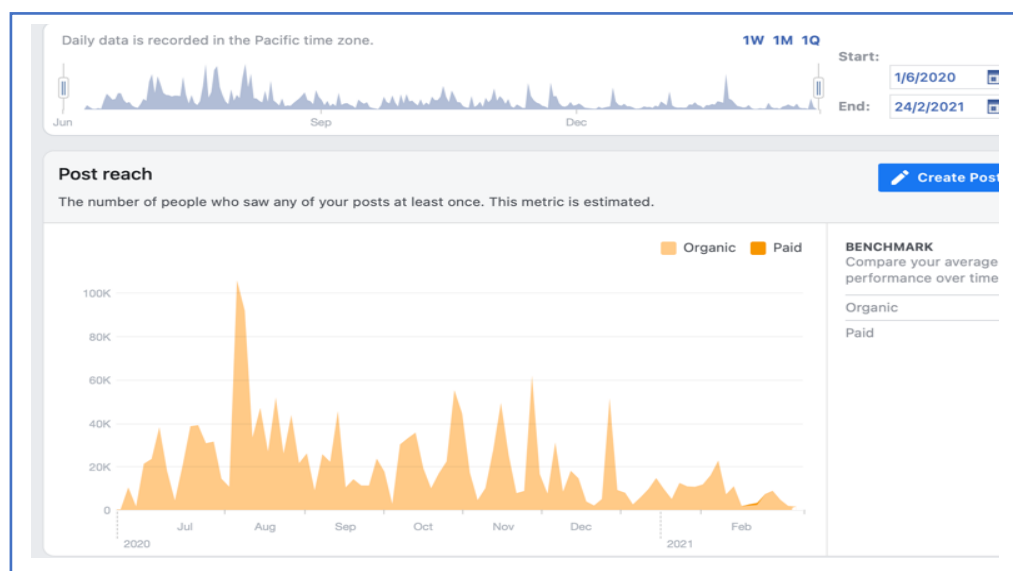


Figure 7.10: Post reached from 01 June 2020 to 24 February 2021

7.4 DISCUSSION OF THE RESULTS

The sentiment analysis of the comments shows a positive outcome towards using Facebook as a social change agent. The online survey also reconfirmed and superimposed the positive outcome of the case study. The popularity of the **Pangal Thawanmichack** (PTM) Facebook Page and its daily increasing followers is an additional testimony to the effectiveness of Facebook as a community mobilization, motivation and perception management tool during and post pandemic. The online events hosted by the PTM Page is very popular among the targeted audience. Thus, the overall result validate the framework and we conclude that Social Media can be used as an effective social change agent. The framework and the methodology proposed can be used for effective community mobilisation, motivation and perception management during and post pandemic. The final verdict obtained through the model is reproduced in a tabular form as given below in [Table 7].

Table 7 : *Observations and verdict of the case study*

Parameter	Positive	Negative	Verdict
Facebook as Anti Stereotyping Tool	79.7%	20.3%	Positive
Social Media a Better Tool in comparison to Traditional Media	81.3%	18.7%	Positive
Positive Facebook Post Inspire Young Generation	95.4%	4.6%	Positive
Facebook Page able to change Perception about Pangals	85.7%	14.3%	Positive
Page followers	Increasing with Time	-	Positive
Sentiment Analysis outcome	99.4%	0.6%	Positive

7.5 TECHNICAL ISSUES FACED DURING ONLINE ACTIVITIES IN THE REMOTE NORTH EASTERN REGION OF INDIA

The technical issues face in the online interviews during the live shows have been captured. These issues are general issues being face in online activities everywhere, as the activities covers different geographic locations of the world.

- **Connectivity issue** : On several occasions there were a considerable time lag in rendering the online video. At times due to poor connectivity there were intermittent disturbances. Low bandwidth and poor connectivity is still a reality. The Digital divide still exist inspite of penetration of internet to every household.
- **Power Failure** : The failure of electric supply too were noticed during the online activities. The power infrastructure needs to upgrade.
- **Lack of Technical knowhow** : Majority of the Guest have to be given a demonstration how they have to connect online through StreamYard. For every one of them it's the first time they are using such application. Majority of the student needs initial training to be comfortable in using Google Meet and StreamYard. Use of WhatsApp and Facebook was more comfortable for everyone.
- **Lack of appropriate device** : Some of our guest were not having smart phone or a laptop capable to join our online programme. Even if they have the devices there were compatibility issues thus effecting the quality of audio and video.
- **Communication Skill** : Some of our guest were having issues in communication, in spite of the fact that the programme were conducted in local language.
- **Distraction and Disturbances** : There were distraction and disturbances during the online events with unexpected digital noises. The actual causes could not be ascertained, thus need proper further investigation.
- **Browser Dependent Application** : Certain application although web based but not all browser could run that application. This is a serious limitation of the application. StreamYard in particular can be used with chrome only, thus some mobile whose default browser is not chrome needs to be updated to Chrome browser as an additional installation.
- **Security Concern** : With ease in usage there is always compromised in security. The default risk involved with online activity were more prominent with the requirements of giving full permission to certain appliances.
- **Time Zone Issues** : Due to difference in time zone there is issues in scheduling the timing of online events. This a peculiar problem of online event.

7.6 DETAILS OF THE APPLICATIONS USED

The details of Third-Party Applications used in the research work are given below:

- **StreamYard** – It is Cloud based online streaming platform. This will be used for hosting the live interviews.
- **Facebook Page** – It is the Social Media Platform. It is used for posting the profile and live event streaming.
- **MediaWiki** – Open source crowdsourced Knowledge Management Application. This is used for the Web Portal.
- **Python** – Programing Language for Data Analytics and visualization.
- **Google Forms** – For online survey.
- **MS Excel** – The spreadsheet of the data.
- **WhatsApp** – For collection of profile data and coordination for the live event.
- **Facepager** – Facebook Scraping Tool.
- **Google Meet** for Online Career Counselling.
- **Quizizz** cloud-based Application for Online Quiz Competitions.

7.7 LIMITATIONS

Some of the limitations of the study are as follows:

- **Time Period of the Study:** It is limited to one year only.
- **Regional and only one community Data:** The data used is only of a community from North Eastern India.
- **Limited to online collection of Data and Response:** The data is collected through online mode only.
- **No previous Study or Record:** There is no previous record or study exist in the same setup.

7.8 CONCLUSION

A framework for community mobilization, motivation and perception management during and post pandemic have been proposed. In order to validate the framework, a way of online survey and sentiment analysis is suggested. A case study of Pangals community using the framework and the methodology have been carried out during this project work. The result of the case study of Pangals shows a very positive outcome thus validating the framework. The following are the contributions of the research:

- A framework for community mobilization, motivation and perception management during and post pandemic or in any such situation.
- Successful case study of perception management of a marginalized community and motivating the younger generation for common good.
- Establish the first ever Pangalpedia web portal which will be a wiki of Pangals.
- List out the problems and issues faced during online activities in the remote North Eastern Region of India and suggested solutions.
- A database of Pangals for future research.

7.8.1 Future Scope

In future the framework can be implemented as a web based Application using any modern programming language such as java or python. The various components could be implemented on a general purpose personal computer running any modern OS along with a web browser. While the framework has been described in conjunction with specific embodiments outlined above, it is evident that many alternatives, modifications and variations will be apparent to those skilled in the art. Accordingly, the preferred embodiments of the framework as set forward above are intended to be illustrative, not limiting. Various changes may be made without departing from the spirit and scope of the framework. The method to carry out analytical measurement of the degree of achievements of the desired change in the society can be developed in future. The parameters how the changes have to be measure needs to be defined to have a fool-proof methodology. In future the process can be streamlined and proper analytical validation methodology in order to measure the degree of effectiveness of Social media as a social change agent can be developed. Some area where it can be used are suggested as given below. However it is a just an idea, the possibilities of utilising the framework is manifold.

- Perception Management
- Anti- Stereotyping
- Targeted Campaign

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<https://a2zjournals.com/jieee/currentissue>

The paper was also awarded BEST PAPER award in **International Conference on Artificial Intelligence (ICAI-2021)**.



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MSc(Physics)	AMU	AMU, Aligarh	64.8%	1994	Completed
BTech(Electronics)	MCEME	JNU, New Delhi	7.39 GPA	2006	Completed
MTech(Computer Technology)	MCEME	JNTU, Hyderabad	71.5%	2010	Completed
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3. Thesis title: “**Social Media Based Platform for Community Mobilization and Motivation During and Post Pandemic.**”
4. Degree for which the thesis is submitted: **Master of Technology (CSE)**
5. Faculty of the University to which the thesis is submitted: **Dr Praveen K Shukla**
6. Thesis Preparation Guide was referred to for preparing the thesis. **YES/ NO**
7. Specifications regarding thesis format have been closely followed. **YES/ NO**
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