

An Optimal Approach to Achieve Effective Email Marketing: Review

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Abstract: Email Marketing has been emerging as a most powerful medium of marketing. In beginning time email had been using in a very small scale and area. People were using email to contact with their friends and for their official communication. But as the time grows email has started using in business communication. Peoples started using email for the communication with their customers, users, clients. And later this form of marketing is considered as email marketing. Here the point is for doing the best effective email marketing to achieve our goal however all the ESP are providing the basic facility of sending emails in their ESP plans. We can't instantly make the rules and method for the best effective email marketing, but we can always make it better by observing and analyze the email campaign sent and received over a period of time along with the behavior of the reader who is finally responsible for opening an email.

Index Terms: Email Marketing, Email Verification, Domain Verification, Spf & Dkim.

I. INTRODUCTION

As we move into the twenty-first century, the way that firms and companies do business has changed, furthermore, it is readily apparent that such changes are attributable to the advent of the Internet Text mining is a broad area, with applications beyond computational advertising. Text mining methods in cludelatent semantic indexing (LSI), use of n -grams, topicmodels, and sentiment analysis, among other tools. For computational advertising purposes, one must tailor the analysis to the specific application. In particular, we consider the following two business models: There are two main strategies in text mining: one approach attempts to use semantic information, in which both vocabulary and word order carry signal. The other uses the bag-of-words model, for which only vocabulary matters carry signal—all permutations of the words in a document provide equivalent data. Despite their clear limitations, bag-of-words models are surprisingly successful and have generated rich theory, especially in the context of topic modeling. Nonetheless, from a computational advertising standpoint, it is problematic that bag-of-words model cannot distinguish a post such as 'Don't buy a PC—buya Mac' from 'Don't buy a Mac—buy a PC'. [1][3]. Internet users send and receive a majority of emails daily or log to chat with their friends or with selected group of people with common interest over internet. People also use internet to web surfing or gathering information but the issue that all managers should know is

that e-mail is the most usable media in the internet environment. Potential of e-mail in marketing aspect is not under veil and all the firms and companies always tries to prepare a list with their customer. e-mail as a source for preparing data and information both in customers mind and business owners was relatively attractive. Robert Hicks who is president of DM groups in a firm in Aurora have an idea about e-mail marketing and believes: "The ability to track information and define mailings is phenomenal. The ability to define potential consumers is fantastic. You deliver an e-mail message, in a couple of hours instead of a couple of weeks, at a CPM of \$75 per page and get a 5 percent response in 72 hours. The cheapest carrier route is about \$145, and the results aren't comparable". Some researchers explain about user group as a self selected group of people with common interest such as car, travel and so on[1].

Most of your day to day communication at the university, both official and unofficial, will be done by email. The simplicity of using email technically should not distract you from the care that needs to be taken as you write. The most important thing to remember when you write an email is to consider its impact on your reader. Think about why you are writing the email and consider the tone and the way you express yourself. The more distant the relationship is between yourself and your reader, the more formal the tone and expression must be and the more carefully constructed your email will have to e. In other words, you should observe **email etiquette**[7].

According to industry analyst house Forrester Research, the volume of email marketing messages is expected to reach 838 billion in 2013 in the US. Locally, the Australian Communications and Media Authority researched Australians and confirmed that email is the most popular online activity by a significant margin¹. However with an ongoing increase in email marketing volume, consumers are overwhelmed with information. As a result, there is an inevitable decline in the effectiveness of email marketing. Open and click rates for email marketing campaigns are declining worldwide as email recipients struggle to consume the increasing volume of emails they receive, many of which are irrelevant. Unique open rates are declining, from 21% at the start of 2006, down to 15% in the year end 2008². Forrester Research anticipates that by 2014, direct marketers will waste \$144 million on emails that never reach their primary target due to poor deliverability. What is becoming increasingly apparent is that organizations that do not adhere to email marketing best practices are experiencing and will continue to experience a rapidly shrinking ROI from their campaigns As the graph below indicates, five years ago the relative performance for best practice and non-best practice email marketing messages was similar [11].

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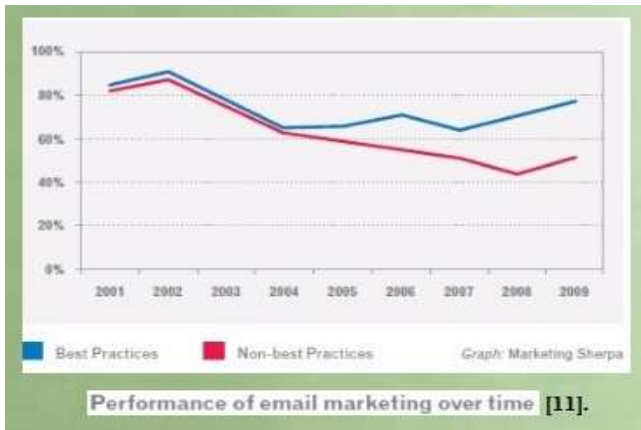


Fig1: Performance of email marketing over time [11].

Members within organizations such as the Messaging, Malware, and Mobile Anti-Abuse Working Group (M3AAWG) are suggesting SMTP error response schemes to establish DomainKeys Identified Mail (DKIM) or the Sender Policy Framework (SPF) as acceptance requirements to better ensure a domain offers a basis for acceptance to replace that of the IP address used by SMTP clients[8].

“DKIM’s sole job is to attach an identifier that can be believed, specifically a domain name that can be unrelated to any other identifier in the message. That domain name is used for associating the reputation of the domain owner with the message. ... The DKIM specification mandates that input to DKIM must be valid according to RFC5322. In requiring this, it is placing a burden on the containing system to ensure that a message is well formed. It is not DKIM’s job to do the basic message validation; it’s the job of the requesting software[8].” Email authentication systems may provide an effective means of stopping email spoofing. The three main contenders for authentication are Sender Policy Framework (SPF), SenderID, and Domain Keys[2][8].

SPF (Sender Policy Framework or Sender Permitted From): Checks the “envelope sender” of an email message—the domain name of the initiating SMTP server. Sender path authentication [4] that helps recipients identify the authorized mail servers for a particular domain, and validate that emails they received has originated from these authorized sources[2].

SenderID: A path-based authentication technology that authenticates the sending domain, based on the network path the email took. Network path is defined by source IP address. It checks after the message data is transmitted and examines several sender-related fields in the header of an email message to identify the “purported responsible address[2].”

DKIM (Domain Keys Identified Mail)- A crypto-based authentication technology that authenticates the sending domain, based on a cryptographic signature contained within the email. DKIM provides a “cryptographic signature” (or “key”) of multiple email header fields and the body of a message. In its DNS record, a Web domain protected by DKIM publishes the public key (or “domain key”) that corresponds to its self-generated private signing key. Email recipients can use that key to verify that the message header and body match the identity of the sending domain – helping them determine whether the email is likely to be a phishing or other malicious message. Domain Keys [6] is an attempt to give email providers a mechanism for verifying both the

domain of the email sender and the integrity of the messages sent. Once the domain can be verified, it can be compared to the domain used by the sender in the From: field of the message, to detect forgeries. Domain Keys uses public key encryption technology at the domain level to verify the sender of email messages. There are tools such as PGP and S/MIME for encrypting and signing of email messages. A recipient of a signed message can verify the original sender based on the cryptographic signature[2].

In general, organizational email datasets have three problems. *First*, multiple email addresses, names, or IDs exist for the same person. Even though the header name, such as “To” in an email, makes itself clear, that is, the value followed is the information about the receiver(s), the value could be in an email address form or name form. One person can be labeled with various name formats by other people. For example, one can be labeled as “lname, fname” by one colleague and “fname mname lname” by another. These optional names will not affect the actual delivery because the delivery address is supplied in the protocol, but the difficulty of mapping these names correctly is greatly increased. Moreover, one person may have multiple email addresses from domains in addition to his/her organizational one, such as yahoo, gmail, hotmail, etc. Even within the same organizational domain, people may have several email addresses. When the people who send and receive emails are of interests in SNA research, mislabeling a person may lead to confusing or even wrong conclusions. *Second*, duplicate emails exist. For example, when A sends an email to B, that email would be in the “Outbox” of A and “Inbox” of B simultaneously. If there are multiple recipients, each one of them would have a copy of that email. Duplicate emails should be removed if email or word frequency is being studied, otherwise the number of emails will be overestimated in a nonlinear way and the accuracy of results of SNA cannot be determined. *Third*, the content of the email is difficult to extract. The email content is normally mingled with the signature and the quotation. If the content of emails is an essential part in the research, the irrelevant parts should be removed before any text mining techniques are applied. Before sending a email campaign you should never forget cleaning your email list as this removes all the bad emails from your email list[13].

Enron was the World’s Leading Energy Company; it declared bankruptcy in December 2001, which was followed by numerous investigations. During the investigations, the original Enron email dataset, consisting of 92% of Enron’s staff emails, i.e. 619,446 email messages in total, was posted to the web by the Federal Energy Regulatory Commission (FERC) in May of 2002 [Federal Energy Regulatory Commission, 2002]. Leslie Kaelbling at Massachusetts Institute of Technology (MIT) purchased the dataset, and found integrity problems with it. A group of researchers at SRI International worked on these problems for their Cognitive Assistant that Learns and Organizes (CALO) project, and the resulting dataset was sent to and posted by Professor William W. Cohen at Carnegie Mellon University (CMU) [Cohen, 2004]. This dataset is called the March 2, 2004 Version, which is widely accepted by many researchers.

In this version, the attachments are excluded, and some messages have been deleted upon the request of Enron employees. filtering messages based on priority, assigning messages to user-created folders, or identifying SPAM. We will focus on the problem of assigning messages to a user's folders based on that user's foldering strategy. One major consideration in the classification is that of how to represent the messages. Specifically, one must decide which features to use, and how to apply those features to the classification. Manco, defined three types of features to consider in email: unstructured text, categorical text, and numeric data. Relationship data is another type of information that could be useful for classification. A large set of email messages, the Enron corpus, was made public during the legal investigation concerning the Enron corporation. The raw corpus is currently available on the web at, <http://www2.cs.cmu.edu/~enron/>. The current version contains 619,446 messages belonging to 158 users. We cleaned the corpus for use in these experiments by removing certain folders from each user, such as "discussion threads" and "notes inbox". These folders were present for most users, and did not appear to be used directly by the users, but rather were computer generated. Many, such as "all documents", also contained large numbers of duplicate email messages, which were already present in the users' other folders. Since our goal in this paper is to explore how to classify messages as organized by a human, these folders would have likely been misleading[6][13].

Apart from this, the time and energy of email receivers is wasted who must search for legitimate emails among the spam and take action to dispose the spam. How does spam differ from legitimate advertising? If I enjoy watching network television, using a social networking site or checking stock quotes online, I know I will be subjected to advertisements, many of which may be irrelevant or even annoying to me. Google, Yahoo!, Microsoft, Facebook, and others provide valuable consumer services, such as social networking, news and email, supported entirely by advertising revenue[14]. Like other types of filtering programs, a spam filter looks for certain criteria on which it bases judgments. For example, the simplest and earliest versions (such as the one available with Microsoft's Hotmail) can be set to watch for particular words in the subject line of messages and to exclude these from the user's inbox. This method is not especially effective; it may omit legitimate messages (called false positives) and passing actual spam messages. More sophisticated programs such as Bayesian filters or other heuristic filters, attempt to identify spam through suspicious word patterns or word frequency. Emails have become one of the most frequently used methods for cyber attacks. The most worrying email-based attack is Targeted Malicious Email (TME). In TME, attackers send malicious emails to certain people targeted in an organization, such as executives of large companies, high-ranking government personnel, military officials and even famous researchers, in order for the attackers to obtain valuable confidential information and latest research of the targeted people. In TME, an email often has an attachment with malicious codes that can be installed automatically upon opening without the victims realizing it. In some cases, the victims' computer will become the back door for the attackers

who in turn have the authority to enter the network of the targeted persons and thus steal confidential information[4][5].

II. LITERATURE REVIEW & PROBLEM IDENTIFICATION

Email was invented in 1971, and their uses would have been increasing year wise. Recent few years email marketing has been adopted as a most powerful medium of communication with the users and customers. Initially it was limited within the small group of friends or official communication in limited domain. Now, the number of email user has been increased by 2672 million from just countable emails in starting. And they are growing with a higher rate [15].

It has been observing for a long time that email marketing is a best investment to a get a satisfactory return. Most of what you invest, you get. Recent research shows that for every dollar invested in E-mail marketing, you can expect that according to the Direct Marketing Association, E-mail marketing in 2009, acquired for \$ 43.52. So E-mail Marketing has the highest return on investment than other marketing methods. It is very meaningful. You can customize messages for different customers and provide contents and promotions that are consistent with their profile. Finally, your customers acquire what they want and thus they obtain better view about what each section of current business will respond. So you can continue to send more relevant E-mails[9].

Email marketers have been playing important role in connecting with the customers and providing the knowledge regarding email marketing with enthusiastic approach. It has been proving a profitable business for the customers as they are capable in promoting their business in a broader range of customers or users. The increasing volume and variety of available channels gives marketers the means to connect with customers in more meaningful and relevant ways than ever before. For example, more channels equate to more data collection opportunities data that can be used to better understand their customers and fine-tune marketing over time to reach the largest number of high-value consumers. With the increase of customer data available, it is becoming more important for email marketers to understand how their customers are engaging with their brand across all channels. Not surprisingly, of the brands surveyed, the large majority market in multiple channels, with almost 100 percent active in email, Web and social [10].

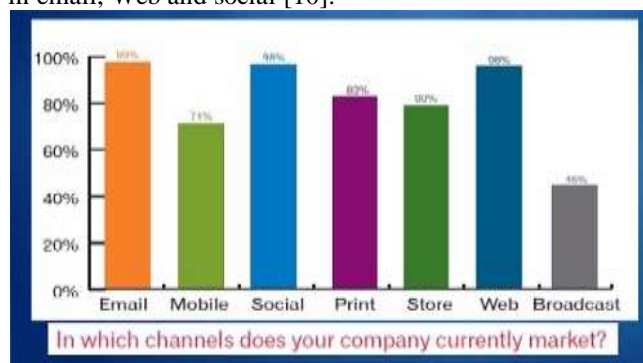


Fig: 2 Source: Experian Marketing Services[10].

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A marketing email becomes a success only if the email is opened and read by the receiver. The subject line of an email and the email address of the sender are the main deciding factors for one to open an email or leave it. Sentiment analysis is a popular research area which uses natural language processing, text analysis and computational linguistics to identify and extract subjective information in source materials. This research work analyses the email subject lines in a psychological point of view, for their effect in a person when he/she read it and the decision he/she makes to open that email or neglect it. The objective of this research is to develop methods that can quantify the psychological effects induced by an email subject line; where this quantification is correlated with the action performed by the email receiver[15].

This research work concentrates on improving email marketing strategy by analysing the psychological effects induced in a receiver when he/she read the email subject-line and its effect on opening and reading the received email. The subject line of an email and the email address of the sender are the two major factors which makes a receiver to open an email or leave it. According to the Email and Facebook Consumer Pulse Report 2012 by Chadwick Martin Bailey, 64% of people open the email because of the sender and 47% because of the subject line, indicating a strong correlation between the message of the subject line and opening and reading the email. By spending an enormous amount of money in the form of incentives, commercial companies collect customers email addresses through various measures and keep them on their mailing list. The promotional emails sent by those companies are legitimate emails and are not spam emails. Spam emails are the main threat to promotional email, since receivers usually neglect promotional emails as spam. Hence, it is an at-most aim of the marketing companies to make the receivers open and read their emails, it mean, the message of the promotion or product detail should reach the customers. Hence a successful email subject line selection strategy is necessary to justify the expenses in advertising by email as well as to increase the customer base in order to increase the revenue by selling products and services more and more[15].

This research work is interested only in the email subject lines. Therefore, the Subject lines from 0.6 Million maildir files of the Enron email data set were extracted. A subject line can be a mail thread, replied mail, forwarded mail and can be an empty/blank subject line. Hence the extracted subject lines contained a significant portion of redundant subject lines and these were removed[15].

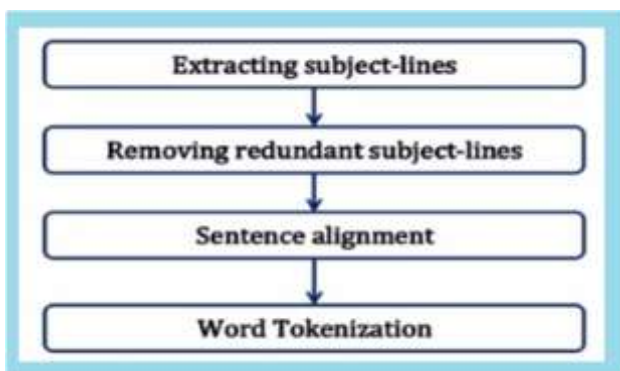


Fig 3: Stages of Preprocessing[15]

The methodology used in this paper shows activities represent precious human social and organizational relations, and the objective of this research is to develop methods that can quantify the psychological emotions induced by an email subject line which is correlated with human social and corporate relationships. To achieve the aim of this research, psychological effect analysis was carried on email subject line text in three different approaches, namely:

A. Semantic related analysis

B. Descriptive analysis

C. Observation analysis

A. Semantic related analysis: This approach tries to quantify the psychological effects induced by the meaning of the words in the subject line. This effect was analysed in three different aspect of the meaning of the words, namely:

1. Emotional Analysis
2. Subjectivity Analysis
3. Sentiment Analysis

In **emotional analysis** the impact of words has ben observed as subject line containing words like “Happy Birth Day-surprised inside!” have more impact than a line “victim breaks silence with ‘very serious’ claims of abuse by politician the emotion expressed by the writer in text. Generally in the field of natural language processing emotions are categorised into six groups, namely anger, fear, sadness, enjoyment, disgust and surprise based on the study by Ekman . This research attempts to analyse the effect of the email subject lines based on the possible inducible emotions by the adjectives in the subject line. Here the adjectives are classified into nine predefined groups instead of the six emotions. This nine groups are based on “Navarasa”, the nine mental state or primary feelings defined in the Indian aesthetics. In addition to quantify the emotional proportions of the adjectives, a lexicon-based approach is proposed.

The lexicon-based approach is a simple and very powerful machine learning technique to classify lexical based data. Here the similar words for the nine emotions were identified and a dictionary is created for each emotion. Table 1 lists the nine emotions and the number of identified similar words. Here a word can be in more than one dictionary.

An emotion quantification example of a less successful spam subject line and a successful subject line are given below.

i. Successful subject line: *Rent the Runway: Happy Birthday Lindsay - Surprise Inside!*

ii. Less successful subject line: *Victim breaks silence with ‘very serious’ claims of abuse by politician on Cannock Chase as police watched - Express & Star Daily Newsletter .”[15].*

Subjectivity analysis tries to determine whether the email subject line expresses a fact or an opinion. Typical use of this analysis is helpful to identify how people feel about a particular topic. Many natural language processing applications, need to decide whether a given document contains subjective information or not, or identify which portions of the document are subjective.

It has been identified that the problem of differentiating subjective versus objective instances is typically harder than the subsequent sentiment (polarity) classification, so improvements in subjectivity classification would positively impact sentiment. Classification. In this research, the subjectivity or objectivity of a given email subject line is quantified using the adjectives (JJ) appearing in the subject line text. [15].

Sentiment Analysis also known as polarity analysis is the process of determining whether a piece of writing is positive, negative or neutral regarding its attitude, opinion or feeling towards something, such as a person, organisation, product or location. Here the objective is to quantify the sentiment such that it can be utilised along with the subjectivity analysis to determine the effectiveness of the email subject lines. In this research, both subjectivity and sentiment analysis were carried out by using the python *pattern.En* library. As displayed in figure 4, this library uses SVM Classifiers for the best accuracy. According to the Python *Pattern.en* module it can classify polarity with 75% and Subjectivity with 98% accuracy. Here the subjectivity is quantified in the range of 0 (highly objective) to 1 (highly subjective). This analysis quantifies the sentiment in the range of -1 (negative) to 0 (neutral) to 1 (positive). Given below are three example email subject lines and the output of the subjectivity and sentiment analysis (given in brackets, respectively). These examples explain how subjectivity and sentiment influence the human emotion on giving opinions and how they are correctly quantified by the *pattern.En* library [15].

Example 1: "Love the summer but winter not much" (0.2, 0.4)
Here the word "love" gives a positive (0.2) sentiment and its an objective sentence (0.4).

Example 2: "Love the summer but hate the winter" (-0.15, 0.75) - Here the word "love" gives a positive but "hate" gives more negative therefore the overall sentiment is negative (-0.15). This subject line is a subjective sentence (0.75), because the sentence reflects an individual's feeling.

Example 3: "kill my loving cat" (-0.6, 0.95) - Here the word "loving" gives a positive sentiment, but "kill" provides more negative. Therefore, the overall sentiment is negative (-0.6) and it is a subjective sentence (0.95), because the sentence reflects an individual's feeling, from the word "my" [15].

Descriptive analysis considers the syntax structure of a given text. This part of research tries to identify the psychological effect of the structure of sentence using parser alignment. The objective of this study is to find out the best syntax structure of an email subject line which gets more attention by the receivers. Parser alignment assigns meaningful tags to words and groups of words in a sentence. In natural language processing these tags are part-of-speech tags and are assigned to an individual word according to its role in the sentence [15].

In this **observation analysis** phase the occurrence or on-occurrence of certain terms using tf-idf scores as well as the number of words and characters in the email subject lines were analysed to determine their effect on opening an email or left unattended.

2.1. TF-IDF score based Analysis

Term Frequency - Inverse Document Frequency, is a numerical statistics which reflects the importance of a word in a document in a collection or corpus. Typically, the tf-idf weight is composed of two terms: The first computes the normalised Term Frequency (tf), the number of times a word appears in a document, divided by the total number of words in that corpus. The second factor is the Inverse Document Frequency (idf), calculated as the logarithm of the number of the documents in the corpus divided by the number of documents where the particular term appears

$$f(t) = (\text{Number of times term } t \text{ appears in a document}) / (\text{Total number of terms in the document}).$$

$$idf(t) = \log_e (\text{Total number of documents} / \text{Number of documents with term } t \text{ in it})$$

$$tf - idf = f(t) * idf(t)$$

Equation. *tf-idf* score

For this study already labelled Google AdWords (tagged as Best, Neutral and Worst Google AdWords based on the number of clicks they have received) are used along with the Enron and Spamdex data sets. In this research, three different set of term collections were used. They are:

- Terms received worst attention - dictionary with 134 words.
- Terms received average attention - dictionary with 96 words.
- Terms received best attention - dictionary with 46 words.

For the analysis purpose, here randomly selected 30 words were used from each dictionary and their tf-idf scores were found in the successful and spam emails [15].

2.2. Word and character count based analysis

This analysis was performed to determine correlation between the number of characters and number of words in a subject line with the email subject lines psychological effect. Here python collection library was used for counting number of words and number of characters in a sentence. In this analysis, both successful subject lines and unsuccessful subject lines were tested. It was observed that open rates were higher where subject lines contained more than four words in the subject line. These phenomena continue until the end. Most of the unsuccessful subject lines have words from 1 to 4. Most of the successful subject lines were found to have words from 7 to 8.

Further, this study found that open rates were higher where subject lines contained more than 80 characters in the subject line. More the subject is explained, more the attention it gets. However, in the middle of the graph blended peaks were observed from both best and weak subject lines. Weak subject lines were observed to have 50 to 80 characters. Some successful subject lines were observed with less than 50 characters.

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However, subject lines with less than 15 characters were not getting much attention. From the above mentioned analysis and results rules <30> to <37> are proposed.

2.3. Special observations

The study have identified some special cases as well. Both Thanks and Thank you appear at the top of all successful words. If the subject lines are separated by pipes (*— *— *—) something like “Win trip to Dubai— Share your pics with summer2015rules”, they received more attention than the same sentence without the pipes. Word like “Journal, White-paper, and Report” received worst attention. Only capitalizing the first letter of every word found to getting more attentions than a whole upper case or lower case sentence.

An alternative best and weak words in a subject line found to be having more attention (Table 7). From the above mentioned analysis and results rules <22> to <29> and <38> to <40> are proposed.

Uses: This research paper study for email subject has really derived some very important result which could be a great help in order to increase the email open rate of email campaign. This analysis based on the data mining technique form a large set of data set of email collection is really helpful to adopt some changes while making email template for email campaign. It becomes really easy to set the subject line for a targeted audience which is correlated with the nature of email campaign ready to send.

Drabacks: Absence of personalization in this research context which is an important factor to make a better connectivity with the customer or users. They also should have been kept the personalization along with the subject body as well as email body.

The majority of marketers ask customers for data, but then don't use it to personalize their emails. In fact, 70 percent of brands are not personalizing emails sent to subscribers. Remember that your customers are offering you access to this personal information and expect you to use it to send more targeted, relevant and personalized messages to them[10].

They did not focus more light on the factor email address or domain, identity which was the another important factors to achieve the high email open rate according to them. They did not explain any knowledge about how to be authentic and authorize with our email address so that we could easily land in the customer inbox.

They explained the research over subject line which is really useful but as we all know subject line factors are useful when your email lands in the customer inbox(Primary, promotional, social). But if it does not happen and email lands in spam folder or gets bounce then this theory and research would not be helpful to come out of this situation.

This research paper did not explain how to make email address or identity so authentic that our emails land in the customer inbox with maximum percentage. They focused on a very small area of this email campaign segment which is of less use until not performed with the email and domain verification.

Even they did not cover the whole template section or variation in email template which can influence your email open rate like what to keep or what not to keep in your email template.

They also missed a fact that a clean email list can increase the percentage of your email open. As email cleaning removes all the unwanted emails, duplicate emails, disposable emails, email with disposable domain, email without mx records. They did not explain any procedure to clean the emails, they missed to show the impact of cleaned email over a junk email address.

In this research paper they also missed another important factors which is a very important steps to reduce the spam and bounce emails in your email campaign and further this saves your form any kind of SMTP suspension.

In large numbers, Internet users report that they trust email less and some even use email less because of spam. Why? Users worry that the growing volume of spam is getting in the way of their ability to reliably send and receive email. They complain that it uncontrollably clutters their inboxes and imposes uninvited, deceptive, and often disgustingly offensive messages. Here are the key figures:

25% of email users say the ever-increasing volume of spam has reduced their overall use of email; 60% of that group says spam has reduced their email use in a big way. 52% of email users say spam has made them less trusting of email in general. 70% of email users say spam has made being online unpleasant or annoying. 30% of email users are concerned that their filtering devices may block incoming email. 23% of email users are concerned that their emails to others may be blocked by filtering devices. 75% of email users are bothered that they can't stop the flow of spam. 80% of email users are bothered by deceptive or dishonest content of spam. 76% of email users are bothered by offensive or obscene content of spam[12].

Solution: the effective solution for increasing the email open rate of email marketing campaign is to make such a procedure or method which will cover all the small and effective processes along with the main method to achieve the highest or maximum open rate. IF the existing work with the subject line is encapsulated with a small change of personalization then it will definitely improve the email open percentage and will make healthy bond with the customer or users.

So instead of focusing on the subject line we should make a complete optimal procedure which should be the minimum configure procedure to setup before sending the email campaign to the customers. This method or procedure will cover all the necessary steps like verification or authentication, Template design along with the subject line, spam bounce setup, email cleaning, email sending timing and frequency. When email will be sent through this procedure it will definitely achieve maximum open rate.

III. PROPOSED METHODOLOGY

We have proposed an optimal method which would be enhancement of this research work regarding the subject line and email address impact over the email open rate of email campaign.



While performing this methodology we will cover all possible aspects which should be in practice while sending an email campaign for achieving the high email open rate. Here we are going to cover record verification, email list verification, Template designing. These are the three basic method used for the observation for analyzing the impact over the sent email campaign.

If user will send any email campaign by following the complete check or methodology then user will get the best optimal email open rate or a successful email campaign.

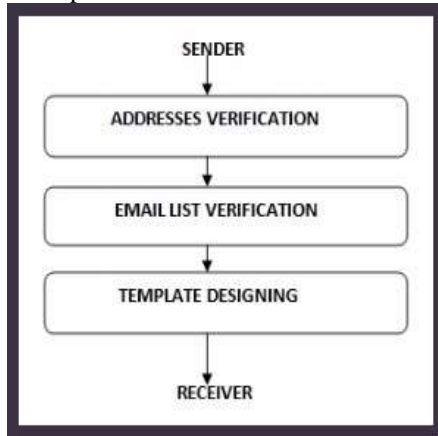


Fig 4: Methodology Base Pier

We have also designed an algorithm for the complete procedure. You can go through the same given below.

Algorithm for achieving the the effective email marketing campaign:

Begin:

Step1: Login into your ESP(Email service provider) account.

If: your ESP is providing built in SMTP .

Then:

Step2: check for the domain verification option.

Step3: Get the SPF and DKIM records for verification.

Step 4: Login into your domain hosting provider for example Godaddy.

Step 5: Check for the option manage DNS or Domain manager and etc.

Step 6: Add the SPF and DKIM text records generally under the context of Cname, Text, Mx depending upon the SMTP.

Step 7: Check for your domain verify status in your SMTP account as it might take 24-48 hours to update the records.

Step 8: Clean your email list to remove the disposable, duplicate emails and the emails whose domain and MX records does not exist.

Step 9: Build your email template with best combination of subject line with personalization, valid text and image inside the email body, correct ratio of uppercase and lowercase letters, placement of subscribe and unsubscribe link, placement of physical address of sender.

Step 10: Choose the best suitable time for sending your emails though you can also schedule your emails as per the countries time, schedule in such a way that they should landed in the top ten emails of customers or users inbox.)

End.

Else:

Step 11: Login into your third party SMTP provider. For example, Amazon SES.

Step12: Go To step2 to step10.

End.

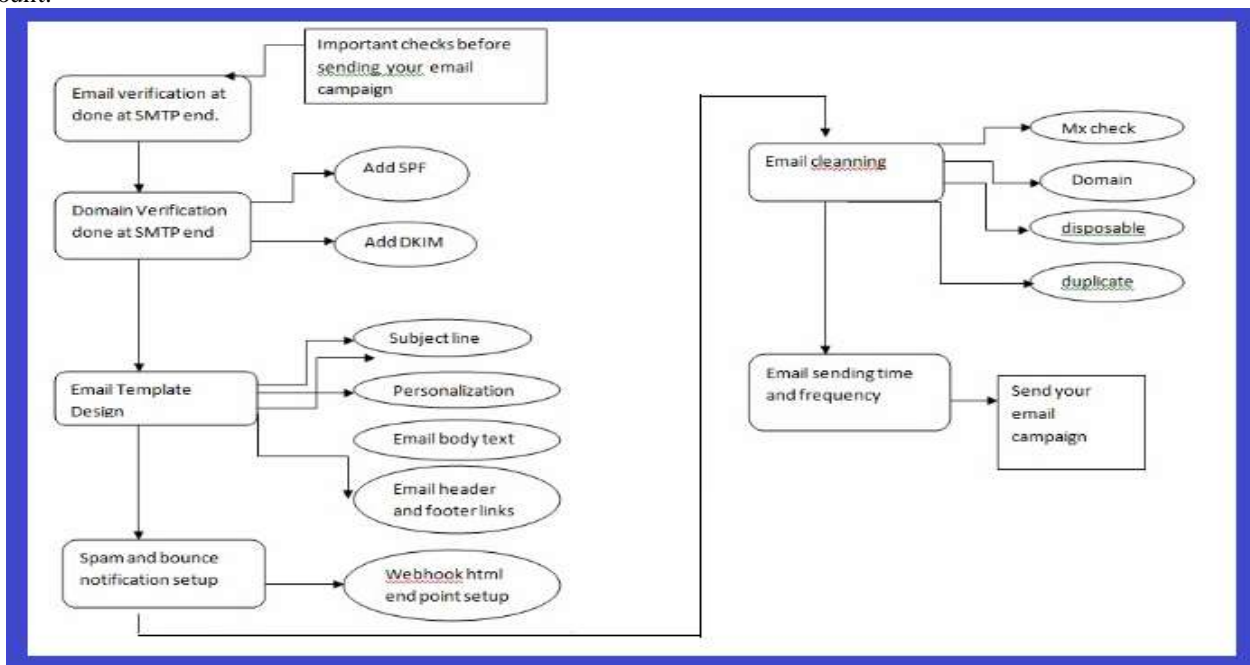


Fig:5 Process Flow Chart Diagram Of used Method.

So this was the complete algorithm for practicing the effective email marketing with the successful email campaign. You can easily enhance your email open rate by applying this methodology in your regular practice of sending the email campaign.

You can also understand this algorithm with the detailed block diagram given below. User should be aware about these setup and configuration as these needed to be done by user at their end though you can get it done with the ESP support team.

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This methodology will increase your email rate with a maximum output and also will save you from any kind of SMTP suspension which becomes a painful situation for a email service user. We have explained each functionality or check in the below block diagram.

In real time environment very a few peoples are aware with the best practice for a great email campaign and thus they struggle with their open rate and sometimes with the SMTP suspension. This email campaign scenario majorly dependent on the identity of senders and content of the emails, if you manage this appropriately then no one can stop you getting a high email open rate for you sending email campaigns. And

some additional changes (Sending time) can add extra advantage to your campaign. So this has been a bigger challenge for the email marketers and users to have a best effective practice to achieve high email open rate and successful campaign.

So this is a very interesting area of research as there were very few scholar research papers are available over the related methodology. As our proposed methodology this procedure or algorithm is really going to help all the peoples who are struggling with the problem of lower email open rate.

Even peoples selecting best ESP plan are not getting the good email open rate a few peoples are succeed to get it with the low cost ESP plan as they do this with the best effective practice. Our work does not get finished with the purchase of best email plan though we should do the full configuration which is necessary to achieve a good open rate and effective email campaign.

IV. CONCLUSION & FUTURE SUGGESTIONS

In this research paper we have studied an approach to get the high email open rate with the used variation in the email subject line which was derived from few past observations or dataset. Here email open rate was tried to improve with the variation in the email subject line in different categories as semantic, descriptive and observational. Later this is enhanced and derived with a new methodology for getting better results by us. As we can increase this email open rate with including some more important factors like Email verification, domain verification, email cleaning, template designing and etc. We are going to cover all possible configuration in future which can really help in enhancing the email open rate and In sending a successful email campaign.

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