CHAPTER III

METHODOLOGY

Today, India is a world leader in the field of computer software programming. But the general use of computers and internet in India happened much later than in the United States and other information societies. Researchers suggest that a methodological study of the email as a survey tool be conducted in different societies as and when they gain the characteristics of an information society (Sheehan, 2001).

The number of internet users in India today is around 40 million.¹ This is a small percentage of the total population. But in terms of sheer numbers, it is significant enough to warranty a study like the present one.

Study Title: The email questionnaire as an effective tool for data collection in mass communication research – a comparative study with the telephone interview and the traditional mail questionnaire as mediated data collection tools.

Objectives

1. To establish the effectiveness of the email questionnaire as a data collection tool in mass communication research.

2. To compare the email questionnaire, telephone interview and traditional mail questionnaire in terms of response rate for simple, structured questionnaires and complex questionnaires.

3. To compare the email questionnaire, telephone interview and traditional mail questionnaire in terms of ability to collect large amounts of data.

¹ According to a 2006 study conducted by IMRB and Internet and Mobile Association of India (IAMAI), the number of active users (who use the Internet at least once a month) in India as on September 2006 was 25 million. The study estimates that this figure will rise to 43 million users by March 2008. http://www/iamai.in/P Release_Detail.aspx?nid=725&NMonth=9&NYear=2006.
4. To compare the email questionnaire, telephone interview and traditional mail questionnaire in terms of time taken for response.

5. To compare the email questionnaire, telephone interview and traditional mail questionnaire in terms of costs involved for data collection.

**Hypotheses**

**NULL HYPOTHESIS (NH) 1.** There is no significant difference in the total number of responses and the total number of non-responses got by email, telephone and postal mail survey questionnaires at the expected response rate of 60%.

**NH 2.** There is no significant difference in the number of responses got by email surveys, telephone surveys and postal mail surveys.

**NH 3.** There is no significant difference in the number of completed responses and non-responses got by the email survey questionnaire at the expected response rate of 60%.

**NH 4.** There is no significant difference in the number of responses and the number of non-responses got by the telephone survey questionnaire at the expected response rate of 60%.

**NH 5.** There is no significant difference in the number of responses and the number of non-responses got by the postal mail survey questionnaire at the expected response rate of 60%.

**NH 6.** Within each survey type, there is no significant difference in the number of responses for simple and complex questionnaires received in the email survey, in the telephone survey, and in the postal mail survey.
NH 7. There is no significant difference in the number of responses for simple and short questionnaires received in the email survey, the telephone survey and the postal survey.

NH 8. There is no significant difference in the number of responses for complex and medium length questionnaires received in the email survey, the telephone survey and the postal mail survey.

NH 9. There is no significant difference in the number of responses for simple and lengthy questionnaires received in the email survey, the telephone survey and postal mail survey.

NH 10. There is no significant difference in the number of completed responses and the number of incomplete responses for simple and complex questionnaires in the email survey.

NH 11. There is no significant difference in the number of completed responses and the number of incomplete responses for simple and complex questionnaires in the telephone survey.

NH 12. There is no significant difference in the number of completed responses and the number of incomplete responses for simple and complex questionnaires in the postal mail survey.

- Only complete responses will be considered for the hypotheses.

- Significance will be tested against an expected response rate of 60% for all three modes of survey. There is no single opinion about an acceptable response rate. The monthly Current Population Survey conducted by the U.S. Census Bureau is known to achieve a response rate of 90%. Rigorously conducted surveys are known to achieve 60-70% response rate in the US. Most response rates however range from 30-50 %.2

According to Earl Babbie (1990), a 50 % response rate is considered adequate for the researcher to analyse and report the results of the study. Sixty per cent is considered good and 70 % and above, very good. These estimates, though, do not differentiate among the types of survey tools used.

**Variables**

1. **Independent variable: Email, postal mail and telephone as survey tools/modes**

   **Email:** The Electronic Mail, popularly called email, is a form of computer mediated communication on the World Wide Web.

   It can be defined as a ‘system of servers and software that allows messages to be sent to a particular individual in accord with agreed standards.’

   The RAND report of 1989 by Anderson Bikson, Law, Mitchell and others, defines the email as an electronic mail system that “permits the asynchronous electronic interchange of information between persons, groups of persons, and functional units of an organisation; and provides mechanisms supporting the creation, distribution, consumption, processing, and storage of this information” (Anderson et al, 1995).

   **Telephone:** Developed by Alexander Graham Bell in 1876, the telephone is a device that carries sound over great distances using electricity (The New Book of Knowledge, 2005).

   For the purposes of the Study, Bharat Sanchar Nigam Ltd.’s Chennai landline telephone numbers will be used.

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Postal mail: This refers to the service of delivering letters/parcels to people whom they are addressed to. Letters/parcels are transported via roadways, railways, airways and sometimes waterways.

Postal mail is one of the oldest forms of long-distance communication. A letter may take a single day or a few days to a week to reach its destination.

The Indian Postal Mail Services, Chennai, will be used for the purpose of this Study.

Each of the independent variables will have three types of questionnaires:

X1a; X2a; and X3a: The simple and short questionnaire: The simple and short questionnaire consists of close-ended items and is short.

X1b; X2b; and X3b: The complex and medium in length questionnaire: This has a combination of close-ended and open-ended items. It is longer than the simple and short questionnaire, but shorter than the simple and lengthy questionnaire. It can be described as medium in length.

X1c; X2c; and X3c: The simple and lengthy questionnaire: This questionnaire has a combination of close-ended and open-ended questions, simpler than the complex questionnaire, with a few rating scales. The purpose of having a lengthy questionnaire is to study the ability of the email, telephone and postal mail survey and to collect large amounts of data.

2. Dependent variable: Effectiveness

Effectiveness is studied in terms of:

a) Response rate for simple and short, complex and medium, and simple and lengthy questionnaires.

b) Time taken for response.

c) Cost involved for data collection.
a) **Response rate**: The American Association of Public Opinion Research (AAPOR) defines response rate as ‘The number of complete interviews with reporting units divided by the number of eligible reporting units in the sample’.\(^6\)

The AAPOR definition includes a lot of possibilities for ‘eligible reporting units’, such as non-existent numbers/addresses and email ids.

According to Colasanto, a survey’s response rate represents the number of people actually interviewed as a percentage of the total number of people originally sampled and eligible to be included in the survey.\(^7\)

Responses will be categorised into complete response, incomplete response and non-response. Response refers to:

- the actual filling in of the email questionnaire and mailing it back to the email address given;
- the actual answering of the questions in the questionnaire administered by the researcher on the telephone; and
- the actual filling in of the postal mail questionnaire and mailing it back to the postal address given.

For the hypotheses also, only complete responses will be considered, since incomplete responses are not useful, and shows the rejection of the survey by the respondent due to any number of reasons. Responses therefore, will be tested in terms of actual number of complete responses, and response rate will be given in percentages. Incomplete responses will be considered as non-response for hypotheses testing.

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However, they cannot be ignored because they show the success of the mode of survey per se; especially with email and postal mail, where the effort needed to return a completed questionnaire is high. The Study will consider the relationship between type of questionnaire and incomplete response to check the significance.

b) **Time** refers to the quickness or speed of response, number of minutes/hours taken for the telephone interview, and number of days taken for email and postal mail survey responses to reach the researcher.

A time frame of two months was given to both postal and email questionnaires, after which data analysis was begun.

c) **Cost** refers to the amount, in rupees, spent on conducting the survey using the email, telephone and postal mail.

**Email cost** will include the cost of staying online while sending email questionnaires. The time spent on downloading email responses will also be considered.

**Telephone cost** includes the actual costs incurred for the number of minutes spent on each interview. The total number of minutes for all interviews including incomplete interviews, will be considered as part of the cost incurred. This will be multiplied by the amount charged per three minutes of local call charges of BSNL landline services.

**Postal mail** cost includes the cost incurred in making 225 copies of questionnaires and the cost incurred in postage (450 envelopes and 450 five-rupee stamps).
Data Collection Methodology

Research design: The basic design of the study is given below

\[
\begin{align*}
X1 & \quad \text{Y} \\
X2 & \quad \text{Y} \\
X3 & \quad \text{Y}
\end{align*}
\]

Where

X1 is the independent variable email questionnaire and Y the dependent variable effectiveness;

X2 is the independent variable telephonic questionnaire, and Y the dependent variable effectiveness;

X3 is the independent variable postal questionnaire, and Y the dependent variable effectiveness.

Each independent variable acts as a control/comparison group to the other.

Three types of questionnaires were used for all the modes:

Simple and short, with 15 close-ended questions, excluding demographics.

Complex and medium length, with both close ended and open ended questions. Twenty one items, excluding demographics, with rating scales.

Simple and lengthy, with 30 questions excluding demographics, mainly close-ended, open-ended and questions requiring just one name/word: Eg: Name your favourite newspaper.

Sampling: Non-random sampling method was followed.
Base for postal mail and telephonic surveys: BSNL Chennai Telephones directory.

Email addresses were collected from contacts. This was done to ensure that respondents were Indians, preferably living in India.

**Sample size:** A total of 675 respondents.

- For email survey 225 respondents- with a sample size of 75 each for simple and short, complex and medium length, and short and lengthy questionnaires respectively.

- For postal mail survey 225 respondents - with a sample size of 75 each for simple and short, complex and medium length, and short and lengthy questionnaires respectively.

- For telephone survey 225 respondents - with a sample size of 75 each for simple and short, complex and medium length, and short and lengthy questionnaires respectively.

**Respondent: Email:** Respondents were email users who were Indians. To this end, email addresses were collected from contacts.

**Postal mail:** Respondents were landline telephone users listed in *Chennai Telephones*, BSNL’s telephone directory.

**Telephone:** Respondents were landline telephone users listed in *Chennai Telephones*, BSNL’s telephone directory.

**Questionnaire administration**

Email: The objective was to study the effectiveness of email as a survey tool for a large population. Questionnaires were prepared in Excel and converted to Word format. Questionnaires were sent as attachments and respondents were instructed on how to complete and return the questionnaire. The researcher created a new Gmail id,
sandhyarajshekar@gmail.com, for the purpose. The subject bar read: ‘hi, this is just to know what you think of the news media’. The email consisted of self-introduction and the purpose for which the questionnaire was being used (for a study as part of PhD thesis). It has to be clarified that the real objective of the Study was not revealed, as this would have influenced the response and defeated the purpose of the Study. Twenty mail failures were received, and twenty new email addresses were used, to compensate for those that did not reach the addressed respondent. The reasoning was that all 225 email questionnaires had to reach the addresses.

**Postal mail:** The researcher rented a post box at the local post office (P.O Box No. 1157, Kilpauk, Chennai-600 010), for a period of three months. Once the post box rental was terminated, a written letter to the Post Master was submitted, requesting him to deliver any mail that was addressed to the post box, to the researcher’s home address. Self-addressed, stamped envelopes were enclosed to reduce the efforts that would have to be taken to respond. 31 postal mails were returned due to change in address. New addresses were selected and 31 questionnaires were mailed to them, the reasoning being that all 225 postal questionnaires had to reach the addresses.

**Telephone:** The base for the telephone numbers was BSNL’s telephone directory (Chennai), 2003-04. Selected numbers and postal addresses were cross-checked on the BSNL website which had updated addresses and phone numbers. Despite this, there was a very large number of non-existing telephone numbers among the selected ones and had to compensated for. All 225 telephone surveys were conducted.

The experimental design involved conducting a survey using the questionnaires of the three different modes of mediated communication as tools.

**Survey topic**

Three factors influenced the choice of survey topic:

- A review of literature helped in the selection of the survey topic. According to research findings, higher the salience of the research topic, more the response.
• The second factor was the fact that the Study focussed on mass communication research.

• A third factor was that a common topic had to be used for all three types of surveys, for the purposes of comparision.

The topic selected, ‘Public opinion of news media’ was considered to meet all the above mentioned requirements. The topic was considered relevant in today’s news environment. Also, it was assumed that people who had postal addresses, telephone numbers or email addresses would have an exposure to at least one of the popular mass media: newspaper, magazine, radio, television and the Internet.

Data Analysis

The chi-square test will be applied to test the null hypotheses stated above.

Scope and Limitations of the study

The email is known to be effective as a survey tool when it comes to closed group surveys. Yun and Trumbo, for example, mention closed group email surveys that have achieved response rates as high as 72 %; while generally, response rates for email surveys are lesser in comparison with face-to-face and even postal mail surveys. The cohesiveness found in closed group surveys (for example, organisational surveys) has been considered a positive influence on response rates. Response rates to closed group surveys have ranged from 56 % to 67 % and even 76 % (Yun and Trumbo, 2000).

However, not much research has been done to study the effectiveness of email as a survey tool for a large, general population (Sheehan, and Hoy). The present study tries to study the effectiveness of email as a survey tool for large populations. The same yardstick is applied to both the postal and the telephone survey.

Since the Study required that respondents be Indians, preferably living in India, email addresses were collected through contacts. This also meant that sampling was non-random.
Pre-notification was not considered necessary since the study was actually testing response to a survey questionnaire, and the whole purpose would have been defeated if there were no responses to the pre-notification itself.

Also, going by the argument of Norman and Russell (2006), pre-notification may be considered as unsolicited email.

Pre notification on the phone/ face-to-face was not possible because neither the phone number nor the address (personal/official) of the email respondent was available. Also in some cases, the real name was not known.

No incentives were used for the study. While certain researchers consider it unethical, others believe that it results in biased answers. Also, it was considered to make all the three methods expensive, thereby reducing cost-effectiveness of each of the three modes.

Topic salience was however considered important and more persuasive in making the respondent open the mail and fill in the questionnaire. This factor was kept in mind when the study was conducted. A topic that was salient to all respondents—email, postal mail and telephone—had to be used for the survey. Marketing and even advertising topics were avoided because this was considered a negative influence on willingness to respond, since it would seem like a commercial survey.

Respondents were specifically told that the survey was for academic purposes.

The questionnaires were of three types: simple and short; complex and medium length; and simple and lengthy. Since the simple questionnaire was also short, a separate short questionnaire was not considered essential. The simple and lengthy questionnaire was used to find out if the three types of survey modes were capable of collecting large amounts of data.