CHAPTER 2

The Universe of the Study and Methods of Research
2.1 Universe of the Study:

Term 'Universe' refers to the total of items about which information is desired. In the context, Madhya Pradesh state of India is selected for the present study. Out of 48 districts of M.P. three Districts Sagar, Bhopal, Indore, 7% of the Universe have been further selected for the collection of data. These three districts are again divided into two zones viz. Zone I - District H.Q., Zone II - other city or town belongs to rural, sub urban population.

These three districts (Sagar, Bhopal, Indore) have been selected through random sampling method. With, the potential categories, development, life style and numbers of multimedia users, these three districts have their own peculiarities.

Indore - Indore is developed, largest infrastructure wise rich district and is the commercial capital of M.P.

Bhopal - Bhopal is developed as the capital of M.P.

Sagar - Sagar is relatively backward district of M.P.

Demographic profile, climate, brief history, economy, educational facilities and status of multimedia users etc of the Universe as follows.

Madhya Pradesh:

Heartland of India is known as Madhya Pradesh. The new Madhya Pradesh state is situated in the central region of India between 21°2' -26°30" N longitude and 74°- 82°49'E longitude. The state has 260 revenue tahsils, 313 community development blocks, 370 town and cities and 65814 villages. M.P. is the second largest state in terms of area in the country (308245 sq. km.). It is bounded
by five state of India viz. Gujrat in west, Rajasthan and Uttar Pradesh in the north, Chhatisgarh in South west and Maharastha in South.

(Source- website Govt. of M.P.)

The state has humid climate with three well mark seasons: Winter, Summer and Rainy seasons. It is seventh largest state in India in terms of population 6,03,85,118 (Sources Census-2001). The literacy rate (64.08) were 1.30 percent lower than the national average of 65.38 percent (2001). Nearly one fourth population (26.67) percent is living in urban centers while remaining three fourth (74.33 %) is in rural areas.

The growth rate of population (24.34 %) is three percent higher than national average growth rate (21.34 %).

Bhopal is the capital of M.P. In spite of different regional dialects, (Bundaili, Malwi, Nimadi, Gondi etc.), Hindi is the main language of M.P. One out of seven persons of the state belongs to some original tribe.

The Khajuraho temples, Gwalior fort, Mandu the great stupas of Sanchi, the Ram Mandir of Orchha, and marvel rocks of Bherdaghat near Jabalpur are the famous tourist places situated in state of M.P. This state is famous for teak wood forests, 1.7 million hectares of land in the state is forest land. As varied is the natural beauty of M.P. so is its art culture and folk tradition. M.P. is the home of all Hindus, Muslims, Jains, Skikhs, Buddhists and various tribes.

State also has a number of important pilgrimage centres, while Ujjain and Omkarashwar have special significance, due to shrines having two of the twelve Jyotirlings.
Maheshwar, Amarkantak, Hoshangabadi and Barbhan are also famous as Pilgrimage centre because of Holy River Narmada. The river Narmada originated at Amarkantak and flows westward and a little distance away the sun rises in eastward this kind of flow pattern, is most un-usual anywhere in the world. M.P. in its present form came in to existence on Nov -1st 2000, after its partition to create a new state of Chhattisgarh. Where as undivided old M.P. was founded on Nov-1st 1956.

Paleolithic, Mesolithic, Neolithic, Chaleolithic, and Iron Age cultures have flourished in the state along Narmada valley and other river valleys. Rich archaeological wealth has been earthed in various parts of the state throwing light on its history.

M.P. has produced great man and woman, who are held in high esteem due to their memorable deeds. India’s immortal poet-dramatist belongs to ancient city Ujjian and King of music Tansen to Gwalior.

Bravery of great woman like Durgawati, Devi Ahilyabai, Avanti Bai is inscribed in golden letters in Indian history.

State has great and respectable memories of India’s freedom struggle. Various movements of freedom were launched successfully in the state vigorous participation in non cooperation movement, Quit India movement and Flag Satyagraha is an example of patriotism of state. This land is also recognized by the historians for heroic deeds of warriors, Chhatrasal the great King of Bundelkhand, who illuminated the pages of history.
As a tribute to the great patrons and artists of M.P. and in a bid to enrich the colourful culture of the country, various festivals and events are organized at there places of cultural heritage, for promotion and preservation of folk art, performing art, fine art, music and tribal traditions of the state. Different art academicks have been set up by the M.P. Government like, Madhya Pradesh Adivasi Kala Parishad, Tulsi Academy, Ustad Allaudeen Khan Sangeet Academy, Sahitya Academy, Madhya Pradesh Kala Parishad etc.

Further more; Bharat Bhavan a multi art complex situated in Bhopal, the capital of M.P is one of the unique example of the world.

The economy of the state predominantly lies in agriculture and about eighty percent of the population depends on agriculture for their livelihood.

"Art and Craft of M.P. is a rich and vibrant tradition, in the heartland of India lies largest state, M.P. filled with lush forests, magnificent monuments, exuberant festivity and blissful solitude. In this land of wonderful and contrasting variety, handicrafts and a touch of mystique- a charm unique to M.P. They radiate an aura exhibit hereditary skills, whisper painstaking craftsmanship and evoke and urgent desire to learn more about the land and its colourful people."\(^{1}\)

Through prehistoric point of view, the river Narmada is important. Form its bank; Dr. Arun Sonakia has discovered Narmadensis (Narmadaman).
Bamboo and Kan dolls, durries, carpets, folk paintings, trible paintings, ornaments, stone carving iron-craft, jute work, marble sculptures, stuffed leather toys terracotta work, wood craft etc. are the exciting examples of craftsmanship of M.P.

**SAGAR DISTRICT**

Sagar district is located at 23°10'-24°27' east longitude and is about 540 meters above the mean sea level the tropic of cancer passes through the southern part of the district.

"The origin of the name comes from the Hindi word Sagar means lake or sea. Apparently because of the large and beautiful lake around which the town Sagar has been built. Historically, Sagar was founded by Udansingh in 1660 and was constituted a municipality in 1867" ².

Sagar city lies in an extensive plain, broken by low forest hills and watered by Sonar and Bebas river, wheat, peas, soyabeen and oilseed are chief crops of the region. Sandstone, limestone, iron and asbestors deposits are found in the district. Sagar district is predominantly occupied by scheduled caste/backward classes population. The district has a sizable population of tribes, who are named as Rajgonds after their kingdom.

Sagar district is accessible by Rail and Road transport. During last decade, the frequency of train and quality of connected roads has been remarkably improved.

Sagar has a tropical climate with sufficient rainfall and salubrious throughout the year. Climate is generally pleasant having three well marked seasons viz. Summer, Rainy and Winter seasons.
Educational scenario of the Sagar district has been changing tremendously during last decade. Inspite of the huge and world famous Dr. Hari Singh Gour University, Sagar (M.P.) district has several engineering colleges, B.Ed. colleges, M.B.A. Institutions and computer related educational institutes. Recently, Govt. of M.P. is going to open the full-fledged medical collage in Sagar and Central Government has declared to upgrade Dr. Hari Singh Gour University, Sagar (M.P.) as central University.

As mentioned in the census 2001, Sagar had an urban population of 232321 and rural population 14,30,421 among them 53% male and 47% female population are there. The average literacy is 80%, where female literacy is 68%. The district has eight tehsils and eleven developmental blocks.

**Bhopal District:**

Bhopal is the capital of the Indian state Madhya Pradesh, which is also the administrative Head Quarters of Bhopal District and Bhopal Division. Bhopal is also known as city of lakes as its landscape is dotted with many natural lakes. Bhopal has an average elevation of 499 meters. Bhopal is located in the central part of India, which also touches the upper limit of Vindhya Mountain ranges. Bhopal has a sub tropical climate. It has three well mark seasons winter, summer and rainy seasons.

The Bhopal city is divided in to two major areas, the old city and new city. Bhopal had a population 18,43,510 in which urban population is 14,82,718 and the rural population is 3,60,792. Here
male constitute 781282 and female 701436. The Literacy rate of Bhopal is 75% where male contribution 83% and female 76%.

Being a state capital, the new city has a majority of residents working for the State and Central Government departments. State secretariat called Vallalbh Bhawan and Satpura Bhawan, Vindhyachal Bhawan are two major offices of Govt. of M.P.

Bharat Heavy Electricals Ltd. (BHEL) is the largest engineering and manufacturing enterprises in India, has a unit in Bhopal. It is famous for the production of heavy electrical machines like turbines, transformers and generators. The largest group's "Bhaskar" is having its head office at Bhopal with its strong presence in newspaper, television, entertainment and internet service.

"Beside number of reputed schools and institutions, there are, more than 60 engineering colleges and medical colleges. MNCT (NIT), Regional institute of Education (RIE) Zonal center of NCERT, Rajeev Gandhi Technical University, M.P. Bhoj Open University, Barkatullah University, Makhanlal Chaturvedi National University of Journalism, Institute of Forest Management etc. are located in Bhopal" 3.

**Indore District:**

Indore is the largest city and the commercial capital of central Indian state of Madhya Pradesh. It is located on the Malwa Plateau, Just south of the Satpura Range. Due to its location the southern edge of the Malwa Plateau, a cool breeze (also referred to as shabe- malwa) in the evening makes them quite pleasant.
Indore district has three well mark seasons winter, summer and rainy season. Indore is well connected via rail road and air transport, services. Regular frequents services of trains, daily, bus services and flights of major airlines are also available here. Indore, the largest metropolitan city of the state Madhya Pradesh, is fast emerging as a centre of trade and commerce. Indore is the biggest contributor of revenue to the M.P. Govt. Indian software service industry has further helped in creating new jobs and improving the prosperity of the city. Companies like CSC, Infotech, Elensoft, M.Phasis, Web Duniya, Hot Wax media etc. have come up in the field of software.

Indore is a major educational centre of Madhya Pradesh. In spite of Indore University (DAVV), there are several Engineering collages, Medical collages, Dental collages, MBA institute and the city boasts one of India's best-business schools-The Indian Institute of Management. *(Source- website of Indore)*

Indore is the most populous city in Madhya Pradesh with about 18,35,915 population, where male constitute 9,63,311 and female 8,72,604 and the rural population of Indore district is 2,38,475. Indore had a total literacy rate of 74.82% in which male contribute 84.71% and female 63.96%. *(Source - 2001 census)* Indore is the administrative head Quarters of the Indore District.

Rao Nandlal Chaudhary, the founder of Indore, was the chief Zamidar (landlord), and had an army of two thousand soldiers. In 1713, Nizam was appointed as the controller of the Deccan Plateau area which renewed the struggle between the Marathas and the
Mughals from time to time. Rao Nandlal started moving his people to safe and strategically located location; the city was named Indrapur (after lord Shiva Indreshwar temple) and eventually came to be known as Indore. Later Peshwa appointed Malwa Rao Holkar as a "Subhedar" which marked the beginning of Holkars region in Malwa.

2.2 Methods of Research:

"A method of studying problems whose solution is to be desires partly or wholly from facts. The facts dealt with in research may be statement of opinions, historical facts, those contained in records and reported, the results of tests, answer to questionable experimental data and sort and so forth".

Present scene, with the growth of multidirectional development, planning methods of evaluation and impact assessment or measurement come to occupy a significant place in the academics. In the context of some of the contemporary devolvement in social science research in India the trend of interdisciplinary approach has been started.

To measure the impact of multimedia on Indian society, study uses a self designed scale based on Likert scale. Though the nature of the study is mainly exploratory but some other way it can be characterized as evolutionary.

Perhaps the study is interdisciplinary in nature. It covers broadly three disciplines - mass communication, computer science and sociology. Though the multimedia is mainly a significant portion of computer science but here in this context, multimedia has been considered as device or major tool for communication. In the process
of deciding the appropriate and suitable method for study the major decisions of research have been taken in reference to the following aspects -

- Purpose and scope of the study
- Main source of data
- Place or area of study
- Techniques of data collection and analysis
- Specific nature of the study
- Type of sampling

Basically, an impact study framed according to the method of qualitative research.

Mainly study included four significant phases of research:-

Phase-1 Understanding verifying the dimension and scope of impact.

Phase-2 Formulating, suitable methodology for the impact assessment of multimedia on Indian society.

Phases-3 Pre-testing of tool, pilot study and systematic application of research methods with refinement and correction through various case studies and relevant research.

Phase-4 Report of facts analysis and interpretations of data for final results.

2.3 Sampling:-

"In every branch of science we lack the research to study more than a fragment of a Phenomenon that might advance our Knowledge".6

In this definition 'fragment' is denoted for sample and "Phenomenon" is the population/universe, the sample observations are applied to the Phenomenon i.e. generalization.
Stratified random sampling has been applied for the present study. This is a type of sampling in which the population is divided into a number of strata or sub groups and a sample is drawn from each stratum.

The method involving and than dividing the population (Universe) in homogenous strata and than selecting sample randomly from each of the stratum. The division of the population in to homogeneous strata is based on one or more criteria i.e. sex, age, class, education level, family type, region, occupation and so on." 7

The main advantage of the stratified random sampling is that the one sample can represent various groups and patterns; it can be more precise also.

A sample frame was designed to obtain, complete, accurate and up to date list of all units in the universe. In the present study, this task was very difficult. Because, it is almost impossible to find out the exact status or figure of multimedia users belongs to M.P. state. With advance in multimedia technology, people using various kinds of products and applications in many ways and the figures of multimedia users have been changing regularly in the society. The following table showing distribution of multimedia users in M.P. state. The latest data provided by leading telecom companies. ICT monitoring agencies and multimedia products designers have been used for the purpose of study.
### Table 2.1

**Status of Multimedia in M.P.**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Name of Multimedia Products</th>
<th>Level of Interactivity</th>
<th>Quantity</th>
<th>No. of Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Computer with Multimedia</td>
<td>High</td>
<td>18,58,350</td>
<td>48,35,890</td>
</tr>
<tr>
<td>2.</td>
<td>Mobile Phone With Multimedia</td>
<td>Medium</td>
<td>38,75,380</td>
<td>38,75,380</td>
</tr>
<tr>
<td>3.</td>
<td>Internet connection Hyper Multimedia</td>
<td>High</td>
<td>5,78,320</td>
<td>55,83,220</td>
</tr>
<tr>
<td>4.</td>
<td>Other, MP-3, CD Player, DVD Player Kiosks etc.</td>
<td>Low</td>
<td>68,35,440</td>
<td>1,00,55,340</td>
</tr>
</tbody>
</table>


![Fig. No. 2.1 Status of Multimedia in M.P.](image_url)
Table 2.2
Status of Multimedia in sample Districts

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of District</th>
<th>Computer With Multimedia Qty.</th>
<th>No. of users</th>
<th>Mobile With Multimedia Qty.</th>
<th>No. of users</th>
<th>Internet Connection Qty.</th>
<th>No. of users</th>
<th>Others CD, DVD Payer Kiosks Qty.</th>
<th>No. of users</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>SAGAR</td>
<td>78,325</td>
<td>1,03,500</td>
<td>18,74,494</td>
<td>1,87,494</td>
<td>42,335</td>
<td>35,329</td>
<td>22,503</td>
<td>11,35245</td>
</tr>
<tr>
<td>3.</td>
<td>INDORE</td>
<td>3,34,350</td>
<td>8,33,219</td>
<td>8,75,332</td>
<td>8,75,332</td>
<td>11,35,131</td>
<td>5,43,216</td>
<td>28,31,320</td>
<td></td>
</tr>
</tbody>
</table>

Fig. Status of Multimedia in Sample Districts

However, in the study multimedia users are those who use multimedia Computer, Internet, multimedia Mobile phone, Virtual machine, Electronic games etc.
2.4 Sample Size:

The convenient and suitable size of the sample for the study is total 525. For deciding the size of one sample, stratified random sampling method is adopted. Further sample has subdivided into rural-urban, male female, service class, business class, student, age group and family system etc.

"In quantitative studies, sample does not resort to numerical boundaries to determine the size of sample. The researcher himself can decode the sufficient number of respondents. In such cases, generalisation are concerned with quality rather than with quantity."  

The table given below showing the district wise distribution of sample.

**Table: 2.3**

**Distribution of Sample**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of District</th>
<th>Urban</th>
<th>Rural</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Sagar</td>
<td>100</td>
<td>75</td>
<td>175</td>
</tr>
<tr>
<td>2.</td>
<td>Bhopal</td>
<td>100</td>
<td>75</td>
<td>175</td>
</tr>
<tr>
<td>3.</td>
<td>Indore</td>
<td>100</td>
<td>75</td>
<td>175</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>300</td>
<td>225</td>
<td>525</td>
</tr>
</tbody>
</table>

Fig. 2.3 Male/Female Distribution of sample
### Table. No-2.4
Demographic profile of the Samples - I

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of Variable</th>
<th>SAGAR</th>
<th>BHOPAL</th>
<th>INDORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>118</td>
<td>114</td>
<td>109</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>57</td>
<td>61</td>
<td>66</td>
</tr>
<tr>
<td>2.</td>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upto 25 Years</td>
<td>115</td>
<td>116</td>
<td>94</td>
</tr>
<tr>
<td></td>
<td>25 to 40</td>
<td>43</td>
<td>44</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>40 to 55</td>
<td>12</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>55 and above</td>
<td>5</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>3.</td>
<td>Occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Student</td>
<td>111</td>
<td>114</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Govt. Servant</td>
<td>20</td>
<td>19</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>Businessman</td>
<td>24</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Private Service</td>
<td>20</td>
<td>40</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>175</td>
<td>175</td>
<td>175</td>
</tr>
</tbody>
</table>

**Fig: 2.4 Age Wise Distribution of Sample**

![Age Wise Distribution of Sample](image-url)
Table No-2.5
Demographic profile of the Samples - II

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Name of Variable</th>
<th>SAGAR</th>
<th>BHPAL</th>
<th>INDORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Native place</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ur</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Ru</td>
<td>75</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>2.</td>
<td>Educational Qualification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upto H.Sc.</td>
<td>16</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Graduate (others)</td>
<td>51</td>
<td>72</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>Graduate professional Course</td>
<td>36</td>
<td>32</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Post Graduate (Others)</td>
<td>51</td>
<td>40</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Post Graduate Professional Course</td>
<td>13</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>3.</td>
<td>Income Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper</td>
<td>10</td>
<td>27</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>140</td>
<td>122</td>
<td>129</td>
</tr>
<tr>
<td></td>
<td>Lower middle</td>
<td>20</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Lower</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>175</td>
<td>175</td>
<td>175</td>
</tr>
</tbody>
</table>

Fig. No. 2.6 Educational Qualification wise distribution of sample
2.5 Construction and Description of Research Instruments Questionnaire:

"The questionnaire refer to an act of standardized questions arranged in a definite order to which response are sought from the entire individual constituting the sample with a view to obtaining comparable results."

After the extensive reviewing and investigation of various questionnaires, the first working questionnaire was evolved. The inputs of UNDP guideline for social impact assessment were also considered in the construction of questionnaire.

Social Impact Assessment:

"Includes the process of analysis monitoring and managing the intended and unintended consequence, both positive and negative of planned interventions (policies, programs, and plans project) and any social change process invoked by those interventions. Its primary purpose is to about a more sustainable and equitable biophysical and human environment."

However, awareness of the differential distribution of impact among different group in society, and particular the impact burden experienced by vulnerable groups in the community should be of prime concern.

What are social impacts?

"SIA is much more that the prediction steps within an environment assessment framework. A limited view of SIA create demarcations problems about what are the social impact to be identified by SIA, versus what is considered by related field such as
health impact assessment, cultural impact assessment, heritage impact assessment or gender impact assessment. The SIA community of practitioners considers that all issue that people, directly or indirectly, are social impact assessment\(^{13}\).

A convenient way of conceptualising social impact is as change to one or more of the following:

- People's way of life- that is, how they live, works, play and interact with one another on a day to day basis;
- Their culture- that is, their shared belief, customs, value and language or dialect;
- Their community-its cohesion, stability, character, service and facilities;
- Their political system- the extent to which people are able to participate in decisions that affect their lives, the level of democratisation that is taking place, and the resource provided for this purpose;
- Their environment- the quality of the air and water people use; the availability and quality of the food they eat; the level of hazard or risk, dust and noise they are exposed to the adequacy of sanitation, their physical safety, and their access to and control over resource;
- Their health and wellbeing- health is a state of complete physical, mental, social and spiritual wellbeing and not merely the absence of disease or infirmity;
Their personal and property right—particularly whether people are economically affected, or experiment personal disadvantage which may include a violation of their civil liberties;

Their fears and aspirations—their perceptions about the safety, their fears about the future of their community, and their aspirations for their future of their children.

Source - IAIA social impact Assessment International principles.

Following are the main feature of the questionnaire, designed for the study:

- A questionnaire containing 70 close and open ended questions.
- Most of the questions are close ended and based on Likert scale (Strong Agree undecided disagree strongly disagree).
- Questionnaire is bilingual questions are presented in Hindi as well as in English Language.
- Questions are arranged systematic order.
- Double barreled questions are avoided.
- The statements are printed neatly and clearly, it has contained nine pages.
- It contains variety of questions including direct indirect nominal, ordinal, interval and yes/on type. Tick boxes are used for response.
- It contains six major sections, Basic information; section Behavioral Indicator, social Indicators, cultural Indicator Economic Indicators, and other Indicators of impact.

For finalizing the Indicator, I have adapted the standred procedure.
(1) **Blue print of questionnaire:**

A Blue Print of the questionnaire was prepared on the basis of the experience of multimedia users belong to specified age group and field.

![Diagram](Experiences)

(Business, Govt., NGO)

A Blue Print of questionnaire designed on the basis of various aspects impact of multimedia some of them are; routine activities, aesthetics, social relationship social values, cultural value, quality life etc.

The opinion of experts regarding the impact of multimedia on Indian society was collected and proper weightage was given to each item.

(2) **Preparation of Item:**

70 Items were prepared, in which 64 items belong to close ended category and rest 6 belong to open ended. 41 Questions are based on Likert scale.

(3) **Opinion of expert:**

The prepared questions were compiled and given to 25 specialists, who are expert in the domain of multimedia designing, mass communication, sociology and human psychology.

(4) **Discrimination of Value for item:**

On the basis of Judgment of 25 content experts, all the items were retained and thus the discrimination value of each item was determined.
(5) **Social desirability value of item:**

To know the social desirability value of each, a set of 70 questions were administered to a sample of 50 multimedia users (Pilot study). The instructions were also given to them. Then frequencies were driven for each items and then were converted into percentage these percentage gave social desirability.

**Final selection of Item:**

After establishment the discrimination value and social desirability, value for each item all the items were scanned. Those items were selected which have 80% and more favour. With a minor correction all 70 items selected for final shape of the tool.

**Details of Questionnaire as follows**

Items No (1 to 9) designed for obtain the personal information of respondent like Age sex religion qualification, categories, income group, Residential status family system etc.

Items No. (10 to 24) designed to check the primary and fundamental knowledge of multimedia users regarding there use and application of multimedia products and technology.

The whole questionnaire was divided in to six major sections, which are as follows:
Table: - 2.6

Details of Impact indicator's

(I) Basic details/ Parameters - Sought to personal information like name, age, sex etc. (item 1 to 9)

(II) Behavioral Indicator section - It contains the information regarding the routine activities, behavior and attitude. (item 10 to 23 & 30 to 39))

(III) Social Indicators section - This section of questionnaire related to social value, social relationship etc. (item 40 to 47)

(IV) Cultural Indicator section - It contains the information regarding the cultural aspects. (item 44 to 47)

(V) Environmental Awareness Indicators section - It contains the information regarding the Environmental aspects. (item 69, 70)

(VI) Other Indicators section - It contains the information regarding Health, Crime, aesthetics etc. (item 24 to 29, 50 to 52, 43 to 49, 52 to 57, 60 to 65)

2.6 Reliability and Validity of the Test:

The test, retest reliability with an interval of four weeks was established on 100 multimedia users of various places and different field. The reliability of scale was computed and it was determined by correlating the odd-even items of split-half method and applying the specimen-Brown formula

\[ V_{II} = \frac{2r^{1/2}I/II}{1+r^{1/2} I/II} \]

The reliability coefficient for impact of multimedia has been found to be 0.81. Thus it can be said that the scale is reliable for measuring the impact of multimedia on Indian society.

The reliability of scale is determined by Split Half method with a sample of 100 multimedia users from different place various domains.
The division of items is arranged on the basis of odd and even numbers of items. The reliability of half test is 0.646 the self correlation of the whole test is then calculated by Spearman Brown formula which has come out to 0.785 it's very close to reliability.

Validity:

To know the validity of the tool, (Questionnaire) it was given to experts of the field who are professors of mass communication, Media expert's sociologist and multimedia programme producers. Hence the tool is considered valid.

2.7 Administration of Questionnaire and collection of data:

The Questionnaire was administrated on people of the society belong to Madhya Pradesh. I had explained instruction to people before filling up to Questionnaire so that they may not feel in convenience. I had also tried to convince them to maintain the secrecy of their response strictly.

People of all age group including student of UG and PG courses, businessman, government servant NGO working and retried person of three districts were approached personally.

I had started administrating the tool from Sagar Urban area than preceded to the rural and similarly the people of Bhopal city (Urban) and suburban Mandideep and Misrod village were contacted for administration of the tool. Lastly the people of Indore city (Urban) and suburban centre Sanawad were approach directly. Thus, I had collected the data from the three district of M.P.
Scoring and Categorisation of Data:

“A series of item along some sort of continuum In other words, they are method of turning a series of qualitative facts (referred to as attributes) in to a quantitative series “Referred to as variable\(^{10}\).”

After collecting the data the whole Questionnaire was second along with five point scale.

Scoring Keys :

<table>
<thead>
<tr>
<th>S.No</th>
<th>type of statement</th>
<th>response with weight age</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Positive</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2.</td>
<td>Negative</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

2.8 Technique of Data Analysis:-

The **Ms-Excel** programme is used for Tabulation and Fundamental analysis work SPSS has been used for calculating correlation between some dependent variable and independent variable to find significance.

Microsoft Office Excel (MS EXCEL) :

MS EXCEL is a proprietary spread sheet application within distribution by MS for Microsoft windows and MACOSX. It features calculation, graphic tools, pivot table etc. MS Excel is one of the most popular programme used by researchers.

Micro software, basically a data processing programme used in various work. MS-Excel was the first spread sheet that permitted the
user to define the appearance of spread sheet (fonts, cell appearance and character attribute). It also incorporated intelligent cell recompilation, where only a cells dependent on the cell being adjusted are updated (previous spread sheet programme recomputed every thing all the time or waited for a specific user command) Excel has extensive graphing capabilities and enable users to perform mail merge, It has around 14 types of charts such as Bar, pie, surface, Bubble, star, Area, Line XY etc.

**SPSS (Statistical Package for Social Science):**

SPSS is widely used programme for statistical analysis in social science. It is used by market researchers, health researchers, survey companies, government, education researchers and other. SPSS provides a board range of capabilities for the entire analytical process. "With, SPSS one can generate decision making information quickly using powerful statistics, under stand and effectively present results with high quality tabular and graphical output, share your results with others using a verity of reporting methods and take advantage of the analytical asset strange and deployment capabilities of other SPSS products".

Various versions of SPSS are available in the market like SPSS 16.0, SPSS 14.0 and SPSS 13.0 etc. SPSS, is modular, tightly integrated, full featured product line fir the analytical process- planning data collecting data access, data management and preparation data analysis, reporting and development.
Statistics included in the base software -

- Descriptive Statistics: cross tabulation, frequencies Descriptive, Explore, Descriptive ratio statistics.
- Bivariate statistics: Mean, t-test ANOVA, Correlation (bivariate, partial, distances) Non parametric tests.
- Prediction for numerical outcomes: linear regression.
- Prediction for identifying groups: factor analysis, cluster analysis (two step, k-means, hierarchical) Discriminate etc.

The present study uses SPSS for complex statistical analysis such as correlation Data processing, tabulation work and for making charts to define and explain tabular Data.

The present study uses Excel for tabulation and basic data processing work. The studies also utilize this programme for the making of chart and other graphics.
REFERENCES:


