# Measurement
# of
# Individual Differences in
# Online Newspaper Reading

Thesis Submitted for the Degree of

*Doctor of Philosophy (Arts)*

at

Jadavpur University

by

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Supervisor

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Kolkata-700032

West Bengal, India

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Dedicated

to my

beloved family

## Certified that the Thesis entitled

**Measurement of Individual Differences in Online Newspaper Reading** submitted by me for the award of the Degree of Doctor of Philosophy in Arts at Jadavpur University is based upon my work carried out under the Supervision of Prof. Goutam Maity, Department of Library and Information Science, Jadavpur University.

And that neither this thesis nor any part of it has been submitted before for any degree or diploma anywhere / elsewhere.

Countersigned by the
Supervisor:
Dated:

Candidate:
Dated:

# Preface

Information is basic to human life. Different types of information are needed to make decisions at various levels of life. The need of information of an individual creates his or her information behaviour. Factors like personal, psychological, organisational and environmental directly influences the shaping up of an individual's information behaviour. As the information need varies from one person to another, so their exists differences in information seeking behaviour.

Online Newspaper is an important source of information. One can trace previous works on the behaviour of online newspaper readers but the differences in individual behaviour in reading online newspaper was not explored by anyone. So, a knowledge gap was found.

The specific questions that arise and that requires resolving in due course of this study may be stated as – Is there any difference at individual level in reading online newspapers? If yes, then to what extent one individual differs from another?

The present study has attempted to address this issue by carrying out a systematic investigation of the problem.

This research work may have a significant level of importance in the field of Library and Information Science. Understanding individual information behaviour will help information scientist and librarians in providing individual oriented information service.

**(Atanu Mondal)**

**Date:**

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Last but not the least, I take this opportunity to express my gratitude to my Parents and Parents-in-law for supporting me throughout the journey.

**(Atanu Mondal)**
**Date:**

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# List of Abbreviations

| | |
|---|---|
| et.al. | et alia (=and others) |
| etc. | etcetera |
| i.e. | id est (= that is) |
| No. | Number |
| viz. | videlicet |
| MAD | Mean Absolute Deviation |

# Abstract

In this study, an attempt has been taken to identify and measure individual differences in online newspaper reading. In doing so, samples were selected from the target population using the parameter 'Age', under which the age group 25-34 years was selected. For selecting samples, survey was conducted in the Kolkata district, West Bengal. As the population was still large, two Wards of Kolkata were selected by judgement sampling techniques. Among each of the Ward, fifteen individuals (who were found to be online newspaper readers) were selected as per availability and accessibility. So, a total of 30 individuals were selected as samples for conducting the survey.

A structured questionnaire was framed to conduct the survey and each individual was asked certain questions given in statement form regarding five parameters viz: individuals' reasons for preferring online newspaper; choice of news categories of individuals; choice of subject categories of individuals; frequency of reading; and individuals' level of satisfaction in reading online newspaper. Individuals were asked to score each of the statement on a scale of 0-10 where zero (0) denoted lowest score and ten (10) denoted highest score.

The collected data were then tabulated accordingly. Differences between two individuals were measured using 'Measurement of Pair Difference' formula. An algorithm and a C programming code based on the formula were developed for calculating the differences. The results obtained were then interpreted. If the result of a pair was found to be 0 (zero) then they were considered equal and hence showed no degree of difference exist between them. If the result of a pair was found to be in numbers (other than zero) then they were considered different and the result obtained showed the degree to which they are different from each other.

Then, the Mean Absolute Deviation (MAD) was calculated under each parameter, using the results of Measurements of Pair Difference of all the thirty individuals in MS-Excel

to determine the gravity of difference in online newspaper reading which indicated the degree of differences among all the individuals from the average difference (Mean).

After that, R statistical software was used to validate the obtained results. Also, under each parameter, a visual representation of the frequency distributions of 'Measurement of Pair Difference' results were shown using histogram.

The findings of the study showed that the results of 'Measurement of Pair Difference' test of all the pairs were in numbers across all the parameters. So, there existed individual differences in online newspapers reading.

Lowest degree of difference in score among all the individuals in terms of reasons for preferring online newspaper was found to be 16.17% and the gravity of difference was 7.49 from the mean (40.77). Lowest degree of difference in score among all the individuals in terms of choice of categories of news was found to be 13.63% and the gravity of difference was 6.90 from the mean (38.36). Lowest degree of difference in score among all the individuals as per their choice of subject categories was found to be 20.33% and the gravity of difference was 7.04 from the mean (44.29). Lowest degree of difference in score among all the individuals as per their frequency of reading was found to be 22.49% and the gravity of difference was 6.29 from the mean (41.03). Lowest degree of difference in score among all the individuals as per their level of satisfaction was found to be 15.00% and the gravity of difference was 6.27 from the mean (36.59).

After comparing all the parameters, it was found that, in online newspaper reading, differences exist among all individuals. The extent of the differences in scores among all individuals was found at least 13.63% in online newspaper reading. The minimum Mean Absolute Deviation across all parameters observed is 6.27, with a minimum mean value of 36.59 across all parameters. The gravity of difference in terms of online newspaper reading is found to be therefore 6.27. It indicated that among all individuals, the average difference is 6.27 from the mean (36.59) in reading newspaper online.

**Keywords:** Individual Differences; Measurement of Pair Differences; Online Newspapers; Online Newspaper Reading; Newspaper Reading Habit; Mean Absolute Deviation

Chapter – 1

# Introduction

Every individual is endowed with certain distinctive characteristics which makes them unique. This uniqueness of personality influences human behavioural developments as well as their interactions with others. The study of individual differences provides an insight into the variations that exists in the behavioural pattern among individuals. So, behaviour is a key component in studying individual differences. Such differences can be based on psychological traits, personality traits, intelligence, values, etc. In 'The SAGE Glossary of the Social and Behavioral Sciences' individual difference is defined as "how individuals differ in traits such as skills, aptitude and abilities to learn and perform" (Sullivan, 2009)[1]. Other traits that were referred to include gender, race culture, age and educational background.

Individual differences can be traced in information behaviour. Information Behaviour is the totality of human behaviour in relation to sources and channels of information,

[1] Sullivan, L. E. (Ed.). (2009). Individual Differences. *In The SAGE glossary of the social and behavioral sciences*. doi: https://doi.org/10.4135/9781412972024.

including both active and passive information seeking, and information use (Wilson, 2000)[2].

Need of any information resulting from uncertainty due to a lack of understanding, gaping, meaning, or a limited construct (Kuhlthau, 1993)[3], results into information seeking.

Studies have revealed that information behaviour of individuals differ from one to one. Factors like age, gender, educational qualification, occupation, income and habitation all affects individuals' information need and their seeking behaviour. Differences are observed in their choice of information source also. To satisfy the information need, individuals' resort to seek information from various information sources.

One such source of information is 'Newspaper'. Newspaper is "a publication and form of mass communication and mass media usually issued daily, weekly, or at other regular times that provides news, views, features, and other information of public interest…" (Newspaper, n.d.)[4].

Newspapers are an age-old primary source of information. From news on politics, business, society to sports, entertainment etc. it covers a large myriad of topics that can serve diverse information need of individuals. They are also a source of both historical and contemporary events. With the advent of the digital era the nature of newspaper has undergone massive changes. The printed newspapers are now accompanied by their online version. The increasing popularity of online newspapers has been attributed to its currency and interactive interface.

Majority of the study relating to online newspaper focused on its importance as a source of information, evaluation of its interface, its coverage of different topics and the habit of reading online newspapers among different sections of people. Works on online newspaper reading habit have ascertained the impact of socio-economic, demographic,

[2] Wilson, T. D. (2000). Human information behavior. *Informing Science, 3*(2), 49-55.

[3] Kuhlthau, C. C. (1993). A principle of uncertainty for information seeking. *Journal of Documentation, 49*(4), 339-355.

[4] Newspaper. (n.d.). In *Encyclopedia Britannica*. Retrieved from https://www.britannica.com/topic/newspaper

educational factors on reading habit of online newspaper readers. However, the data interpreted in all those studies were group data. No work on individual differences in online newspaper reading was found.

As information need is specific to each individual so it becomes important to comprehend how individuals differ in their preferences in reading online newspaper while using it as a source of information. So, the question arises here is how to find individual differences in online newspaper reading and how to measure the differences.

Existing literary output shows little evidence on the questions raised. Therefore, a notable knowledge gap has been found in this regard.

## 1.2 Statement of the Problem and Research Questions

The problem of the proposed research can be stated as:

***Identifying and Measuring Individual Differences in Online Newspaper Reading.***

The problem stated above along with the following necessary and relevant research questions emerging there from warrants to be resolved in the course of investigation.

The research questions to this direction are as follows:

i. Is there any difference in individuals' reasons for preferring online newspaper? If yes, then to what extent one individual is different from another? What methodology can be applied in this regard?

ii. Is there any difference in individuals' choice of news categories in reading online newspaper? If yes, then to what extent one individual is different from another? How can this be determined?

iii. Is there any difference in individuals' choice of subject categories in reading online newspaper? If yes, then to what extent one individual is different from another? How can this be determined?

iv. Is there any difference in individuals' frequency of reading online newspaper? If yes, then to what extent one individual is different from another? What methodology can be applied in this regard?

v. Is there any difference in individuals' level of satisfaction in online newspaper reading? If yes, then to what extent one individual is different from another? What methodology can be adopted in this regard?

## 1.3 Objective

The objective of this research is to identify and measure the individual differences in online newspaper reading.

To fulfil this objective, the research attempted:

- To identify and measure individual differences regarding the reasons for preferring online newspaper;
- To determine and measure individual differences in choice of news categories in reading online newspaper;
- To determine and measure individual differences in choice of subject categories in reading online newspaper;
- To identify and measure individual differences in frequency of reading online newspaper;
- To identify and measure individual differences in level of satisfaction in online newspaper reading.

## 1.4 Methodology

To achieve the above stated objective, survey method had been employed. A brief outline of the overall methodology and the steps followed to carry out the research is given below:

**At first,** an attempt was made to select the sample from the target population. As to the population of the study, every individual having the habit of reading online newspapers, belonging to diverse strata, across the world, should come under the purview of this research work. However, such population was so large and heterogeneous that it could not be covered in any study.

Therefore, for convenience, a representative sample of the population was selected from Kolkata district of West Bengal by using a stratified random sampling technique in combination with judgement sampling technique. However, the sample of the

population was still large which could not be covered under the study. Hence, two Wards of Kolkata district were selected by applying judgement sampling technique. Under each of the Ward, fifteen individuals (who were found to be online newspaper readers) were selected as per availability and accessibility. In this way, a total of 30 individuals were selected as samples for conducting the survey.

It is worth mentioning that individuals under this sample might be selected by using different parameters like Age, Gender, Habitation, Occupation, Educational Qualification etc. However, for selecting individuals, 'Age' was set as the parameter judiciously for this study.

Under this parameter, individuals belonging to the age group of '25-34 years' were considered for selecting sample. This particular age group was chosen on the basis of web traffic analysis of four newspapers (two Bengali and two English) having the highest circulation rate as per the report of Audit Bureau of Circulations, India (2019)[5]. The analysis was done using 'SimilarWeb' (https://www.similarweb.com/) and it revealed that the age group of 25-34 years had the highest reading rate for each of the selected newspapers viz: Times of India and The Hindu (leading English newspapers); Anandabazar Patrika and Bartaman (leading Bengali newspapers).

**At second step,** to gather the required data a structured questionnaire was framed (please see Appendix-1). Keeping in view the stated objective data collection was done from the selected sample using a combination of both questionnaire and interview method. Each individual was asked certain questions in statement form regarding five parameters:

i. Individuals' Reasons for Preferring Online Newspaper;
ii. Individuals' Choice of News Categories;
iii. Individuals' Choice of Subject Categories;
iv. Frequency of Reading; and
v. Level of Satisfaction.

[5] Audit Bureau of Circulations. (2019). Highest Circulated Dailies, Weeklies & Magazines amongst Member Publications (across languages). Retrieved from http://www.auditbureau.org/files/JD%202019%20Highest%20Circulated%20(across%20languages).pdf

Individuals were asked to score each of the statement on a scale of 0-10 where zero (0) denoted lowest score and ten (10) denoted highest score. After collecting the data, every individual was named in alphanumeric code viz. A1, A2, A3, A4…….… A30 for ease of data representation and interpretation.

At the **third step**, to find out the degree of difference between two individuals, a mathematical formula was used. In this research, it was referred as 'Measurement of Pair Difference' formula.

**The formula is given below (with example):**

**Measurement of Pair Difference** (in percentage)

$$x = \sqrt{\frac{(a_1 - b_1)^2 + (a_2 - b_2)^2 + \dots (a_n - b_n)^2}{\mathrm{N}}} * \frac{100}{m}$$

Where $a_1, a_2 \dots \dots \dots a_n$ is score against choice of person A;

$b_1, b_2 \dots \dots \dots b_n$ is score against choice of person B;

N is the number of questions asked; and

m is the maximum number given for a question.

**Example:**

Two individuals named $a_i$ and $a_j$ were asked to give score from 0-10 for five questions.

Score of $a_i$ = 5, 2, 10, 8, 6

Score of $a_j$ = 9, 6, 4, 8, 10

By following the above formula, the pair difference is calculated below:

$$x = \sqrt{\frac{(5-9)^2 + (2-6)^2 + (10-4)^2 + (8-8)^2 + (6-10)^2}{5}} * \frac{100}{10}$$

$$= \sqrt{\frac{84}{5}} * \frac{100}{10}$$

= 40.9878031%

= 40.99%

So, the difference between $a_i$ and $a_j$ is 40.99%.

On the basis of the above formula an algorithm was made and a program in C language (see Appendix II) was compiled for calculating the difference between two individuals of a pair.

The **algorithm** is given below:

Compute $x$ (a, n, N, m)

{

Input a: as two-dimensional array of numbers

n: number of data item

N: number of questions asked

m: maximum score for a question

Output $x$, measure equality or difference

$x = 0$;

for (i = 1 to n)

{

for (j = i + 1 to n)

{

$a^2_{ij} = 0$; /* $a^2_{ij} = \| a_i - a_j \|^2$ */

for ($N$ = 1 to n)

$a^2_{ij} = a^2_{ij} + (a_{in} - a_{jn})^2$;

$x = x + a^2_{ij}$;

}

}

$$x = \sqrt{\frac{x}{N}} * \frac{100}{m};$$

Return $x$;

}

Using the C programme, the results of Measurement of Pair Difference in all the parameters, viz: reasons for preferring online newspaper; choice of news categories; choice of categories of subject; frequency of reading; and level of satisfaction were calculated.

The rules followed for interpreting the results (denoted by $x$ in the above algorithm) are given below:

if $x = 0$, then result of two pairs are equal i.e., perfect equality.

So, the result (calculated in percentage) revealed that there is no degree of difference between them.

if $x \neq 0$, then result of two pairs are not equal i.e., different.

So, the result (calculated in percentage) revealed the degree of difference to which they are different from each other.

At the **fourth** step, the Mean Absolute Deviation (MAD) was calculated under each parameter, using the results of Measurements of Pair Difference of all the thirty individuals in MS-Excel to determine the gravity of difference in online newspaper reading.

Formula of Mean Absolute Deviation:

$$\frac{\sum_{i=1}^{n}|x_i - \bar{x}|}{n}$$

Explanation:

$x_i$ = Input data values

$\bar{x}$ = Mean value for a given set of data,

n = Number of data values

Example: A-B = 20, A-C= 30, B-C =25

So, $\bar{x}$ (mean value) = 25

| $\lvert x_i - \bar{x} \rvert$ | | |
|---|---|---|
| A-B | A-C | B-C |
| 5 | 5 | 0 |

Mean Absolute Deviation = A-B+A-C+B-C / 3

= 3.33

The Mean Absolute Deviation is 3.33. It indicates that among all the individuals the average difference is 3.33 from the mean (25).

So, the gravity of difference is 3.33.

At the **fifth step**, the results of the study were tested and validated using R statistical software. Additionally, a visual representation of the distribution of Measurement of Pair Difference results using a histogram has been provided for each parameter. For descriptive statistics, the R library {psych} was utilized, while {ggplot2} was used for plotting the histograms.

At the **final and sixth step**, keeping in view the objective of the study the collected data were analysed and interpreted.

## 1.5 Scope

With regard to the scope of the study, this research work should cover every individual having the habit of reading online newspapers, belonging to diverse strata, across the world. But it is neither possible nor convenient to cover such a huge heterogeneous population for the study. The current work is based on and limited to the opinions expressed by a total of thirty samples belonging to the ‘Age’ group of ’25-34’ years from the two selected Wards of Kolkata District of West Bengal, India.

## 1.6 Significance of the Study

This research has substantial significance in both the field of Library & Information Science and Information Behaviour. As newspaper has always been a primary source

of information so understanding individuals' information behaviour towards 'online newspaper' will give an idea about the relevance and value newspapers still have as a source of information at present day. Also, measurement of individual differences will substantiate that the information need of every individual is different and therefore there is a need to provide personalised services to users by library and information professionals. It can even help to design and develop information system with special attention to single user / individual oriented service.

This study even has implications in the field of Media Science. The preferences of individuals in reading online newspaper, their choice of news categories, subject categories, frequency of online newspaper reading and level of satisfaction all can help a media professional to understand user attitude towards online newspaper and thereby improve their services. The study can also be helpful to the field of Psychology. To be able to measure individual difference will give the psychological professionals the scope to understand each and every individual's behaviour is different and by measuring the difference between two individuals' attention can be given to the specific need of a person.

## 1.7 Style of Referencing

Guidelines of American Psychological Association, 6th ed., 2009 was followed here for citation of print and non-print materials in the text and for making list of references.

## 1.8 Chapters

**Chapter-1** (**Introduction**) provides a brief outline of the research work that includes statement of problem of the research along with specified research questions, objective, methodology, scope, significance of the study and style of references.

**Chapter-2** (**Overview of Literature**) reviews the literature in areas related to the problem of the research viz: Reading Habit, Newspaper Reading Habit, Individual Differences and Measurement of Individual Differences.

**Chapter-3 (Individuals' Preferences for Reading Online Newspaper**) identifies and measures the individual differences pertaining to the reasons behind their preferences for reading online newspaper.

**Chapter-4 (Individuals' Choice of News Categories)** determines and measures the individual differences in readers' choice for news categories as reflected in online newspaper.

**Chapter-5 (Individuals' Choice of Subject Categories)** determines and measures the individual differences in readers' choice of subject categories while reading online newspaper.

**Chapter-6 (Frequency of Reading**) identifies individual differences in readers' frequency of reading online newspapers and measures those differences.

**Chapter-7 (Level of Satisfaction**) identifies individual differences in the level of satisfaction of online newspaper readers and measures the differences.

**Chapter-8 (Summary of Findings and Conclusion**) deals with the summary of findings and conclusion of the research. Areas of further research have also been suggested here.

Chapter – 2

# Overview of Literature

As an attempt to gain insight to the various available information that are relevant and pertinent to the research work, a comprehensive literature review was conducted at the initial stage. An extensive search of both print and online sources was done to identify and locate the scattered information. Different databases like Library and Information Science Abstract (LISA), Indian Science Abstract, Library Information Science & Technology Abstracts (LISTA), Indian Library Science Abstract (ILSA), ProQuest Dissertation & Theses Global, Web of Science, Scopus, Sodhganga Thesis and Dissertation etc. were consulted. Documents types like Journal Articles, Conference Papers, Thesis and Dissertation, Books, Research Reports etc. were considered. To get access to the source of documents help of Library Catalogue of Jadavpur University, Booksellers Catalogue, Ulrich International Periodical Directory and Dissertation Abstract International were also taken.

Information gathered from the above-mentioned databases and documents were evaluated, organized, and presented under pertinent categories, all while maintaining consistency with the objective of the study. The major areas found relevant during the

literature search includes: Reading Habit, Newspaper Reading Habit, Individual Differences and Measurement of Individual Differences.

## 2.2 Observations

The findings revealed through the literature search and the analysis which makes path for research question are given below:

### 2.2.1 Reading Habit

'Reading' is a process of bringing meaning to a written text. The process involves intellectual and complex tasks that may encompass the use of several cognitive strategies for achieving specific objectives (Foertsch, 1998). Not only the academic success and failure of individual depends on reading but it also nourishes the attitudes, beliefs, judgement, morals and action of readers. It is a continuous process. The activity of reading is regarded as a habit when it is repeatedly carried out (Chettri & Rout, 2013) and this habit has to be built up and promoted from an early age (Sangkaeo, 1999). Reading habit is an essential and important aspect for creating the literate society in this world. It makes the personality of an individual, develop proper thinking methods and creates new ideas in an individual's mind. (Palani, 2012).

According to Barker and Escarpit (1973), reading habits are harder to study than other habits as only the physical act of reading is accessible to direct observation, not the mental act. However, reading habit has been time and again studied from various perspectives. McColvin (1929) identified four factors contributing towards inculcating reading habit among children. To him having a social circle with love for reading, presence of books at home, teachers who read and school works that involves library work all have influence on developing children's reading habit.

Rajaram (1999) in his study showed major strategies for promoting children's reading habit in India. He stated that books can provide not only entertainment but also knowledge. Coles & Hall (2002) spoke about the significance of acknowledging and respecting the variety of reading activities of children and the prevalent reading cultures in which they reside. Kalita (2016) discussed about children's reading habit in public library. She said that to make reading a lifelong habit it should be started at an early

stage and nurtured. The habit of reading could be established by visiting library at childhood and that library staff should play an important role in this regard.

Ediger (2001) pointed out that school library is very important in developing a quality reading program. Similar view was given by Apeji (2002) advocating the role of school library in learning process as well as in encouraging student's reading habit. Abeyrathna & Zainab (2004) explored reading habits in leisure time of school students in Sri Lanka. Their attitudes towards reading and use of school library was highlighted in the study. The findings showed that the instead of borrowing books to read at leisure, students used libraries mostly to study or do their schoolwork. Promoting reading habits through the role of school and public libraries were examined by Oji & Habibu (2011) specifically focusing on children and adolescents. They concluded by cautioning parents to encourage the provision of reading materials and its utilization to avoid information famine. Abidin, Pour-Mohammadi & Jesmin (2011) conducted a study on impact of online reading habits of rural secondary school students in Malayasia. The findings revealed that online reading was a highly potent strategy in enhancing reading habits among these students. Mandal and Bandopadhyay (2012) conducted a comparative study of the reading habit of students of schools under Ramkrishna Mission, Private English Medium schools and Government aided schools of India. They found that there exists library reading habit among students and considered it to be a positive sign for India. Aspects of students reading habit also got reflected in works of Mishra and Yadav (2013); Nagaraja (2017).

Loan & Shah (2017) in their study found that adolescents had varied tastes in reading. Jiarlimon (2018) in her research work dealt with impact of information literacy on reading habits. While doing so, she did the research on school students of Shillong and suggested creation of library periods for utilization of library resources and services at least two hours a week in the school time table is a must for students right from the primary level to the higher secondary level. It was also recommended to organize information literacy programs like library week, book exhibitions, quiz competitions, read-a-thon (reading competitions and reading challenges) and awareness programs on current events, social networking sites, careers counselling and guidance which would encourage and engage the students in reading as well as expose them to different types of reading materials and thus their reading habits would be improved.

Sivasubramanian (2019) in his study depicted reading habits of higher secondary students and concluded that there must be a fixed time for reading a variety of reading materials and that different methods for increasing reading interest among students should be adopted.

Reading habit of college students have also been investigated by many. Huang, Capps, Blacklock & Garza (2014) investigated reading habits of college students of America. The study indicated 'the internet and socializing with others as significant factors college students devote to conventional academic and extracurricular reading.' Ragini & Deepa (2019) studied the online reading habits of doctoral students. They identified how the online reading help the doctoral students on their research. Mokhtari, Reichard, & Gardner (2009) in their study examined the effect of internet and television on college students reading habit. The findings showed that "the time college students spent on the Internet did not appear to displace or interfere with the time they reported spending on reading for academic or recreational purposes"(p. 609). Ramaiah & Daimari (2022) explored the reading habits among research scholars and postgraduate students in Pondicherry University and confirmed that their reading certainly impacted their academic performance and helped in their vocabulary, learn new facts, and gaining more knowledge. The study of Cho and Krashen (2018) clearly stated that establishing reading habit is only possible if students have access to enough materials; place (library) and time. Applegate et. al. (2014) described the attitudes of college students towards reading, mainly those aspiring to be teachers in future. Poornima (2015) in her research dealt with the reading habits among students of distance education and made some recommendations like library has to reach out to the distance education learners to their door step, the library develops and provides a step-by-step learning guide to introduce variety of e-resources and to teach information searching and consolidation skills etc.

Rudland & Kemp (2004) looked into teacher's reading habits especially those teachers who were associated with students with special education needs. They identified barriers related to professional reading and suggested recommendations regarding promotion of reading habit. Chaudhari (2013) studied Ph.D. holder college teachers' reading habits and suggested that reading habit must be developed from school life and the reading habit of extra curriculum was necessary in teaching field.

Another relevant area found is the reading habit of general library users. Sherly (2011)

studied the reading habits of library user's in PARL libraries in Kanyakumari and found that language is one of the factors that determines the reading habits of readers in libraries and identified existence of several socio-economic barriers to reading. She also suggested that to understand the objectives of reading, authorities should take appropriate steps to issue pamphlets so that all types of readers can understand the objectives of reading habits properly. Rajakumar (2014) dealt with reading habits of readers in public libraries in Chennai district and noted that higher the education status, higher is the overall satisfaction on public library resources. Study on reading habits and use of public library resources by urban women in Karnataka was carried out by Arali (2018). Bala (2013) also explored reading habit in academic sector from the perspective of women.

The concepts, prospects, issues and challenges pertaining to reading skills in general were identified by Sudha and Harinarayan (2008). They also depicted the importance of library in promoting reading habit. While studying mobile reading habit Shimray, Keerti & Ramaiah (2015) put forward that mobile phones are able to make physically non-accessible books available to millions of people in the world and therefore are able to bridge the gap and promote reading habit.

The above literature review resonates that a proper reading habit should be inculcated and that it is an important aspect in building a good society.

### 2.2.2 Newspaper Reading Habit

Newspaper is a mirror of society as well as a primary source of information. The most impressive virtue of newspaper is that it has something for someone and entertains all the age groups (Sharma and Saini, 2019). Wilkinson (1972) stated that majority of research related to newspaper was concerned with 'who reads it rather than why they make a particular choice'. He described the complexity of factors that affected newspaper readership and newspaper choice. Stone & Wetherington (1979) also expresses somewhat similar views. They opined that newspaper related studies mainly focused on 'who read and who does not, what content are read and how much'. They explored whether newspaper reading can at all be considered as a habit or not. To them newspaper reading behaviour of parents is a stronger predictor of habit formation than programs to establish readership habits, such as the Newspapers in Education program.

Ghrera (2009) examined the factors influencing the newspaper readership pattern as well as evaluated the upcoming trends in newspaper reading. Majumder & Hasan (2013) were of the opinion that 'Newspaper reading is a habituated reading which influences readers to discover and enter the store house of knowledge in daily basis.'

Numerous studies have been carried out on newspaper reading habit of students. Phelps & Pottorff (1992) advocated the use of the newspaper is useful to improve the reading and writing skills of high school students. While showing newspaper reading habits of the graduate students, Akanda & Haque (2013) depicted that that majority of the graduate students read Bengali and English newspapers. Among the news items, international section of the newspaper was the most preferred section. In another study covering students of Social Science and Arts, Akanda, Hoq, & Hasan (2013) revealed that almost 76% percent respondents read newspapers regularly and 46% respondents read newspaper for their life development. Asokan & Dhanavandan (2013) in their study of newspapers reading habits among engineering students and teachers found that 50.48% of the respondents used newspapers for improving their general knowledge. Owusu-Acheaw & Larson (2014) brought to attention that reading habit can make good impact on academic performance. Sudharani (2014) conducted a study on newspaper reading habits of university students and found that majority of the respondents read newspapers daily. Language, News items types, frequency wise behaviour of respondents were identified in the study. According to Lodi & Subuhi (2015) newspaper had high impact creating awareness about current affairs and academics of undergraduate students. Sankar (2015) studied the newspaper reading patterns and preferences of Under Graduate / Post Graduate students of select districts of coastal Andhra Pradesh to know whether there was a relation between the students' newspaper reading and other aspects such as place of schooling, parents' education, parents' occupation, mother tongue. Krishnamurthy & Awari (2015) showed that students read newspapers for different purpose. Swapna, Arundhati and Manjula (2016) opined that newspaper always played a major role in informing and educating the readers about their surroundings. They explored newspaper reading habit of postgraduate students and found that students spent daily less than one hour on an average for newspaper. Majority of respondents stated that they read newspapers to improve general knowledge. Ambika and Samy (2018) attempted to show newspaper reading habits of post graduate students and concluded that newspaper was an important source of

information for all and brought news of daily happenings of the world. Gaur, Saini, & Kumar (2018) analysed the newspaper reading habits among the college students and they identified time spent on newspaper reading; sources of newspaper; the section of newspapers read mostly; problems of reading newspaper etc. The result confirmed that majority of students had newspaper reading habit. Muniammal (2018) studied how frequently students in the Thoothukudi district read newspapers and observed lack of newspaper reading habit among students. She offered a number of suggestions for enhancing students' newspaper reading habits.

Chen (2014) dealt with newspaper reading habit of Japanese people. From the study, it was found that high percentage of Japanese had the habit of reading newspapers. Their loyalty towards newspapers were also high. But younger people had much lower reading rate and loyalty than the elders. Nagashetti & Kenchakkanavar, (2015) in their study revealed that different types of news are found in a newspaper and readers read newspaper according to their choice of types of news. Tewari (2015) conducted an online survey in India on newspaper reading habit. The study claimed that women preferred to read entertainment, development, health, education, etc. whereas men preferred political, sports, crime, business, and defence related news.

The traditional concept of newspaper has now transformed into the new generation tablets and mobile screens (Menon and Shrena 2017). Flavian and Gurrea (2006) stated that the search for specific information and for updated news had a positive effect on reading newspapers on the Internet. In 2009 Flavian and Gurrea again made an attempt to analysing the users' behaviour and attitude towards the digital press. On this point, the research highlighted the process of identifying the key motivations which led readers to consult newspapers. Hassan, Azmi & Atek (2015) attempted to determine the satisfaction level of online newspapers readers' information need. The result revealed that a moderate level of readers was satisfied with the contents of online newspapers however majority of the readers liked reading online newspapers more than their print counterparts. Kumar (2018) while showing reading habit, dealt with online newspaper and proved that reading of newspaper is a great habit for growing knowledge. Sharma and Saini (2019) claimed that people prefer to read printed newspaper since centuries but in the present time e-paper is also in trend. The preferences towards online news are more among the younger generations (Kit and

Teng, 2014). Anyim (2021) indicated in his study that readership level of online newspapers (52.2%) was greater than that of print newspapers.

The above literary review confirms the importance of newspaper in promoting reading habit. Also works on growing importance of online newspaper is highlighted. But all the works reviewed here studied group data on newspaper reading habit based on certain parameters like, age, gender, educational qualification etc. A need of study on individual differences is felt here.

### 2.2.3 Individual Differences

Individual differences are "Variations or deviations from the average of the group, with respect to the mental or physical characters, occurring in the individual member of the group" (Drever, 1952, p. 132). It distinguishes or separates individuals from each other and make one as a completely unique man or woman in oneself. Charles Darwin (1859) was the first man to deal with the topic 'Individual differences' in his seminal work 'The Origin of Species' stating that individuals differ from each other even when they belong to same species. In his work 'The Descent of Man' Darwin (1981) opined "No two individuals of the same race are quite alike; we compare millions of faces and each will be distinct" (p. 108). The variation or deviations among individual can be in regard to a single characteristic or a number of characteristics, and these differences in their totality distinguish one individual from another (Good, 1959). Individual differences can include different aspects like gender, age, psychology, race, nationality, educational qualification, socio-economic status, motor ability and so on. Carroll and Bright (2016) suggested that 'individual differences in ability reflect, in large part, variability in the efficiency with which the relational complexity of task constraints is held in mind.'

Farley and Truog (1970) in their work 'Individual differences in Reading Comprehension' studied function of individual differences in extraversion-introversion, neuroticism and academic and resultant achievement motivation. Analyses of variance indicated no significant contributions of any of the individual differences studied to reading comprehension. Studies of individual differences in reading also got reflected in works of Siegler (1988); Daneman (1991); Deegan (1995); Hinchley & Levy (1988); Chiarello, Welcome & Leonard (2012). Pfost, Hattie, Dorfler & Artelt (2014) dealt with the idea of 'Matthew effects in reading'. Their review

summarised the empirical findings on the development of early inter-individual differences in reading. Long & Freed (2021) used multi-level modelling to determine the individual-difference factors. Their work suggested that individual variation in processing did not map directly to variation in comprehension.

Other than 'reading', individual differences has also been studied from various other perspectives. The individual differences in musical ability were identified by Nisal (1984). Ford, Miller & Moss (2001) worked on impact of individual differences in Internet searching. Their study emphasized on individual difference were based on cognitive styles, levels of prior experience, internet perceptions, study approaches, age and gender to understand their influence on internet searching. Oliver (2002) explored the importance of individual difference in the media effect process and suggested that study of individual differences can serve as an important predictor of media use and moderators of media influence. Zha, Zhang and Yan (2014) surveyed how user perception of print and electronic resources were influenced by individual differences. They examined and discussed how traits like gender, age, experience influenced users' choice of print and electronic resources. The study 'Individual differences in social media use for information seeking' by Kim, Sin & Tsai (2014) found demographic and personality differences in which social media platforms were used and the informational purposes behind their uses. It showed that understanding users' personal preferences, purposes, and information needs would help librarians better prepare to provide effective information services. In his study Chandra (2019) showed that individual differences were found in information behaviour for assimilation. Kelly and Sharot (2021) stated that individual differences in information seeking reflect varying emphasis on instrumental, hedonic and cognitive values, which in turn provides clues about individual's mental health.

### 2.2.4 Measurement of Individual Differences

Thorndike (1914) in his book said "It is not only permissible, but more scientific and more useful, to think of human individuals as all measured upon the same series of scales, each scale being for the amount of some one thing, there being scales for everything in human nature, and each person being recorded as zero in the case of things not appearing in his nature" (p. 153). Broadly speaking, variables used in measurement of individual-difference studies come from the following three classes: The first is the

class of natural such age, weight, and gender. The second is the class of instruments such as personality and psychopathology instruments. The third and final class of variables is performance on experimental tasks (Rouder & Haaf, 2019).

In his paper, Davis (1983) talked about the Interpersonal Reactivity Index (IRI) and how it relates to with measures of social functioning, self-esteem, emotionality, and sensitivity to others. Hall, Pongrac, & Buckholz (1985) looked into individual differences in visual imagery ability while performing a task. They concluded that most of the study in this regard had not measured imagery ability to its fullest. They also assessed the potential of 'Movement Imagery Questionnaire' in determining individual differences in visual imagery. Childers, Houston, & Heckler (1985) explored the ways in which individual differs in terms of rate, extent, style and quality of their information processing. They demonstrated the importance of considering individual characteristics in research relating to marketing and consumer behaviour. Viswanathan (1993) created and validated measure of preference for numerical information; studied its relation to other ideas and its possible uses in various contexts were considered. Dunton & Fazio (1997) attempted to develop a 'Motivation to Control Prejudiced Reactions Scale' to assess individual differences in the extent to which individuals seek to control the expression of prejudice. They found that motivated individuals expressed less prejudiced responses compared to less motivated people. Hannon & Daneman (2001) suggested a theory-based tool which to them was easy to administer, and that had high predictive power for measuring individual differences. However, they were also of the opinion that qualitative differences might get blurred when models for measuring individual differences are constructed depending on group data. Caseras, Avila, & Torrubia, (2003) in their paper 'The measurement of individual differences in Behavioural Inhibition and Behavioural Activation Systems' discussed the most used 'personality scales' for the assessment of individual differences in anxiety and impulsivity dimensions.

The degree of 'memory ability' in healthy young adults were studied by Bob Uttl in his work 'Measurement of Individual differences: Lessons from Memory Assessment in Research and Clinical Practice' (Uttl, 2005). Bolt & Jonson (2009) proposed a multidimensional extension of Bock's nominal response model, so as to reduce bias caused by individual differences in measurement of any intended trait. Harlaar et. al.

(2010) examined which skills contribute to individual differences in reading comprehension and how these skills were related to each other from a behavioural genetic perspective.

Gollwitzer, Christ & Lemmer (2014) discussed importance of difference scores in social psychology. While studying behavioural changes which involved psychological reaction resulting from a triggering situation, they gave arguments in favour of the reliability of difference scores in measuring individual difference and pointed out that difference score models are a particularly useful tool that social psychologists should consider using more frequently. According to Aczel, Bago, Szollosi, Foldes & Lukacs (2015) multiple-bias questionnaires consisting of items for each bias were often used to measure individual differences in people's susceptibility to heuristics and biases (HB). The results indicated that it was necessary to access and understand the domain specificities of cognitive biases. Only then they could be incorporated in multiple-bias questionnaires. Sackett, Lievens, Van Iddekinge & Kuncel (2017) reviewed 100 years of research on individual differences and their measurement. They covered individual difference studies involving areas like (a) knowledge, skill, and ability, (b) personality, including integrity, emotional intelligence, stable motivational attributes & creativity; and (c) vocational interests. However, they pointed out that most of the research focused on 'issues' rather than on the 'measurement of individual differences.' Boogert, Madden, Morand-Ferron & Thornton (2018) opined that for understanding the evolution of cognition the individual cognitive variabilities along with its causes and effects must be recognised and analysed. They addressed the challenges in measuring individual differences in cognitive performance and made specific methodological suggestions. Conway, Kovacs, Hao, Rosales & Snijder (2021) studied Process Overlap Theory (POT) as a suitable framework to trace and facilitate research on individual differences in cognitive ability.

The above study confirmed that measurement of individual differences is mainly confined to using 'group data' based on certain characteristics like age, gender, educational qualification etc. Also, a number of researches used psychometric tests or statistical analysis as a method to measure individual differences. Individual's choices/preferences were identified as having an important role in making the differences.

## 2.3 Inferences

After analysing and deeply observing the gathered data no work was found studying individual differences in online newspaper reading. Also, hardly any work was found which attempted to measure individual differences through 'pair comparison' i.e., measuring difference between two individuals.

Thus, a notable knowledge gap had been found which had led the researcher to investigate the study on "Measurement of individual differences in online newspaper reading".

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Chapter – 3

# Individuals' Preferences for Reading Online Newspaper

Preferences in simple words is the reflection of a personal choice or personality trait of an individual that influences his/her course of action in any given situation. The world has witnessed a growing preference for online newspaper in recent times. Krishnamurthy & Awari (2015) found that majority of respondents read online newspaper to obtain information. They also preferred to read online newspaper to improve communication skills. Camassola & Notari (2017) concluded online newspaper reading to be relatively simple and straightforward, and considered it as a valuable tool for enabling readers to build tastes and habits and found it to be effective for variety of audiences. Flavian & Gurrea (2006) in their study stated that immediacy, accessibility and free cost were the most relevant attributes for reading online newspapers.

In this study keeping in view the objective, an attempt had been made here to examine the difference in reasons for individuals' preferences for reading online newspaper. A total number of thirteen (13) questions were formulated in statement form after extensive literature search. Each statement was given an identification code using alpha numeric combination viz. S1, S2, S3……. S13.

Respondents were asked to give score to each question from 0-10 (details in Appendix-1) based on their reasons for preferring online newspaper.

The statements are given below:

- S1: I read online newspaper(s) to get real time updated news
- S2: I read online newspaper(s) as it is my hobby
- S3: I read online newspaper(s) for time pass
- S4: I prefer online newspaper(s) as I can access more than one newspaper easily
- S5: I read online newspaper(s) as it improves my reading / writing / vocabulary skills
- S6: I prefer online newspaper(s) as it allows me to search a particular news/ topic quickly using search facility
- S7: I prefer online newspaper(s) as it does not require any physical storage space
- S8: I prefer online newspaper(s) as it is cost effective than printed newspaper
- S9: I prefer online newspaper(s) as I can read it from anywhere by carrying smart phone / tablet with internet
- S10: I prefer to read online newspaper(s) as I can watch videos / view photos / make comments
- S11: I prefer to read online newspaper(s) as I can access old news from archives easily
- S12: I prefer to read online newspaper(s) as I can adjust the font size of articles as per my need
- S13: I prefer online newspaper(s) as I can share the news with others easily

Scores given by individuals for each statement are taken into consideration to measure the difference between two individuals, in respect to reasons for their preferences for reading online newspaper, using the below formula:

**Measurement of Pair Difference**

$$x = \sqrt{\frac{(a_1 - b_1)^2 + (a_2 - b_2)^2 + \dots (a_n - b_n)^2}{\mathrm{N}}} * \frac{100}{m}$$

The result of the difference between two individuals is in percentage.

## 3.2 Analysis and Findings

The findings obtained from analysis of collected data are as follows:

### 3.2.1 Individuals' Preferences for Reading Online Newspaper

Table 3.1 given below shows individuals' preferences for reading online newspaper.

Table 3.1: Individuals' Preferences for Reading Online Newspaper

| **Individuals** | **Individuals' scores for each statement** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **S1** | **S2** | **S3** | **S4** | **S5** | **S6** | **S7** | **S8** | **S9** | **S10** | **S11** | **S12** | **S13** |
| A1 | 10 | 5 | 5 | 9 | 4 | 4 | 1 | 4 | 9 | 7 | 1 | 2 | 2 |
| A2 | 10 | 10 | 3 | 7 | 5 | 6 | 6 | 5 | 6 | 6 | 5 | 6 | 5 |
| A3 | 4 | 2 | 3 | 2 | 2 | 2 | 1 | 5 | 6 | 4 | 0 | 0 | 0 |
| A4 | 2 | 3 | 9 | 6 | 10 | 4 | 1 | 10 | 10 | 7 | 4 | 0 | 4 |
| A5 | 6 | 1 | 7 | 7 | 0 | 0 | 5 | 4 | 5 | 0 | 2 | 0 | 4 |
| A6 | 8 | 7 | 5 | 1 | 5 | 1 | 10 | 7 | 7 | 2 | 0 | 4 | 0 |
| A7 | 9 | 4 | 4 | 6 | 10 | 3 | 5 | 6 | 6 | 6 | 7 | 4 | 1 |
| A8 | 5 | 5 | 10 | 7 | 7 | 4 | 3 | 1 | 1 | 0 | 2 | 6 | 4 |
| A9 | 5 | 2 | 3 | 5 | 1 | 5 | 2 | 2 | 10 | 0 | 4 | 0 | 0 |
| A10 | 9 | 10 | 0 | 9 | 0 | 0 | 0 | 0 | 7 | 0 | 2 | 0 | 0 |
| A11 | 10 | 9 | 9 | 10 | 10 | 6 | 5 | 6 | 8 | 8 | 6 | 7 | 6 |
| A12 | 6 | 0 | 10 | 5 | 9 | 7 | 7 | 5 | 6 | 7 | 0 | 0 | 0 |
| A13 | 3 | 6 | 10 | 1 | 5 | 9 | 10 | 10 | 7 | 6 | 3 | 6 | 0 |
| A14 | 10 | 10 | 10 | 7 | 1 | 10 | 0 | 2 | 10 | 4 | 4 | 0 | 7 |
| A15 | 8 | 4 | 4 | 4 | 5 | 7 | 8 | 5 | 4 | 2 | 5 | 5 | 0 |
| A16 | 9 | 5 | 9 | 6 | 3 | 7 | 3 | 1 | 8 | 1 | 1 | 4 | 0 |
| A17 | 10 | 9 | 5 | 10 | 2 | 9 | 9 | 9 | 9 | 9 | 0 | 0 | 0 |
| A18 | 9 | 4 | 8 | 6 | 1 | 7 | 1 | 1 | 4 | 1 | 2 | 1 | 0 |
| A19 | 10 | 3 | 7 | 2 | 6 | 6 | 7 | 2 | 8 | 4 | 1 | 4 | 0 |
| A20 | 9 | 9 | 4 | 4 | 1 | 0 | 4 | 5 | 7 | 5 | 0 | 4 | 4 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A21 | 1 | 0 | 8 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 9 | 0 |
| A22 | 7 | 9 | 9 | 6 | 6 | 9 | 9 | 9 | 9 | 6 | 0 | 7 | 0 |
| A23 | 10 | 6 | 10 | 10 | 6 | 10 | 2 | 1 | 9 | 6 | 0 | 6 | 2 |
| A24 | 2 | 10 | 2 | 1 | 6 | 4 | 4 | 3 | 5 | 2 | 2 | 0 | 0 |
| A25 | 4 | 10 | 1 | 9 | 6 | 1 | 5 | 5 | 6 | 1 | 1 | 1 | 1 |
| A26 | 10 | 5 | 3 | 3 | 1 | 3 | 10 | 3 | 5 | 3 | 4 | 5 | 4 |
| A27 | 10 | 5 | 8 | 5 | 9 | 4 | 3 | 4 | 9 | 8 | 4 | 5 | 3 |
| A28 | 7 | 7 | 4 | 5 | 7 | 6 | 9 | 10 | 10 | 10 | 0 | 10 | 10 |
| A29 | 6 | 5 | 1 | 0 | 2 | 1 | 2 | 4 | 7 | 1 | 0 | 0 | 0 |
| A30 | 4 | 5 | 2 | 4 | 4 | 4 | 5 | 5 | 1 | 1 | 1 | 1 | 1 |

Table 3.1 consists of 30 individuals (from A1 to A30). The scores of each individual for the 13 statements (S1 to S13) are shown here.

It is seen from the above table that A1 gave highest score i.e., 10 for S1 and lowest score i.e., 1 for S7, S11. A2 gave highest score i.e., 10 for S1, S2 and lowest score i.e., 3 for S3. A3 gave highest score i.e., 6 for S9 and lowest score i.e., 0 (zero) for S11, S12, S13. A4 gave highest score i.e., 10 for S5, S8, S9 and lowest score i.e., 0 (zero) for S12 only. A5 gave highest score i.e., 7 for S3, S4 and lowest score i.e., 0 (zero) for S5, S6, S10, S12.

A6 gave highest score i.e., 10 for S7 and lowest score i.e., 0 (zero) for S11, S13. A7 gave highest score i.e., 10 for S5 and lowest score i.e., 1 for S13. A8 gave highest score i.e., 10 for S3 and lowest score i.e., 0 (zero) for S10. A9 gave highest score i.e., 10 for S9 and lowest score i.e., 0 (zero) for S10, S12, S13. A10 gave highest score i.e., 10 for S2 and lowest score i.e., 0 (zero) for S3, S5, S6, S7, S8, S10, S12, S13.

A11 gave highest score i.e., 10 for S1, S4, S5 and lowest score i.e., 5 for S7. A12 gave highest score i.e., 10 for S3 and lowest score i.e., 0 (zero) for S2, S11, S12, S13. A13 gave highest score i.e., 10 for S3, S7, S8 and lowest score i.e., 0 (zero) for S13. A14 gave highest score i.e., 10 for S1, S2, S3, S6, S9 and lowest score i.e., 0 (zero) for S7, S12. A15 gave highest score i.e., 8 for S1, S7 and lowest score i.e., 0 (zero) for S13.

A16 gave highest score i.e., 9 for S1, S3 and lowest score i.e., 0 (zero) for S13. A17 gave highest score i.e., 10 for S1, S4 and lowest score i.e., 0 (zero) for S11, S12, S13.

A18 gave highest score i.e., 9 for S1 and lowest score i.e., 0 (zero) for S13. A19 gave highest score i.e., 10 for S1 only and lowest score i.e., 0 (zero) for S13 only. A20 gave highest score i.e., 9 for S1, S2 and lowest score i.e., 0 (zero) for S6, S11.

A21 gave highest score i.e., 9 for S12 and lowest score i.e., 0 (zero) for S2, S5, S6, S8, S9, S10, S11, S13. A22 gave highest score i.e., 9 for S2, S3, S6, S7, S8, S9 and lowest score i.e., 0 (zero) for S11, S13. A23 gave highest score i.e., 10 for S1, S3, S4, S6 and lowest score i.e., 0 (zero) for S11. A24 gave highest score i.e., 10 for S2 and lowest score i.e., 0 (zero) for S12, S13. A25 gave highest score i.e., 10 for S2 and lowest score i.e., 1 for S3, S6, S10, S11, S12, S13.

A26 gave highest score i.e., 10 for S1, S7 and lowest score i.e., 1 for S5. A27 gave highest score i.e., 10 for S1 and lowest score i.e., 3 for S7, S13. A28 gave highest score i.e., 10 for S8, S9, S10, S12, S13 and lowest score i.e., 0 (zero) for S11. A29 gave highest score i.e., 7 for S9 and lowest score i.e., 0 (zero) for S4, S11, S12, S13. A30 gave highest score i.e., 5 for S2, S7, S8 and lowest score i.e., 1 for S9, S10, S11, S12, S13.

#### 3.2.1.1 Measurement of Pair Difference of Individuals' Preferences for Reading Online Newspaper

Results of measurement of pair difference (calculated using Measurement of Pair Difference formula) in respect to individuals' preferences for reading online newspaper are shown in Table 3.2.

Table 3.2: Measurement of Pair Difference of Individuals' Preferences for Reading Online Newspaper

| Pair | Result (%) | Pair | Result (%) | Pair | Result (%) | Pair | Result (%) |
|---|---|---|---|---|---|---|---|
| A1-A2 | 29.74 | A4-A30 | 45.91 | A9-A24 | 34.42 | A15-A28 | 47.39 |
| A1-A3 | 32.11 | A5-A6 | 37.62 | A9-A25 | 36.37 | A15-A29 | 36.37 |
| A1-A4 | 37.52 | A5-A7 | 41.88 | A9-A26 | 37.42 | A15-A30 | 25.27 |
| A1-A5 | 35.30 | A5-A8 | 34.64 | A9-A27 | 41.88 | A16-A17 | 42.61 |
| A1-A6 | 40.19 | A5-A9 | 28.55 | A9-A28 | 61.77 | A16-A18 | 16.64 |
| A1-A7 | 30.38 | A5-A10 | 39.61 | A9-A29 | 25.72 | A16-A19 | 21.66 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1-A8 | 40.19 | A5-A11 | 53.71 | A9-A30 | 31.99 | A16-A20 | 33.85 |
| A1-A9 | 32.34 | A5-A12 | 41.04 | A10-A11 | 58.64 | A16-A21 | 45.49 |
| A1-A10 | 35.30 | A5-A13 | 51.07 | A10-A12 | 60.95 | A16-A22 | 36.06 |
| A1-A11 | 35.19 | A5-A14 | 47.23 | A10-A13 | 67.65 | A16-A23 | 23.70 |
| A1-A12 | 36.27 | A5-A15 | 36.16 | A10-A14 | 47.07 | A16-A24 | 39.03 |
| A1-A13 | 48.91 | A5-A16 | 33.28 | A10-A15 | 47.07 | A16-A25 | 39.42 |
| A1-A14 | 34.19 | A5-A17 | 50.84 | A10-A16 | 39.42 | A16-A26 | 34.86 |
| A1-A15 | 36.16 | A5-A18 | 29.61 | A10-A17 | 52.92 | A16-A27 | 31.13 |
| A1-A16 | 26.89 | A5-A19 | 37.52 | A10-A18 | 36.37 | A16-A28 | 54.77 |
| A1-A17 | 33.74 | A5-A20 | 33.17 | A10-A19 | 48.60 | A16-A29 | 36.58 |
| A1-A18 | 29.61 | A5-A21 | 37.11 | A10-A20 | 33.40 | A16-A30 | 35.84 |
| A1-A19 | 30.76 | A5-A22 | 51.81 | A10-A21 | 57.31 | A17-A18 | 46.24 |
| A1-A20 | 27.03 | A5-A23 | 48.75 | A10-A22 | 59.94 | A17-A19 | 41.60 |
| A1-A21 | 55.26 | A5-A24 | 42.24 | A10-A23 | 51.37 | A17-A20 | 40.48 |
| A1-A22 | 39.13 | A5-A25 | 36.79 | A10-A24 | 39.42 | A17-A21 | 67.08 |
| A1-A23 | 27.03 | A5-A26 | 32.58 | A10-A25 | 30.13 | A17-A22 | 29.74 |
| A1-A24 | 41.69 | A5-A27 | 43.68 | A10-A26 | 43.68 | A17-A23 | 40.48 |
| A1-A25 | 34.42 | A5-A28 | 58.97 | A10-A27 | 50.69 | A17-A24 | 50.08 |
| A1-A26 | 37.83 | A5-A29 | 32.82 | A10-A28 | 69.28 | A17-A25 | 43.15 |
| A1-A27 | 23.86 | A5-A30 | 29.74 | A10-A29 | 33.51 | A17-A26 | 44.03 |
| A1-A28 | 46.58 | A6-A7 | 34.86 | A10-A30 | 39.32 | A17-A27 | 42.61 |
| A1-A29 | 36.79 | A6-A8 | 42.61 | A11-A12 | 44.38 | A17-A28 | 46.08 |
| A1-A30 | 38.13 | A6-A9 | 41.14 | A11-A13 | 45.23 | A17-A29 | 52.18 |
| A2-A3 | 45.15 | A6-A10 | 47.88 | A11-A14 | 41.42 | A17-A30 | 47.15 |
| A2-A4 | 46.74 | A6-A11 | 47.96 | A11-A15 | 41.04 | A18-A19 | 30.00 |
| A2-A5 | 44.64 | A6-A12 | 39.32 | A11-A16 | 42.15 | A18-A20 | 36.48 |
| A2-A6 | 36.06 | A6-A13 | 34.31 | A11-A17 | 42.70 | A18-A21 | 45.49 |
| A2-A7 | 27.60 | A6-A14 | 54.77 | A11-A18 | 49.54 | A18-A22 | 46.16 |
| A2-A8 | 39.52 | A6-A15 | 27.46 | A11-A19 | 41.69 | A18-A23 | 33.17 |
| A2-A9 | 43.77 | A6-A16 | 36.58 | A11-A20 | 42.97 | A18-A24 | 38.83 |
| A2-A10 | 43.23 | A6-A17 | 42.61 | A11-A21 | 65.16 | A18-A25 | 40.95 |
| A2-A11 | 25.42 | A6-A18 | 42.61 | A11-A22 | 34.19 | A18-A26 | 37.00 |
| A2-A12 | 45.91 | A6-A19 | 26.46 | A11-A23 | 32.11 | A18-A27 | 38.43 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A2-A13 | 42.06 | A6-A20 | 27.32 | A11-A24 | 53.42 | A18-A28 | 62.88 |
| A2-A14 | 37.93 | A6-A21 | 49.07 | A11-A25 | 46.66 | A18-A29 | 34.64 |
| A2-A15 | 27.87 | A6-A22 | 33.40 | A11-A26 | 45.66 | A18-A30 | 31.26 |
| A2-A16 | 35.84 | A6-A23 | 49.69 | A11-A27 | 23.70 | A19-A20 | 33.74 |
| A2-A17 | 35.19 | A6-A24 | 32.82 | A11-A28 | 36.48 | A19-A21 | 48.83 |
| A2-A18 | 40.10 | A6-A25 | 33.74 | A11-A29 | 60.06 | A19-A22 | 33.05 |
| A2-A19 | 34.42 | A6-A26 | 26.31 | A11-A30 | 52.77 | A19-A23 | 32.58 |
| A2-A20 | 27.74 | A6-A27 | 37.42 | A12-A13 | 35.30 | A19-A24 | 37.52 |
| A2-A21 | 57.38 | A6-A28 | 45.23 | A12-A14 | 51.22 | A19-A25 | 42.15 |
| A2-A22 | 33.05 | A6-A29 | 30.88 | A12-A15 | 34.31 | A19-A26 | 27.87 |
| A2-A23 | 35.73 | A6-A30 | 31.01 | A12-A16 | 35.19 | A19-A27 | 25.27 |
| A2-A24 | 39.32 | A7-A8 | 38.43 | A12-A17 | 42.34 | A19-A28 | 47.15 |
| A2-A25 | 34.31 | A7-A9 | 40.19 | A12-A18 | 38.33 | A19-A29 | 34.75 |
| A2-A26 | 27.60 | A7-A10 | 48.83 | A12-A19 | 26.60 | A19-A30 | 34.86 |
| A2-A27 | 28.15 | A7-A11 | 30.26 | A12-A20 | 46.90 | A20-A21 | 50.69 |
| A2-A28 | 34.97 | A7-A12 | 34.08 | A12-A21 | 52.62 | A20-A22 | 40.19 |
| A2-A29 | 44.46 | A7-A13 | 41.60 | A12-A22 | 36.79 | A20-A23 | 42.97 |
| A2-A30 | 37.62 | A7-A14 | 50.08 | A12-A23 | 37.83 | A20-A24 | 34.75 |
| A3-A4 | 39.90 | A7-A15 | 25.12 | A12-A24 | 44.46 | A20-A25 | 30.76 |
| A3-A5 | 28.82 | A7-A16 | 37.83 | A12-A25 | 47.15 | A20-A26 | 26.75 |
| A3-A6 | 35.30 | A7-A17 | 44.03 | A12-A26 | 44.81 | A20-A27 | 33.63 |
| A3-A7 | 39.03 | A7-A18 | 40.95 | A12-A27 | 31.74 | A20-A28 | 42.70 |
| A3-A8 | 42.06 | A7-A19 | 30.00 | A12-A28 | 51.52 | A20-A29 | 28.42 |
| A3-A9 | 24.49 | A7-A20 | 37.31 | A12-A29 | 46.33 | A20-A30 | 33.05 |
| A3-A10 | 39.42 | A7-A21 | 55.54 | A12-A30 | 38.83 | A21-A22 | 58.31 |
| A3-A11 | 57.04 | A7-A22 | 39.13 | A13-A14 | 54.14 | A21-A23 | 57.38 |
| A3-A12 | 37.72 | A7-A23 | 41.04 | A13-A15 | 32.46 | A21-A24 | 53.85 |
| A3-A13 | 46.49 | A7-A24 | 39.22 | A13-A16 | 42.52 | A21-A25 | 50.61 |
| A3-A14 | 50.38 | A7-A25 | 36.16 | A13-A17 | 42.34 | A21-A26 | 44.81 |
| A3-A15 | 35.73 | A7-A26 | 34.64 | A13-A18 | 48.91 | A21-A27 | 58.11 |
| A3-A16 | 35.30 | A7-A27 | 20.75 | A13-A19 | 35.52 | A21-A28 | 67.77 |
| A3-A17 | 49.30 | A7-A28 | 44.89 | A13-A20 | 46.24 | A21-A29 | 51.96 |
| A3-A18 | 31.62 | A7-A29 | 41.88 | A13-A21 | 55.88 | A21-A30 | 41.14 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A3-A19 | 34.08 | A7-A30 | 35.84 | A13-A22 | 22.87 | A22-A23 | 34.42 |
| A3-A20 | 31.26 | A8-A9 | 42.79 | A13-A23 | 47.56 | A22-A24 | 45.66 |
| A3-A21 | 47.15 | A8-A10 | 48.67 | A13-A24 | 43.77 | A22-A25 | 43.94 |
| A3-A22 | 49.38 | A8-A11 | 41.79 | A13-A25 | 50.61 | A22-A26 | 41.97 |
| A3-A23 | 49.22 | A8-A12 | 39.71 | A13-A26 | 42.52 | A22-A27 | 34.53 |
| A3-A24 | 29.35 | A8-A13 | 47.15 | A13-A27 | 40.67 | A22-A28 | 35.84 |
| A3-A25 | 35.30 | A8-A14 | 46.24 | A13-A28 | 42.34 | A22-A29 | 51.81 |
| A3-A26 | 38.43 | A8-A15 | 33.74 | A13-A29 | 50.76 | A22-A30 | 45.23 |
| A3-A27 | 40.38 | A8-A16 | 29.61 | A13-A30 | 43.15 | A23-A24 | 51.52 |
| A3-A28 | 57.24 | A8-A17 | 57.24 | A14-A15 | 47.88 | A23-A25 | 48.12 |
| A3-A29 | 16.17 | A8-A18 | 30.63 | A14-A16 | 32.58 | A23-A26 | 46.99 |
| A3-A30 | 24.02 | A8-A19 | 36.27 | A14-A17 | 44.55 | A23-A27 | 28.69 |
| A4-A5 | 45.66 | A8-A20 | 40.67 | A14-A18 | 34.19 | A23-A28 | 49.22 |
| A4-A6 | 47.96 | A8-A21 | 35.84 | A14-A19 | 43.94 | A23-A29 | 53.57 |
| A4-A7 | 34.97 | A8-A22 | 45.49 | A14-A20 | 41.42 | A23-A30 | 49.46 |
| A4-A8 | 46.33 | A8-A23 | 37.31 | A14-A21 | 68.89 | A24-A25 | 26.02 |
| A4-A9 | 44.64 | A8-A24 | 40.38 | A14-A22 | 46.99 | A24-A26 | 39.42 |
| A4-A10 | 60.95 | A8-A25 | 39.42 | A14-A23 | 32.46 | A24-A27 | 43.15 |
| A4-A11 | 40.57 | A8-A26 | 40.19 | A14-A24 | 49.92 | A24-A28 | 57.24 |
| A4-A12 | 33.51 | A8-A27 | 37.21 | A14-A25 | 50.54 | A24-A29 | 25.12 |
| A4-A13 | 42.06 | A8-A28 | 55.88 | A14-A26 | 48.04 | A24-A30 | 22.70 |
| A4-A14 | 49.22 | A8-A29 | 45.40 | A14-A27 | 39.61 | A25-A26 | 39.03 |
| A4-A15 | 46.16 | A8-A30 | 32.70 | A14-A28 | 56.57 | A25-A27 | 42.61 |
| A4-A16 | 46.16 | A9-A10 | 34.19 | A14-A29 | 51.44 | A25-A28 | 53.35 |
| A4-A17 | 49.85 | A9-A11 | 55.40 | A14-A30 | 51.81 | A25-A29 | 32.82 |
| A4-A18 | 49.22 | A9-A12 | 42.70 | A15-A16 | 29.09 | A25-A30 | 26.17 |
| A4-A19 | 44.55 | A9-A13 | 50.15 | A15-A17 | 41.14 | A26-A27 | 37.83 |
| A4-A20 | 47.23 | A9-A14 | 42.61 | A15-A18 | 31.38 | A26-A28 | 45.06 |
| A4-A21 | 64.57 | A9-A15 | 33.51 | A15-A19 | 22.70 | A26-A29 | 35.52 |
| A4-A22 | 43.85 | A9-A16 | 28.01 | A15-A20 | 35.84 | A26-A30 | 31.74 |
| A4-A23 | 46.58 | A9-A17 | 49.30 | A15-A21 | 44.46 | A27-A28 | 39.61 |
| A4-A24 | 45.32 | A9-A18 | 26.89 | A15-A22 | 33.63 | A27-A29 | 44.03 |
| A4-A25 | 44.98 | A9-A19 | 33.63 | A15-A23 | 40.48 | A27-A30 | 43.41 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A4-A26 | 54.84 | A9-A20 | 37.93 | A15-A24 | 33.97 | A28-A29 | 59.74 |
| A4-A27 | 32.70 | A9-A21 | 49.38 | A15-A25 | 36.16 | A28-A30 | 55.26 |
| A4-A28 | 48.44 | A9-A22 | 50.46 | A15-A26 | 22.53 | A29-A30 | 25.27 |
| A4-A29 | 48.60 | A9-A23 | 44.64 | A15-A27 | 33.28 | - | - |

In the above table a total of 30 individuals (from A1 to A30 of Table 3.1) are compared pairwise. A total of 435 pairs are formed.

Table 3.2 reveals that the results of measurement of pair difference, calculated using the Measurement of Pair Difference formula, are not equal to zero for any of the 435 pairs. Therefore, it indicates that there exist differences in reasons for preferring online newspaper among individuals.

Among all the pairs, the highest difference exists between A10 and A28 i.e., 69.28% and the lowest difference is found between A3 and A29 i.e., 16.17%.

So, in respect to reasons for preferring online newspaper, the results of the measurement of pair difference of the thirty individuals varies within the range of 16.17% to 69.28%.

**3.2.1.2 Gravity of Difference**

Results of measurement of pair difference (shown in table 3.2) are considered for calculating mean absolute deviation of all the pairs for finding gravity of difference in terms of individuals' reasons for preferring online newspaper.

The Mean Absolute Deviation formula is given below:

$$\frac{\sum_{i=1}^{n}|x_i - \bar{x}|}{n}$$

**Mean $\bar{x}$** : Sum of results of measurement of pair difference of 435 pairs / Total number of pairs

= 17736.75 / 435

= 40.77413793

i.e., $\bar{x}$ = 40.77

Mean of the results of measurement of pair differences is 40.77.

So, the average difference among individuals in terms of reasons for preferring online newspaper is 40.77.

**Absolute deviation of each pair $|x_i - \bar{x}|$**

| Result of measurement of Pair difference of a pair ($x_i$) – Mean ($\bar{x}$) |

The results of all the 435 pairs after calculating $|x_i - \bar{x}|$ are shown in the below table.

Table 3.3: Absolute Deviation of Each Pair

| Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ |
|---|---|---|---|---|---|---|---|
| A1-A2 | 11.03 | A4-A30 | 5.14 | A9-A24 | 6.35 | A15-A28 | 6.62 |
| A1-A3 | 8.66 | A5-A6 | 3.15 | A9-A25 | 4.4 | A15-A29 | 4.4 |
| A1-A4 | 3.25 | A5-A7 | 1.11 | A9-A26 | 3.35 | A15-A30 | 15.5 |
| A1-A5 | 5.47 | A5-A8 | 6.13 | A9-A27 | 1.11 | A16-A17 | 1.84 |
| A1-A6 | 0.58 | A5-A9 | 12.22 | A9-A28 | 21 | A16-A18 | 24.13 |
| A1-A7 | 10.39 | A5-A10 | 1.16 | A9-A29 | 15.05 | A16-A19 | 19.11 |
| A1-A8 | 0.58 | A5-A11 | 12.94 | A9-A30 | 8.78 | A16-A20 | 6.92 |
| A1-A9 | 8.43 | A5-A12 | 0.27 | A10-A11 | 17.87 | A16-A21 | 4.72 |
| A1-A10 | 5.47 | A5-A13 | 10.3 | A10-A12 | 20.18 | A16-A22 | 4.71 |
| A1-A11 | 5.58 | A5-A14 | 6.46 | A10-A13 | 26.88 | A16-A23 | 17.07 |
| A1-A12 | 4.5 | A5-A15 | 4.61 | A10-A14 | 6.3 | A16-A24 | 1.74 |
| A1-A13 | 8.14 | A5-A16 | 7.49 | A10-A15 | 6.3 | A16-A25 | 1.35 |
| A1-A14 | 6.58 | A5-A17 | 10.07 | A10-A16 | 1.35 | A16-A26 | 5.91 |
| A1-A15 | 4.61 | A5-A18 | 11.16 | A10-A17 | 12.15 | A16-A27 | 9.64 |
| A1-A16 | 13.88 | A5-A19 | 3.25 | A10-A18 | 4.4 | A16-A28 | 14 |
| A1-A17 | 7.03 | A5-A20 | 7.6 | A10-A19 | 7.83 | A16-A29 | 4.19 |
| A1-A18 | 11.16 | A5-A21 | 3.66 | A10-A20 | 7.37 | A16-A30 | 4.93 |
| A1-A19 | 10.01 | A5-A22 | 11.04 | A10-A21 | 16.54 | A17-A18 | 5.47 |
| A1-A20 | 13.74 | A5-A23 | 7.98 | A10-A22 | 19.17 | A17-A19 | 0.83 |
| A1-A21 | 14.49 | A5-A24 | 1.47 | A10-A23 | 10.6 | A17-A20 | 0.29 |
| A1-A22 | 1.64 | A5-A25 | 3.98 | A10-A24 | 1.35 | A17-A21 | 26.31 |
| A1-A23 | 13.74 | A5-A26 | 8.19 | A10-A25 | 10.64 | A17-A22 | 11.03 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1-A24 | 0.92 | A5-A27 | 2.91 | A10-A26 | 2.91 | A17-A23 | 0.29 |
| A1-A25 | 6.35 | A5-A28 | 18.2 | A10-A27 | 9.92 | A17-A24 | 9.31 |
| A1-A26 | 2.94 | A5-A29 | 7.95 | A10-A28 | 28.51 | A17-A25 | 2.38 |
| A1-A27 | 16.91 | A5-A30 | 11.03 | A10-A29 | 7.26 | A17-A26 | 3.26 |
| A1-A28 | 5.81 | A6-A7 | 5.91 | A10-A30 | 1.45 | A17-A27 | 1.84 |
| A1-A29 | 3.98 | A6-A8 | 1.84 | A11-A12 | 3.61 | A17-A28 | 5.31 |
| A1-A30 | 2.64 | A6-A9 | 0.37 | A11-A13 | 4.46 | A17-A29 | 11.41 |
| A2-A3 | 4.38 | A6-A10 | 7.11 | A11-A14 | 0.65 | A17-A30 | 6.38 |
| A2-A4 | 5.97 | A6-A11 | 7.19 | A11-A15 | 0.27 | A18-A19 | 10.77 |
| A2-A5 | 3.87 | A6-A12 | 1.45 | A11-A16 | 1.38 | A18-A20 | 4.29 |
| A2-A6 | 4.71 | A6-A13 | 6.46 | A11-A17 | 1.93 | A18-A21 | 4.72 |
| A2-A7 | 13.17 | A6-A14 | 14 | A11-A18 | 8.77 | A18-A22 | 5.39 |
| A2-A8 | 1.25 | A6-A15 | 13.31 | A11-A19 | 0.92 | A18-A23 | 7.6 |
| A2-A9 | 3 | A6-A16 | 4.19 | A11-A20 | 2.2 | A18-A24 | 1.94 |
| A2-A10 | 2.46 | A6-A17 | 1.84 | A11-A21 | 24.39 | A18-A25 | 0.18 |
| A2-A11 | 15.35 | A6-A18 | 1.84 | A11-A22 | 6.58 | A18-A26 | 3.77 |
| A2-A12 | 5.14 | A6-A19 | 14.31 | A11-A23 | 8.66 | A18-A27 | 2.34 |
| A2-A13 | 1.29 | A6-A20 | 13.45 | A11-A24 | 12.65 | A18-A28 | 22.11 |
| A2-A14 | 2.84 | A6-A21 | 8.3 | A11-A25 | 5.89 | A18-A29 | 6.13 |
| A2-A15 | 12.9 | A6-A22 | 7.37 | A11-A26 | 4.89 | A18-A30 | 9.51 |
| A2-A16 | 4.93 | A6-A23 | 8.92 | A11-A27 | 17.07 | A19-A20 | 7.03 |
| A2-A17 | 5.58 | A6-A24 | 7.95 | A11-A28 | 4.29 | A19-A21 | 8.06 |
| A2-A18 | 0.67 | A6-A25 | 7.03 | A11-A29 | 19.29 | A19-A22 | 7.72 |
| A2-A19 | 6.35 | A6-A26 | 14.46 | A11-A30 | 12 | A19-A23 | 8.19 |
| A2-A20 | 13.03 | A6-A27 | 3.35 | A12-A13 | 5.47 | A19-A24 | 3.25 |
| A2-A21 | 16.61 | A6-A28 | 4.46 | A12-A14 | 10.45 | A19-A25 | 1.38 |
| A2-A22 | 7.72 | A6-A29 | 9.89 | A12-A15 | 6.46 | A19-A26 | 12.9 |
| A2-A23 | 5.04 | A6-A30 | 9.76 | A12-A16 | 5.58 | A19-A27 | 15.5 |
| A2-A24 | 1.45 | A7-A8 | 2.34 | A12-A17 | 1.57 | A19-A28 | 6.38 |
| A2-A25 | 6.46 | A7-A9 | 0.58 | A12-A18 | 2.44 | A19-A29 | 6.02 |
| A2-A26 | 13.17 | A7-A10 | 8.06 | A12-A19 | 14.17 | A19-A30 | 5.91 |
| A2-A27 | 12.62 | A7-A11 | 10.51 | A12-A20 | 6.13 | A20-A21 | 9.92 |
| A2-A28 | 5.8 | A7-A12 | 6.69 | A12-A21 | 11.85 | A20-A22 | 0.58 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A2-A29 | 3.69 | A7-A13 | 0.83 | A12-A22 | 3.98 | A20-A23 | 2.2 |
| A2-A30 | 3.15 | A7-A14 | 9.31 | A12-A23 | 2.94 | A20-A24 | 6.02 |
| A3-A4 | 0.87 | A7-A15 | 15.65 | A12-A24 | 3.69 | A20-A25 | 10.01 |
| A3-A5 | 11.95 | A7-A16 | 2.94 | A12-A25 | 6.38 | A20-A26 | 14.02 |
| A3-A6 | 5.47 | A7-A17 | 3.26 | A12-A26 | 4.04 | A20-A27 | 7.14 |
| A3-A7 | 1.74 | A7-A18 | 0.18 | A12-A27 | 9.03 | A20-A28 | 1.93 |
| A3-A8 | 1.29 | A7-A19 | 10.77 | A12-A28 | 10.75 | A20-A29 | 12.35 |
| A3-A9 | 16.28 | A7-A20 | 3.46 | A12-A29 | 5.56 | A20-A30 | 7.72 |
| A3-A10 | 1.35 | A7-A21 | 14.77 | A12-A30 | 1.94 | A21-A22 | 17.54 |
| A3-A11 | 16.27 | A7-A22 | 1.64 | A13-A14 | 13.37 | A21-A23 | 16.61 |
| A3-A12 | 3.05 | A7-A23 | 0.27 | A13-A15 | 8.31 | A21-A24 | 13.08 |
| A3-A13 | 5.72 | A7-A24 | 1.55 | A13-A16 | 1.75 | A21-A25 | 9.84 |
| A3-A14 | 9.61 | A7-A25 | 4.61 | A13-A17 | 1.57 | A21-A26 | 4.04 |
| A3-A15 | 5.04 | A7-A26 | 6.13 | A13-A18 | 8.14 | A21-A27 | 17.34 |
| A3-A16 | 5.47 | A7-A27 | 20.02 | A13-A19 | 5.25 | A21-A28 | 27 |
| A3-A17 | 8.53 | A7-A28 | 4.12 | A13-A20 | 5.47 | A21-A29 | 11.19 |
| A3-A18 | 9.15 | A7-A29 | 1.11 | A13-A21 | 15.11 | A21-A30 | 0.37 |
| A3-A19 | 6.69 | A7-A30 | 4.93 | A13-A22 | 17.9 | A22-A23 | 6.35 |
| A3-A20 | 9.51 | A8-A9 | 2.02 | A13-A23 | 6.79 | A22-A24 | 4.89 |
| A3-A21 | 6.38 | A8-A10 | 7.9 | A13-A24 | 3 | A22-A25 | 3.17 |
| A3-A22 | 8.61 | A8-A11 | 1.02 | A13-A25 | 9.84 | A22-A26 | 1.2 |
| A3-A23 | 8.45 | A8-A12 | 1.06 | A13-A26 | 1.75 | A22-A27 | 6.24 |
| A3-A24 | 11.42 | A8-A13 | 6.38 | A13-A27 | 0.1 | A22-A28 | 4.93 |
| A3-A25 | 5.47 | A8-A14 | 5.47 | A13-A28 | 1.57 | A22-A29 | 11.04 |
| A3-A26 | 2.34 | A8-A15 | 7.03 | A13-A29 | 9.99 | A22-A30 | 4.46 |
| A3-A27 | 0.39 | A8-A16 | 11.16 | A13-A30 | 2.38 | A23-A24 | 10.75 |
| A3-A28 | 16.47 | A8-A17 | 16.47 | A14-A15 | 7.11 | A23-A25 | 7.35 |
| A3-A29 | 24.6 | A8-A18 | 10.14 | A14-A16 | 8.19 | A23-A26 | 6.22 |
| A3-A30 | 16.75 | A8-A19 | 4.5 | A14-A17 | 3.78 | A23-A27 | 12.08 |
| A4-A5 | 4.89 | A8-A20 | 0.1 | A14-A18 | 6.58 | A23-A28 | 8.45 |
| A4-A6 | 7.19 | A8-A21 | 4.93 | A14-A19 | 3.17 | A23-A29 | 12.8 |
| A4-A7 | 5.8 | A8-A22 | 4.72 | A14-A20 | 0.65 | A23-A30 | 8.69 |
| A4-A8 | 5.56 | A8-A23 | 3.46 | A14-A21 | 28.12 | A24-A25 | 14.75 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A4-A9 | 3.87 | A8-A24 | 0.39 | A14-A22 | 6.22 | A24-A26 | 1.35 |
| A4-A10 | 20.18 | A8-A25 | 1.35 | A14-A23 | 8.31 | A24-A27 | 2.38 |
| A4-A11 | 0.2 | A8-A26 | 0.58 | A14-A24 | 9.15 | A24-A28 | 16.47 |
| A4-A12 | 7.26 | A8-A27 | 3.56 | A14-A25 | 9.77 | A24-A29 | 15.65 |
| A4-A13 | 1.29 | A8-A28 | 15.11 | A14-A26 | 7.27 | A24-A30 | 18.07 |
| A4-A14 | 8.45 | A8-A29 | 4.63 | A14-A27 | 1.16 | A25-A26 | 1.74 |
| A4-A15 | 5.39 | A8-A30 | 8.07 | A14-A28 | 15.8 | A25-A27 | 1.84 |
| A4-A16 | 5.39 | A9-A10 | 6.58 | A14-A29 | 10.67 | A25-A28 | 12.58 |
| A4-A17 | 9.08 | A9-A11 | 14.63 | A14-A30 | 11.04 | A25-A29 | 7.95 |
| A4-A18 | 8.45 | A9-A12 | 1.93 | A15-A16 | 11.68 | A25-A30 | 14.6 |
| A4-A19 | 3.78 | A9-A13 | 9.38 | A15-A17 | 0.37 | A26-A27 | 2.94 |
| A4-A20 | 6.46 | A9-A14 | 1.84 | A15-A18 | 9.39 | A26-A28 | 4.29 |
| A4-A21 | 23.8 | A9-A15 | 7.26 | A15-A19 | 18.07 | A26-A29 | 5.25 |
| A4-A22 | 3.08 | A9-A16 | 12.76 | A15-A20 | 4.93 | A26-A30 | 9.03 |
| A4-A23 | 5.81 | A9-A17 | 8.53 | A15-A21 | 3.69 | A27-A28 | 1.16 |
| A4-A24 | 4.55 | A9-A18 | 13.88 | A15-A22 | 7.14 | A27-A29 | 3.26 |
| A4-A25 | 4.21 | A9-A19 | 7.14 | A15-A23 | 0.29 | A27-A30 | 2.64 |
| A4-A26 | 14.07 | A9-A20 | 2.84 | A15-A24 | 6.8 | A28-A29 | 18.97 |
| A4-A27 | 8.07 | A9-A21 | 8.61 | A15-A25 | 4.61 | A28-A30 | 14.49 |
| A4-A28 | 7.67 | A9-A22 | 9.69 | A15-A26 | 18.24 | A29-A30 | 15.5 |
| A4-A29 | 7.83 | A9-A23 | 3.87 | A15-A27 | 7.49 | - | - |

Table 3.3 shows the absolute deviation of each pair (total 435 pairs) i.e., the deviation of the measurement of pair difference results from the average difference (40.77).

So, it indicates how varied the difference between two individuals is from the average difference in terms of reasons for preferring online newspaper.

**Mean Absolute Deviation**

Sum of absolute deviation of each pair/ Total number of pairs

= 3257/ 435

= 7.487356322

= 7.49

Mean Absolute Deviation = 7.49

The result of the Mean Absolute Deviation is 7.49. It indicates that among all the individuals the average difference is 7.49 from the mean (40.70) in terms of reasons for preferring online newspaper.

So, the gravity of difference in terms of reasons for preferring online newspaper is 7.49.

### 3.2.1.3 Validating Using R Statistical Software

The following table shows descriptive statistics using R software for validating the Minimum difference, Maximum difference, Mean, Mean absolute deviation on results of Measurement of Pair Difference (Table: 3.2) in terms of individuals' preferences for reading online newspaper. The table also shows Standard Deviation and Skewness values.

Table 3.4: Results Using R Software

| **Validating Parameters** | **Results** |
|---|---|
| Minimum Value | 16.17% |
| Maximum Value | 69.28% |
| Mean | 40.77 |
| Mean Absolute Deviation | 7.49 |
| Standard Deviation | 9.35 |
| Skewness | 0.32 |

It is evident from the above table that the minimum difference existing between individuals in terms of reasons for preferring online newspaper is 16.17% and the maximum difference found is 69.28%. It also describes that the dataset with a mean of 40.77, indicating the central tendency of the data. The mean absolute deviation of 7.49 suggests that the data points are dispersed around the mean by an average of approximately 7.49 units. The positive skewness of 0.32 indicates that the data is skewed slightly to the right, meaning there may be a tail on the right side of the distribution.

The results obtained using the R statistical software align with the outcomes of the calculations in sections 3.2.1.1, and 3.2.1.2.

The distribution of the observed pair difference (n=435) in terms of reasons for

preferring online newspaper is shown in the following histogram (Figure 3.1)

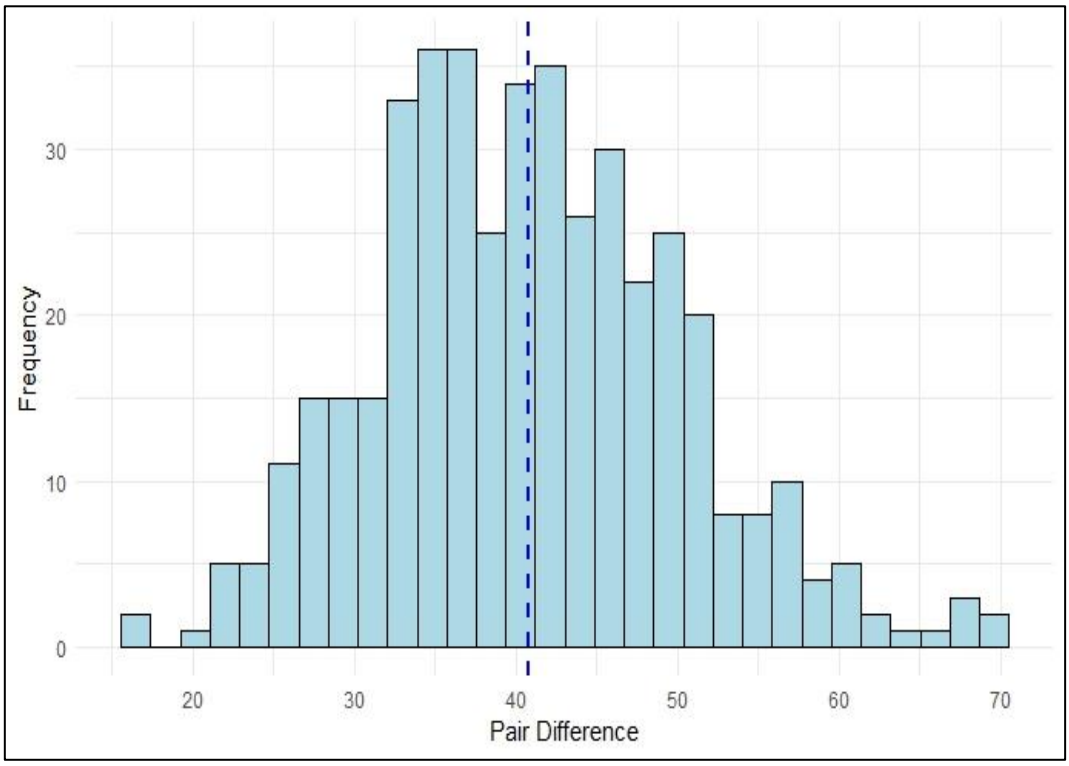


Figure 3.1: Histogram of Results of Pair Difference in Terms of Individuals' Preferences for Reading Online Newspaper of Observed Pairs (n=435)

Measurement of pair difference results are shown frequency wise in Figure 3.1. It is evident that the distribution of pair difference values for all observed pairs (n=435) appears to be almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of 0.32 and the mean value of 40.77, which lies almost in the middle of the histogram.

## 3.3 Inferences

Upon analysing the outcomes of the Measurement of Pair Difference for individuals it is evident that significant individual variations exist. Notably, the lowest degree of difference in scores is at least 16.17%. The gravity of difference in terms of reasons for preferring online newspaper is 7.49. Additionally, the distribution of these differences is dispersed around the mean, suggesting that the values are mostly symmetrical but not identical. Consequently, it can be inferred that each individual differs from one another

in their reasons for preferring online newspaper, and these differences are concentrated around the mean value.

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Chapter – 4

# Individuals' Choice of News Categories

News in online newspapers is divided into different categories. One of the main reasons behind such categorisation is to have a systematic presentation of news and make the navigation in the newspaper easy. Also, readers of newspapers seek information according to their needs. As information needs of individuals differ, such categorisation of news aids readers in locating the news items of their choice easily and quickly, thereby fulfilling individual need. Maity (2006) in his work divided news items into eight major categories viz. Local news items; Business and finance items; National news items; Miscellaneous items; Sports items; International news items; Editorial items; Arts and literature items while dealing while dealing with printed newspapers. Even Akanda, & Haque (2013) divided news categories into various sections like Sensational News, Advertisement, Editorial page, International, Politics, Sports, Entertainment, Business, Education, Health, and Letters.

The categories of news considered for the current study was chosen on the basis of news categories as reflected in online newspapers. The newspapers having the highest circulation rate (language wise in Bengali and English) according to the report of Audit Bureau of Circulation (2019), India, had been considered for selection of the news categories as elaborated in the methodology (Chapter 1).

In this study keeping in view the objective, an attempt had been made to examine choice of news categories of the selected individuals in reading online newspaper. After going through the online newspapers, certain news categories were selected and questions were framed accordingly. A total number of fourteen (14) questions were asked in statement form with the help of a questionnaire. Each statement was given an identification code using alpha numeric combination viz. S1, S2, S3……. S14.

Each individual was asked to give score to each question from 0-10 (details in Appendix-1) based on their choice of categories of news.

The statements are given below:

- S1: I like to read news from the category of State
- S2: I like to read news from the category of Country / Nation
- S3: I like to read news from the category of World / International
- S4: I like to read news from the category of Sports
- S5: I like to read news from the category of Editorial
- S6: I like to read news from the category of Entertainment
- S7: I like to read news from the category of Business
- S8: I like to read from the category of Horoscope
- S9: I like to read news from the category of Lifestyle
- S10: I like to read news from the category of Science & Technology
- S11: I like to read news from the category of Education / Career
- S12: I like to read news from the category of Health
- S13: I like to read news from the Homepage / First page
- S14: I like to watch / read news from the category of Video / Photo (Gallery)

Scores given by individuals for each statement are considered to measure the difference between two individuals in terms of choice of news categories in reading online newspaper using the below formula:

**Measurement of Pair Difference**

$$x = \sqrt{\frac{(a_1 - b_1)^2 + (a_2 - b_2)^2 + \dots (a_n - b_n)^2}{\mathrm{N}}} * \frac{100}{m}$$

The result of the difference between two individuals is in percentage.

## 4.2 Analysis and Findings

The findings obtained from analysis of collected data are as follows:

### 4.2.1 Individuals' Choice of News Categories

Table 4.1 given below shows choice of news categories of individuals

Table 4.1: Individuals' Choice of News Categories

| **Individuals** | **Individuals' scores for each statement** | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **S1** | **S2** | **S3** | **S4** | **S5** | **S6** | **S7** | **S8** | **S9** | **S10** | **S11** | **S12** | **S13** | **S14** |
| A1 | 10 | 10 | 7 | 7 | 7 | 6 | 1 | 2 | 9 | 4 | 8 | 9 | 9 | 6 |
| A2 | 9 | 10 | 9 | 8 | 8 | 9 | 9 | 2 | 9 | 9 | 7 | 9 | 9 | 8 |
| A3 | 7 | 9 | 4 | 7 | 7 | 7 | 1 | 3 | 5 | 3 | 0 | 6 | 10 | 6 |
| A4 | 6 | 8 | 7 | 7 | 8 | 8 | 8 | 2 | 8 | 9 | 9 | 9 | 9 | 7 |
| A5 | 8 | 8 | 8 | 1 | 1 | 3 | 1 | 1 | 1 | 7 | 3 | 4 | 8 | 1 |
| A6 | 6 | 9 | 8 | 2 | 2 | 7 | 1 | 8 | 9 | 5 | 4 | 9 | 7 | 1 |
| A7 | 8 | 7 | 8 | 6 | 5 | 8 | 6 | 5 | 8 | 8 | 8 | 9 | 7 | 8 |
| A8 | 7 | 7 | 7 | 7 | 8 | 7 | 7 | 8 | 9 | 9 | 9 | 0 | 7 | 0 |
| A9 | 10 | 10 | 10 | 9 | 9 | 8 | 8 | 9 | 10 | 6 | 1 | 7 | 7 | 0 |
| A10 | 10 | 10 | 10 | 1 | 8 | 5 | 1 | 1 | 5 | 6 | 7 | 3 | 10 | 2 |
| A11 | 7 | 8 | 8 | 7 | 8 | 9 | 9 | 7 | 8 | 8 | 9 | 9 | 7 | 6 |
| A12 | 8 | 8 | 8 | 0 | 0 | 7 | 0 | 3 | 0 | 9 | 9 | 9 | 10 | 7 |
| A13 | 7 | 9 | 9 | 7 | 3 | 2 | 9 | 1 | 2 | 3 | 6 | 3 | 9 | 4 |
| A14 | 7 | 8 | 9 | 10 | 3 | 8 | 4 | 0 | 8 | 9 | 0 | 9 | 7 | 5 |
| A15 | 6 | 6 | 6 | 1 | 1 | 5 | 1 | 1 | 5 | 5 | 3 | 2 | 3 | 6 |
| A16 | 10 | 10 | 7 | 0 | 0 | 9 | 1 | 5 | 9 | 7 | 1 | 5 | 4 | 0 |
| A17 | 7 | 7 | 7 | 7 | 8 | 8 | 1 | 1 | 7 | 8 | 1 | 8 | 8 | 4 |
| A18 | 9 | 9 | 8 | 3 | 7 | 1 | 1 | 1 | 3 | 5 | 0 | 0 | 7 | 0 |
| A19 | 8 | 8 | 4 | 8 | 7 | 7 | 1 | 0 | 6 | 4 | 9 | 7 | 6 | 3 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A20 | 7 | 7 | 7 | 0 | 6 | 3 | 7 | 0 | 0 | 7 | 7 | 7 | 7 | 2 |
| A21 | 10 | 8 | 10 | 10 | 10 | 0 | 0 | 0 | 7 | 9 | 0 | 3 | 7 | 0 |
| A22 | 5 | 9 | 8 | 4 | 0 | 4 | 0 | 0 | 4 | 8 | 6 | 9 | 9 | 5 |
| A23 | 5 | 4 | 9 | 9 | 2 | 7 | 4 | 4 | 4 | 7 | 7 | 5 | 7 | 6 |
| A24 | 8 | 8 | 8 | 0 | 1 | 6 | 8 | 2 | 7 | 7 | 5 | 7 | 6 | 0 |
| A25 | 10 | 10 | 10 | 3 | 3 | 3 | 3 | 3 | 2 | 4 | 9 | 3 | 10 | 0 |
| A26 | 5 | 9 | 9 | 9 | 6 | 4 | 4 | 1 | 3 | 7 | 0 | 6 | 8 | 1 |
| A27 | 5 | 8 | 9 | 4 | 5 | 4 | 6 | 3 | 4 | 8 | 7 | 9 | 8 | 6 |
| A28 | 6 | 10 | 10 | 10 | 10 | 10 | 7 | 5 | 10 | 10 | 6 | 10 | 10 | 10 |
| A29 | 8 | 8 | 6 | 0 | 0 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 8 | 1 |
| A30 | 6 | 6 | 6 | 7 | 0 | 7 | 9 | 0 | 0 | 5 | 7 | 0 | 6 | 0 |

Table 4.1 consists of 30 individuals (from A1 to A30). The scores of each individual for the 14 statements (S1 to S14) are shown here.

It is seen from the above table that A1 gave highest score i.e., 10 for S1, S2 and lowest score i.e., 1 for S7. A2 gave highest score i.e., 10 for S2 and lowest score i.e., 2 for S8. A3 gave highest score i.e., 10 for S13 and lowest score i.e., 0 (zero) for S11. A4 gave highest score i.e., 9 for S10, S11, S12, S13 and lowest score i.e., 2 for S8. A5 gave highest score i.e., 8 for S1, S2, S3, S13 and lowest score i.e., 1 for S4, S5, S7, S8, S9, S14.

A6 gave highest score i.e., 9 for S2, S9, S12 and lowest score i.e., 1 for S7, S14. A7 gave highest score i.e., 9 for S12 and lowest score i.e., 5 for S5, S8. A8 gave highest score i.e., 9 for S9, S10, S11 and lowest score i.e., 0 (zero) for S12, S14. A9 gave highest score i.e., 10 for S1, S2, S3, S9 and lowest score i.e., 0 (zero) for S14. A10 gave highest score i.e., 10 for S1, S2, S3, S13 and lowest score i.e., 1 for S4, S7, S8.

A11 gave highest score i.e., 9 for S6, S7, S11, S12 and lowest score i.e., 6 for S14. A12 gave highest score i.e., 10 for S13 and lowest score i.e., 0 (zero) for S4, S5, S7, S9. A13 gave highest score i.e., 9 for S2, S3, S7, S13 and lowest score i.e., 1 for S8. A14 gave highest score i.e., 10 for S4 and lowest score i.e., 0 (zero) for S8, S11. A15 gave highest score i.e., 6 for S1, S2, S3, S14 and lowest score i.e., 1 for S4, S5, S7, S8.

A16 gave highest score i.e., 10 for S1, S2 and lowest score i.e., 0 (zero) for S4, S5, S14. A17 gave highest score i.e., 8 for S5, S6, S10, S12, S13 and lowest score i.e., 1 for S7, S8, S11. A18 gave highest score i.e., 9 for S1, S2 and lowest score i.e., 0 (zero) for S11, S12, S14. A19 gave highest score i.e., 9 for S11 only and lowest score i.e., 0 (zero) for S8. A20 gave highest score i.e., 7 for S1, S2, S3, S7, S10, S11, S12, S13 and lowest score i.e., 0 (zero) for S4, S8, S9.

A21 gave highest score i.e., 10 for S1, S3, S4, S5 and lowest score i.e., 0 (zero) for S6, S7, S8, S11, S14. A22 gave highest score i.e., 9 for S2, S12, S13 and lowest score i.e., 0 (zero) for S5, S7, S8. A23 gave highest score i.e., 9 for S3, S4 and lowest score i.e., 2 for S5. A24 gave highest score i.e., 8 for S1, S2, S3, S7 and lowest score i.e., 0 (zero) for S4, S14. A25 gave highest score i.e., 10 for S1, S2, S3, S13 and lowest score i.e., 0 (zero) for S14.

A26 gave highest score i.e., 9 for S2, S3, S4 and lowest score i.e., 0 (zero) for S11. A27 gave highest score i.e., 9 for S3, S12 and lowest score i.e., 3 for S8. A28 gave highest score i.e., 10 for S2, S3, S4, S5, S6, S9, S10, S12, S13, S14 and lowest score i.e., 5 for S8. A29 gave highest score i.e., 8 for S1, S2, S13 and lowest score i.e., 0 (zero) for S4, S5, S8, S9, S10, S11, S12. A30 gave highest score i.e., 9 for S7 and lowest score i.e., 0 (zero) for S5, S8, S9, S12, S14.

#### 4.2.1.1 Measurement of Pair Difference of Individuals' Choice of News Categories

Results of measurement of pair difference (calculated using Measurement of Pair Difference formula) in terms of individuals' choice for categories of news are shown in Table 4.2.

Table 4.2: Measurement of Pair Difference of Individuals' Choice of News Categories

| Pair | Result (%) | Pair | Result (%) | Pair | Result (%) | Pair | Result (%) |
|---|---|---|---|---|---|---|---|
| A1-A2 | 28.03 | A4-A30 | 46.14 | A9-A24 | 41.14 | A15-A28 | 57.26 |
| A1-A3 | 28.28 | A5-A6 | 34.54 | A9-A25 | 47.43 | A15-A29 | 31.28 |
| A1-A4 | 26.99 | A5-A7 | 42.93 | A9-A26 | 36.45 | A15-A30 | 37.42 |
| A1-A5 | 41.40 | A5-A8 | 47.13 | A9-A27 | 41.75 | A16-A17 | 37.23 |
| A1-A6 | 32.84 | A5-A9 | 51.75 | A9-A28 | 37.61 | A16-A18 | 39.28 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1-A7 | 24.20 | A5-A10 | 27.26 | A9-A29 | 59.52 | A16-A19 | 42.93 |
| A1-A8 | 41.32 | A5-A11 | 50.64 | A9-A30 | 53.65 | A16-A20 | 45.12 |
| A1-A9 | 39.37 | A5-A12 | 30.36 | A10-A11 | 42.00 | A16-A21 | 49.43 |
| A1-A10 | 29.52 | A5-A13 | 32.18 | A10-A12 | 36.35 | A16-A22 | 38.82 |
| A1-A11 | 31.05 | A5-A14 | 40.18 | A10-A13 | 34.74 | A16-A23 | 43.92 |
| A1-A12 | 39.55 | A5-A15 | 25.35 | A10-A14 | 43.09 | A16-A24 | 27.39 |
| A1-A13 | 38.27 | A5-A16 | 32.62 | A10-A15 | 35.86 | A16-A25 | 40.80 |
| A1-A14 | 33.17 | A5-A17 | 35.76 | A10-A16 | 38.08 | A16-A26 | 42.43 |
| A1-A15 | 40.88 | A5-A18 | 24.05 | A10-A17 | 32.62 | A16-A27 | 42.93 |
| A1-A16 | 42.34 | A5-A19 | 38.27 | A10-A18 | 27.12 | A16-A28 | 57.20 |
| A1-A17 | 26.59 | A5-A20 | 25.91 | A10-A19 | 31.74 | A16-A29 | 42.43 |
| A1-A18 | 43.67 | A5-A21 | 40.80 | A10-A20 | 29.76 | A16-A30 | 48.18 |
| A1-A19 | 19.82 | A5-A22 | 24.49 | A10-A21 | 36.94 | A17-A18 | 36.06 |
| A1-A20 | 40.71 | A5-A23 | 35.56 | A10-A22 | 33.59 | A17-A19 | 26.99 |
| A1-A21 | 41.49 | A5-A24 | 28.54 | A10-A23 | 39.19 | A17-A20 | 38.45 |
| A1-A22 | 31.62 | A5-A25 | 23.90 | A10-A24 | 33.59 | A17-A21 | 31.85 |
| A1-A23 | 34.12 | A5-A26 | 30.12 | A10-A25 | 21.04 | A17-A22 | 31.28 |
| A1-A24 | 39.10 | A5-A27 | 31.74 | A10-A26 | 35.15 | A17-A23 | 31.17 |
| A1-A25 | 35.66 | A5-A28 | 59.46 | A10-A27 | 31.51 | A17-A24 | 37.13 |
| A1-A26 | 37.13 | A5-A29 | 25.50 | A10-A28 | 48.77 | A17-A25 | 42.34 |
| A1-A27 | 29.15 | A5-A30 | 35.05 | A10-A29 | 40.27 | A17-A26 | 23.30 |
| A1-A28 | 34.12 | A6-A7 | 31.96 | A10-A30 | 44.08 | A17-A27 | 29.52 |
| A1-A29 | 53.25 | A6-A8 | 40.18 | A11-A12 | 45.51 | A17-A28 | 34.85 |
| A1-A30 | 50.71 | A6-A9 | 36.45 | A11-A13 | 40.18 | A17-A29 | 49.14 |
| A2-A3 | 39.28 | A6-A10 | 36.15 | A11-A14 | 37.13 | A17-A30 | 47.13 |
| A2-A4 | 13.63 | A6-A11 | 37.03 | A11-A15 | 48.48 | A18-A19 | 40.53 |
| A2-A5 | 50.99 | A6-A12 | 38.36 | A11-A16 | 47.96 | A18-A20 | 35.36 |
| A2-A6 | 43.51 | A6-A13 | 44.08 | A11-A17 | 35.25 | A18-A21 | 27.77 |
| A2-A7 | 18.90 | A6-A14 | 36.94 | A11-A18 | 54.64 | A18-A22 | 40.80 |
| A2-A8 | 39.19 | A6-A15 | 35.36 | A11-A19 | 34.85 | A18-A23 | 44.08 |
| A2-A9 | 35.15 | A6-A16 | 23.60 | A11-A20 | 40.80 | A18-A24 | 39.37 |
| A2-A10 | 40.53 | A6-A17 | 32.73 | A11-A21 | 52.92 | A18-A25 | 31.05 |
| A2-A11 | 18.71 | A6-A18 | 42.59 | A11-A22 | 43.34 | A18-A26 | 28.54 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A2-A12 | 46.83 | A6-A19 | 36.84 | A11-A23 | 31.17 | A18-A27 | 41.23 |
| A2-A13 | 39.55 | A6-A20 | 41.49 | A11-A24 | 37.13 | A18-A28 | 61.18 |
| A2-A14 | 30.47 | A6-A21 | 48.99 | A11-A25 | 44.64 | A18-A29 | 28.54 |
| A2-A15 | 50.00 | A6-A22 | 31.74 | A11-A26 | 41.58 | A18-A30 | 42.00 |
| A2-A16 | 50.07 | A6-A23 | 35.86 | A11-A27 | 25.91 | A19-A20 | 35.76 |
| A2-A17 | 31.96 | A6-A24 | 28.16 | A11-A28 | 22.99 | A19-A21 | 41.06 |
| A2-A18 | 53.92 | A6-A25 | 36.74 | A11-A29 | 62.34 | A19-A22 | 32.40 |
| A2-A19 | 35.76 | A6-A26 | 37.80 | A11-A30 | 47.88 | A19-A23 | 30.71 |
| A2-A20 | 42.93 | A6-A27 | 32.07 | A12-A13 | 43.59 | A19-A24 | 38.27 |
| A2-A21 | 49.06 | A6-A28 | 46.90 | A12-A14 | 45.90 | A19-A25 | 34.95 |
| A2-A22 | 41.75 | A6-A29 | 47.06 | A12-A15 | 37.70 | A19-A26 | 34.23 |
| A2-A23 | 35.36 | A6-A30 | 49.50 | A12-A16 | 43.75 | A19-A27 | 31.40 |
| A2-A24 | 39.46 | A7-A8 | 34.95 | A12-A17 | 42.26 | A19-A28 | 43.26 |
| A2-A25 | 46.60 | A7-A9 | 36.55 | A12-A18 | 49.71 | A19-A29 | 48.70 |
| A2-A26 | 39.73 | A7-A10 | 37.42 | A12-A19 | 41.06 | A19-A30 | 40.09 |
| A2-A27 | 28.16 | A7-A11 | 14.88 | A12-A20 | 33.70 | A20-A21 | 47.43 |
| A2-A28 | 17.11 | A7-A12 | 35.76 | A12-A21 | 59.16 | A20-A22 | 32.29 |
| A2-A29 | 62.62 | A7-A13 | 37.13 | A12-A22 | 23.15 | A20-A23 | 36.94 |
| A2-A30 | 50.57 | A7-A14 | 30.00 | A12-A23 | 35.66 | A20-A24 | 26.73 |
| A3-A4 | 37.80 | A7-A15 | 38.91 | A12-A24 | 38.27 | A20-A25 | 28.78 |
| A3-A5 | 36.25 | A7-A16 | 41.49 | A12-A25 | 34.74 | A20-A26 | 34.33 |
| A3-A6 | 34.95 | A7-A17 | 29.40 | A12-A26 | 46.29 | A20-A27 | 23.15 |
| A3-A7 | 35.46 | A7-A18 | 50.07 | A12-A27 | 29.52 | A20-A28 | 53.52 |
| A3-A8 | 45.43 | A7-A19 | 30.12 | A12-A28 | 53.05 | A20-A29 | 37.51 |
| A3-A9 | 39.73 | A7-A20 | 37.42 | A12-A29 | 48.40 | A20-A30 | 34.43 |
| A3-A10 | 35.25 | A7-A21 | 49.35 | A12-A30 | 47.58 | A21-A22 | 45.75 |
| A3-A11 | 40.97 | A7-A22 | 32.95 | A13-A14 | 39.73 | A21-A23 | 45.51 |
| A3-A12 | 43.83 | A7-A23 | 24.05 | A13-A15 | 37.32 | A21-A24 | 49.21 |
| A3-A13 | 37.13 | A7-A24 | 32.73 | A13-A16 | 48.99 | A21-A25 | 43.83 |
| A3-A14 | 30.94 | A7-A25 | 40.53 | A13-A17 | 40.88 | A21-A26 | 27.77 |
| A3-A15 | 35.05 | A7-A26 | 38.64 | A13-A18 | 35.05 | A21-A27 | 44.72 |
| A3-A16 | 40.62 | A7-A27 | 20.18 | A13-A19 | 36.45 | A21-A28 | 53.32 |
| A3-A17 | 20.87 | A7-A28 | 25.21 | A13-A20 | 28.91 | A21-A29 | 52.51 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A3-A18 | 34.33 | A7-A29 | 56.25 | A13-A21 | 44.08 | A21-A30 | 53.39 |
| A3-A19 | 29.40 | A7-A30 | 45.51 | A13-A22 | 35.36 | A22-A23 | 29.15 |
| A3-A20 | 41.40 | A8-A9 | 33.59 | A13-A23 | 30.00 | A22-A24 | 32.51 |
| A3-A21 | 39.37 | A8-A10 | 38.08 | A13-A24 | 33.49 | A22-A25 | 32.73 |
| A3-A22 | 34.85 | A8-A11 | 30.47 | A13-A25 | 26.05 | A22-A26 | 31.96 |
| A3-A23 | 34.74 | A8-A12 | 54.12 | A13-A26 | 29.03 | A22-A27 | 23.15 |
| A3-A24 | 42.43 | A8-A13 | 40.88 | A13-A27 | 27.52 | A22-A28 | 47.73 |
| A3-A25 | 40.88 | A8-A14 | 46.37 | A13-A28 | 49.57 | A22-A29 | 43.18 |
| A3-A26 | 27.39 | A8-A15 | 46.37 | A13-A29 | 34.23 | A22-A30 | 42.59 |
| A3-A27 | 34.33 | A8-A16 | 44.88 | A13-A30 | 26.32 | A23-A24 | 36.15 |
| A3-A28 | 42.00 | A8-A17 | 41.06 | A14-A15 | 39.46 | A23-A25 | 36.15 |
| A3-A29 | 41.14 | A8-A18 | 44.72 | A14-A16 | 39.37 | A23-A26 | 31.17 |
| A3-A30 | 46.45 | A8-A19 | 38.36 | A14-A17 | 19.82 | A23-A27 | 24.20 |
| A4-A5 | 47.51 | A8-A20 | 44.32 | A14-A18 | 44.48 | A23-A28 | 39.46 |
| A4-A6 | 40.62 | A8-A21 | 45.36 | A14-A19 | 35.36 | A23-A29 | 47.51 |
| A4-A7 | 16.04 | A8-A22 | 49.93 | A14-A20 | 44.56 | A23-A30 | 32.18 |
| A4-A8 | 35.36 | A8-A23 | 35.46 | A14-A21 | 37.89 | A24-A25 | 31.85 |
| A4-A9 | 39.37 | A8-A24 | 39.01 | A14-A22 | 31.62 | A24-A26 | 36.35 |
| A4-A10 | 38.54 | A8-A25 | 39.37 | A14-A23 | 29.88 | A24-A27 | 27.90 |
| A4-A11 | 15.81 | A8-A26 | 41.92 | A14-A24 | 36.84 | A24-A28 | 50.92 |
| A4-A12 | 42.17 | A8-A27 | 38.73 | A14-A25 | 47.06 | A24-A29 | 38.82 |
| A4-A13 | 37.32 | A8-A28 | 43.92 | A14-A26 | 24.93 | A24-A30 | 35.25 |
| A4-A14 | 32.51 | A8-A29 | 56.69 | A14-A27 | 31.74 | A25-A26 | 36.15 |
| A4-A15 | 45.98 | A8-A30 | 41.14 | A14-A28 | 34.74 | A25-A27 | 32.18 |
| A4-A16 | 50.07 | A9-A10 | 44.48 | A14-A29 | 52.58 | A25-A28 | 56.12 |
| A4-A17 | 30.36 | A9-A11 | 31.62 | A14-A30 | 45.83 | A25-A29 | 34.54 |
| A4-A18 | 52.30 | A9-A12 | 60.36 | A15-A16 | 31.28 | A25-A30 | 34.64 |
| A4-A19 | 30.12 | A9-A13 | 45.20 | A15-A17 | 35.76 | A26-A27 | 29.28 |
| A4-A20 | 36.84 | A9-A14 | 36.94 | A15-A18 | 32.40 | A26-A28 | 44.40 |
| A4-A21 | 49.35 | A9-A15 | 53.79 | A15-A19 | 36.15 | A26-A29 | 40.71 |
| A4-A22 | 36.84 | A9-A16 | 42.43 | A15-A20 | 35.05 | A26-A30 | 37.51 |
| A4-A23 | 30.12 | A9-A17 | 35.46 | A15-A21 | 46.83 | A27-A28 | 34.85 |
| A4-A24 | 36.84 | A9-A18 | 46.90 | A15-A22 | 30.71 | A27-A29 | 46.90 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A4-A25 | 43.75 | A9-A19 | 44.24 | A15-A23 | 32.40 | A27-A30 | 39.73 |
| A4-A26 | 38.08 | A9-A20 | 51.06 | A15-A24 | 32.29 | A28-A29 | 72.11 |
| A4-A27 | 21.88 | A9-A21 | 42.26 | A15-A25 | 37.80 | A28-A30 | 61.00 |
| A4-A28 | 21.55 | A9-A22 | 53.12 | A15-A26 | 37.89 | A29-A30 | 35.56 |
| A4-A29 | 60.18 | A9-A23 | 43.59 | A15-A27 | 34.74 | - | - |

In the above table a total of 30 individuals (from A1 to A30 of Table 4.1) are compared pairwise. A total of 435 pairs are formed.

Table 4.2 reveals that the results of measurement of pair difference, calculated from the Measurement of Pair Difference formula, are not equal to zero for any of the 435 pairs. It therefore indicates that there are differences among individuals in choice of news categories in reading online newspaper.

Among all the pairs, the highest difference exists between A28 and A29 i.e., 72.11% and the lowest difference is found between A2 and A4 i.e., 13.63%.

So, in respect to choice of news categories in reading online newspaper, the results of the measurement of pair difference of the thirty individuals varies within the range of 13.63% to 72.11%.

#### 4.2.1.2. Gravity of Difference

Results of measurement of pair difference (shown in table 4.2) are considered for calculating mean absolute deviation of all the pairs for finding gravity of difference in terms of individuals' choice of news categories in reading online newspaper.

The Mean Absolute Deviation formula is given below:

$$\frac{\sum_{i=1}^{n}|x_i - \bar{x}|}{n}$$

**Mean $\bar{x}$ :** Sum of results of measurement of pair difference of 435 pairs / Total number of pairs

= 16689.08 / 435

= 38.36570115

i.e., $\bar{x}$ = 38.36

Mean of the results of measurement of pair differences is 38.36.

So, the average difference among individuals in terms of choice of news categories in reading online newspaper is 38.36.

**Absolute deviation of each pair** $| x_i - \bar{x} |$

| Result of measurement of Pair difference of a pair ($x_i$) – Mean ($\bar{x}$) |

The results of all the 435 pairs after calculating $|x_i - \bar{x}|$ are shown in the below table.

Table 4.3: Absolute Deviation of Each Pair

| Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ |
|---|---|---|---|---|---|---|---|
| A1-A2 | 10.33 | A4-A30 | 7.78 | A9-A24 | 2.78 | A15-A28 | 18.9 |
| A1-A3 | 10.08 | A5-A6 | 3.82 | A9-A25 | 9.07 | A15-A29 | 7.08 |
| A1-A4 | 11.37 | A5-A7 | 4.57 | A9-A26 | 1.91 | A15-A30 | 0.94 |
| A1-A5 | 3.04 | A5-A8 | 8.77 | A9-A27 | 3.39 | A16-A17 | 1.13 |
| A1-A6 | 5.52 | A5-A9 | 13.39 | A9-A28 | 0.75 | A16-A18 | 0.92 |
| A1-A7 | 14.16 | A5-A10 | 11.1 | A9-A29 | 21.16 | A16-A19 | 4.57 |
| A1-A8 | 2.96 | A5-A11 | 12.28 | A9-A30 | 15.29 | A16-A20 | 6.76 |
| A1-A9 | 1.01 | A5-A12 | 8 | A10-A11 | 3.64 | A16-A21 | 11.07 |
| A1-A10 | 8.84 | A5-A13 | 6.18 | A10-A12 | 2.01 | A16-A22 | 0.46 |
| A1-A11 | 7.31 | A5-A14 | 1.82 | A10-A13 | 3.62 | A16-A23 | 5.56 |
| A1-A12 | 1.19 | A5-A15 | 13.01 | A10-A14 | 4.73 | A16-A24 | 10.97 |
| A1-A13 | 0.09 | A5-A16 | 5.74 | A10-A15 | 2.5 | A16-A25 | 2.44 |
| A1-A14 | 5.19 | A5-A17 | 2.6 | A10-A16 | 0.28 | A16-A26 | 4.07 |
| A1-A15 | 2.52 | A5-A18 | 14.31 | A10-A17 | 5.74 | A16-A27 | 4.57 |
| A1-A16 | 3.98 | A5-A19 | 0.09 | A10-A18 | 11.24 | A16-A28 | 18.84 |
| A1-A17 | 11.77 | A5-A20 | 12.45 | A10-A19 | 6.62 | A16-A29 | 4.07 |
| A1-A18 | 5.31 | A5-A21 | 2.44 | A10-A20 | 8.6 | A16-A30 | 9.82 |
| A1-A19 | 18.54 | A5-A22 | 13.87 | A10-A21 | 1.42 | A17-A18 | 2.3 |
| A1-A20 | 2.35 | A5-A23 | 2.8 | A10-A22 | 4.77 | A17-A19 | 11.37 |
| A1-A21 | 3.13 | A5-A24 | 9.82 | A10-A23 | 0.83 | A17-A20 | 0.09 |
| A1-A22 | 6.74 | A5-A25 | 14.46 | A10-A24 | 4.77 | A17-A21 | 6.51 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1-A23 | 4.24 | A5-A26 | 8.24 | A10-A25 | 17.32 | A17-A22 | 7.08 |
| A1-A24 | 0.74 | A5-A27 | 6.62 | A10-A26 | 3.21 | A17-A23 | 7.19 |
| A1-A25 | 2.7 | A5-A28 | 21.1 | A10-A27 | 6.85 | A17-A24 | 1.23 |
| A1-A26 | 1.23 | A5-A29 | 12.86 | A10-A28 | 10.41 | A17-A25 | 3.98 |
| A1-A27 | 9.21 | A5-A30 | 3.31 | A10-A29 | 1.91 | A17-A26 | 15.06 |
| A1-A28 | 4.24 | A6-A7 | 6.4 | A10-A30 | 5.72 | A17-A27 | 8.84 |
| A1-A29 | 14.89 | A6-A8 | 1.82 | A11-A12 | 7.15 | A17-A28 | 3.51 |
| A1-A30 | 12.35 | A6-A9 | 1.91 | A11-A13 | 1.82 | A17-A29 | 10.78 |
| A2-A3 | 0.92 | A6-A10 | 2.21 | A11-A14 | 1.23 | A17-A30 | 8.77 |
| A2-A4 | 24.73 | A6-A11 | 1.33 | A11-A15 | 10.12 | A18-A19 | 2.17 |
| A2-A5 | 12.63 | A6-A12 | 0 | A11-A16 | 9.6 | A18-A20 | 3 |
| A2-A6 | 5.15 | A6-A13 | 5.72 | A11-A17 | 3.11 | A18-A21 | 10.59 |
| A2-A7 | 19.46 | A6-A14 | 1.42 | A11-A18 | 16.28 | A18-A22 | 2.44 |
| A2-A8 | 0.83 | A6-A15 | 3 | A11-A19 | 3.51 | A18-A23 | 5.72 |
| A2-A9 | 3.21 | A6-A16 | 14.76 | A11-A20 | 2.44 | A18-A24 | 1.01 |
| A2-A10 | 2.17 | A6-A17 | 5.63 | A11-A21 | 14.56 | A18-A25 | 7.31 |
| A2-A11 | 19.65 | A6-A18 | 4.23 | A11-A22 | 4.98 | A18-A26 | 9.82 |
| A2-A12 | 8.47 | A6-A19 | 1.52 | A11-A23 | 7.19 | A18-A27 | 2.87 |
| A2-A13 | 1.19 | A6-A20 | 3.13 | A11-A24 | 1.23 | A18-A28 | 22.82 |
| A2-A14 | 7.89 | A6-A21 | 10.63 | A11-A25 | 6.28 | A18-A29 | 9.82 |
| A2-A15 | 11.64 | A6-A22 | 6.62 | A11-A26 | 3.22 | A18-A30 | 3.64 |
| A2-A16 | 11.71 | A6-A23 | 2.5 | A11-A27 | 12.45 | A19-A20 | 2.6 |
| A2-A17 | 6.4 | A6-A24 | 10.2 | A11-A28 | 15.37 | A19-A21 | 2.7 |
| A2-A18 | 15.56 | A6-A25 | 1.62 | A11-A29 | 23.98 | A19-A22 | 5.96 |
| A2-A19 | 2.6 | A6-A26 | 0.56 | A11-A30 | 9.52 | A19-A23 | 7.65 |
| A2-A20 | 4.57 | A6-A27 | 6.29 | A12-A13 | 5.23 | A19-A24 | 0.09 |
| A2-A21 | 10.7 | A6-A28 | 8.54 | A12-A14 | 7.54 | A19-A25 | 3.41 |
| A2-A22 | 3.39 | A6-A29 | 8.7 | A12-A15 | 0.66 | A19-A26 | 4.13 |
| A2-A23 | 3 | A6-A30 | 11.14 | A12-A16 | 5.39 | A19-A27 | 6.96 |
| A2-A24 | 1.1 | A7-A8 | 3.41 | A12-A17 | 3.9 | A19-A28 | 4.9 |
| A2-A25 | 8.24 | A7-A9 | 1.81 | A12-A18 | 11.35 | A19-A29 | 10.34 |
| A2-A26 | 1.37 | A7-A10 | 0.94 | A12-A19 | 2.7 | A19-A30 | 1.73 |
| A2-A27 | 10.2 | A7-A11 | 23.48 | A12-A20 | 4.66 | A20-A21 | 9.07 |
| A2-A28 | 21.25 | A7-A12 | 2.6 | A12-A21 | 20.8 | A20-A22 | 6.07 |

| A2-A29 | 24.26 | A7-A13 | 1.23 | A12-A22 | 15.21 | A20-A23 | 1.42 |
|---|---|---|---|---|---|---|---|
| A2-A30 | 12.21 | A7-A14 | 8.36 | A12-A23 | 2.7 | A20-A24 | 11.63 |
| A3-A4 | 0.56 | A7-A15 | 0.55 | A12-A24 | 0.09 | A20-A25 | 9.58 |
| A3-A5 | 2.11 | A7-A16 | 3.13 | A12-A25 | 3.62 | A20-A26 | 4.03 |
| A3-A6 | 3.41 | A7-A17 | 8.96 | A12-A26 | 7.93 | A20-A27 | 15.21 |
| A3-A7 | 2.9 | A7-A18 | 11.71 | A12-A27 | 8.84 | A20-A28 | 15.16 |
| A3-A8 | 7.07 | A7-A19 | 8.24 | A12-A28 | 14.69 | A20-A29 | 0.85 |
| A3-A9 | 1.37 | A7-A20 | 0.94 | A12-A29 | 10.04 | A20-A30 | 3.93 |
| A3-A10 | 3.11 | A7-A21 | 10.99 | A12-A30 | 9.22 | A21-A22 | 7.39 |
| A3-A11 | 2.61 | A7-A22 | 5.41 | A13-A14 | 1.37 | A21-A23 | 7.15 |
| A3-A12 | 5.47 | A7-A23 | 14.31 | A13-A15 | 1.04 | A21-A24 | 10.85 |
| A3-A13 | 1.23 | A7-A24 | 5.63 | A13-A16 | 10.63 | A21-A25 | 5.47 |
| A3-A14 | 7.42 | A7-A25 | 2.17 | A13-A17 | 2.52 | A21-A26 | 10.59 |
| A3-A15 | 3.31 | A7-A26 | 0.28 | A13-A18 | 3.31 | A21-A27 | 6.36 |
| A3-A16 | 2.26 | A7-A27 | 18.18 | A13-A19 | 1.91 | A21-A28 | 14.96 |
| A3-A17 | 17.49 | A7-A28 | 13.15 | A13-A20 | 9.45 | A21-A29 | 14.15 |
| A3-A18 | 4.03 | A7-A29 | 17.89 | A13-A21 | 5.72 | A21-A30 | 15.03 |
| A3-A19 | 8.96 | A7-A30 | 7.15 | A13-A22 | 3 | A22-A23 | 9.21 |
| A3-A20 | 3.04 | A8-A9 | 4.77 | A13-A23 | 8.36 | A22-A24 | 5.85 |
| A3-A21 | 1.01 | A8-A10 | 0.28 | A13-A24 | 4.87 | A22-A25 | 5.63 |
| A3-A22 | 3.51 | A8-A11 | 7.89 | A13-A25 | 12.31 | A22-A26 | 6.4 |
| A3-A23 | 3.62 | A8-A12 | 15.76 | A13-A26 | 9.33 | A22-A27 | 15.21 |
| A3-A24 | 4.07 | A8-A13 | 2.52 | A13-A27 | 10.84 | A22-A28 | 9.37 |
| A3-A25 | 2.52 | A8-A14 | 8.01 | A13-A28 | 11.21 | A22-A29 | 4.82 |
| A3-A26 | 10.97 | A8-A15 | 8.01 | A13-A29 | 4.13 | A22-A30 | 4.23 |
| A3-A27 | 4.03 | A8-A16 | 6.52 | A13-A30 | 12.04 | A23-A24 | 2.21 |
| A3-A28 | 3.64 | A8-A17 | 2.7 | A14-A15 | 1.1 | A23-A25 | 2.21 |
| A3-A29 | 2.78 | A8-A18 | 6.36 | A14-A16 | 1.01 | A23-A26 | 7.19 |
| A3-A30 | 8.09 | A8-A19 | 0 | A14-A17 | 18.54 | A23-A27 | 14.16 |
| A4-A5 | 9.15 | A8-A20 | 5.96 | A14-A18 | 6.12 | A23-A28 | 1.1 |
| A4-A6 | 2.26 | A8-A21 | 7 | A14-A19 | 3 | A23-A29 | 9.15 |
| A4-A7 | 22.32 | A8-A22 | 11.57 | A14-A20 | 6.2 | A23-A30 | 6.18 |
| A4-A8 | 3 | A8-A23 | 2.9 | A14-A21 | 0.47 | A24-A25 | 6.51 |
| A4-A9 | 1.01 | A8-A24 | 0.65 | A14-A22 | 6.74 | A24-A26 | 2.01 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A4-A10 | 0.18 | A8-A25 | 1.01 | A14-A23 | 8.48 | A24-A27 | 10.46 |
| A4-A11 | 22.55 | A8-A26 | 3.56 | A14-A24 | 1.52 | A24-A28 | 12.56 |
| A4-A12 | 3.81 | A8-A27 | 0.37 | A14-A25 | 8.7 | A24-A29 | 0.46 |
| A4-A13 | 1.04 | A8-A28 | 5.56 | A14-A26 | 13.43 | A24-A30 | 3.11 |
| A4-A14 | 5.85 | A8-A29 | 18.33 | A14-A27 | 6.62 | A25-A26 | 2.21 |
| A4-A15 | 7.62 | A8-A30 | 2.78 | A14-A28 | 3.62 | A25-A27 | 6.18 |
| A4-A16 | 11.71 | A9-A10 | 6.12 | A14-A29 | 14.22 | A25-A28 | 17.76 |
| A4-A17 | 8 | A9-A11 | 6.74 | A14-A30 | 7.47 | A25-A29 | 3.82 |
| A4-A18 | 13.94 | A9-A12 | 22 | A15-A16 | 7.08 | A25-A30 | 3.72 |
| A4-A19 | 8.24 | A9-A13 | 6.84 | A15-A17 | 2.6 | A26-A27 | 9.08 |
| A4-A20 | 1.52 | A9-A14 | 1.42 | A15-A18 | 5.96 | A26-A28 | 6.04 |
| A4-A21 | 10.99 | A9-A15 | 15.43 | A15-A19 | 2.21 | A26-A29 | 2.35 |
| A4-A22 | 1.52 | A9-A16 | 4.07 | A15-A20 | 3.31 | A26-A30 | 0.85 |
| A4-A23 | 8.24 | A9-A17 | 2.9 | A15-A21 | 8.47 | A27-A28 | 3.51 |
| A4-A24 | 1.52 | A9-A18 | 8.54 | A15-A22 | 7.65 | A27-A29 | 8.54 |
| A4-A25 | 5.39 | A9-A19 | 5.88 | A15-A23 | 5.96 | A27-A30 | 1.37 |
| A4-A26 | 0.28 | A9-A20 | 12.7 | A15-A24 | 6.07 | A28-A29 | 33.75 |
| A4-A27 | 16.48 | A9-A21 | 3.9 | A15-A25 | 0.56 | A28-A30 | 22.64 |
| A4-A28 | 16.81 | A9-A22 | 14.76 | A15-A26 | 0.47 | A29-A30 | 2.8 |
| A4-A29 | 21.82 | A9-A23 | 5.23 | A15-A27 | 3.62 | - | - |

Table 4.3 shows the absolute deviation of each pair (total 435 pairs) i.e., the deviation of the measurement of pair difference results from the average difference (38.36).

So, it indicates how varied the difference between two individuals is from the average difference in terms of choice of news categories in reading online newspaper.

**Mean Absolute Deviation**

Sum of absolute deviation of each pair/ Total number of pairs

= 3000.74 / 435

= 6.898252874

= 6.90

Mean Absolute Deviation = 6.90

The result of the Mean Absolute Deviation is 6.90. It indicates that among all the individuals the average difference is 6.90 from the mean (38.36) in terms of choice of news categories in reading online newspaper.

So, the gravity of difference in terms of choice of news categories in reading online newspaper is 6.90.

#### 4.2.1.3 Validating Using R Statistical Software

The following table shows descriptive statistics using R software for validating the Minimum difference, Maximum difference, Mean, Mean absolute deviation on results of Measurement of Pair Difference (Table: 4.2) in terms of choice of news categories in reading online newspaper. The table also shows Standard Deviation and Skewness values.

Table 4.4: Results Using R Software

| **Validating Parameters** | **Results** |
|---|---|
| Minimum Value | 13.63% |
| Maximum Value | 72.11% |
| Mean | 38.36 |
| Mean Absolute Deviation | 6.90 |
| Standard Deviation | 8.86 |
| Skewness | 0.22 |

It is evident from the above table that the minimum difference existing between individuals in terms of choice of categories of news in reading online newspaper is 13.63% and the maximum difference found is 72.11%. It also describes that the dataset with a mean of 38.36, indicating the central tendency of the data. The mean absolute deviation of 6.90 suggests that the data points are spread around the mean by an average of approximately 6.90 units.

The positive skewness of 0.22 indicates that the lower pair difference values occurs more frequently than higher pair difference values.

The results obtained using the R statistical software align with the outcomes of the calculations in sections 4.2.1.1 and 4.2.1.2.

The distribution of the observed pair difference (n=435) in terms of choice of categories of news in reading online newspaper is shown in the following histogram (Figure 4.1)

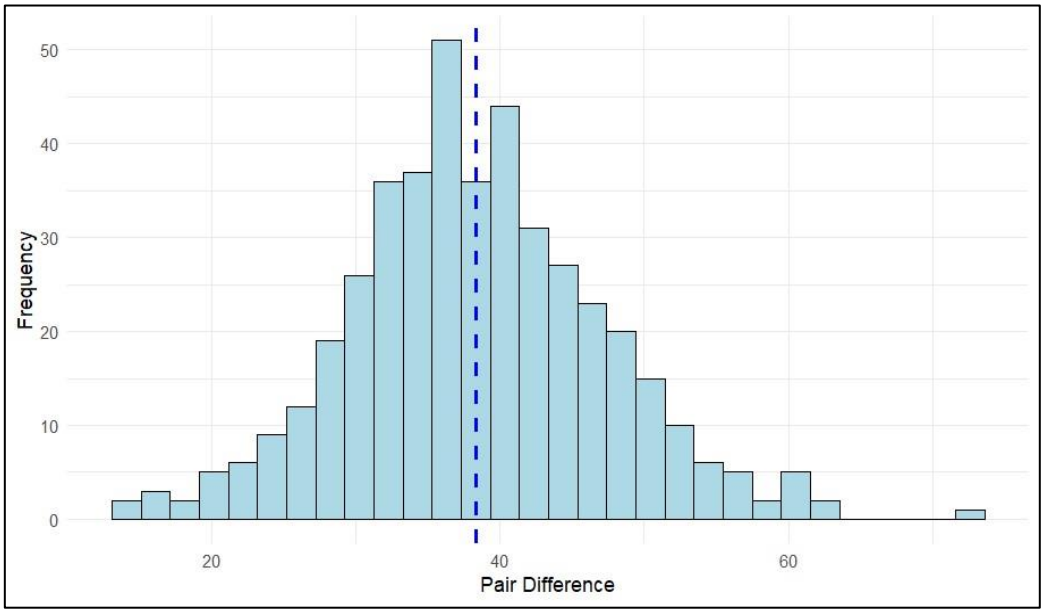


Figure 4.1: Histogram of Results of Pair Difference in Terms of Individuals' Choice of News Categories in Reading Online Newspaper of Observed Pairs (n=435)

Measurement of pair difference results are shown frequency wise in Figure 4.1. It is evident that the distribution of pair difference values for all observed pairs (n=435) appears to be almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of 0.22 and the mean value of 38.36, which lies almost in the middle of the histogram.

## 4.3 Inferences

Upon analysing the outcomes of the Measurement of Pair Difference for individuals it is evident that significant individual variations exist. Notably, the lowest degree of difference in scores is at least 13.63%. The gravity of difference in terms of choice of categories of news in reading online newspaper is 6.90. Additionally, the distribution of these differences is dispersed around the mean, suggesting that the values are mostly symmetrical but not identical. Consequently, it can be inferred that each individual differs from one another in their choice of news categories in reading online newspaper, and these differences are concentrated around the mean value.

## References

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Chapter – 5

# Individuals' Choice of Subject Categories

Newspaper as a source of information publishes news on a wide range of subjects. It thrives to cater to the information need of every individual. Goyanes (2014) stated that not only quality content must be provided by news organisation but also leisure, entertainment and cultural services based on the understanding of reader's needs. Information need of people in a society are however diverse. Individual preferences and need guide their choice of subject categories of news.

'Categories of News' as discussed in Chapter 4 are not completely reflective of all the subject areas covered by a newspaper. There are many news topics that overlaps between two or more "Categories of News". So, understanding the differences in individuals' choice of subject categories is important to identify individual difference in online newspaper reading. In the research work of Maity (2006) one can trace different subject categories of news viz: Politics; Sport; Economy, Business and Finance; Arts, Culture and Entertainment; Social issues; Crime, Law and Justice; Unrest, Conflicts and War; Disasters and Accidents; Human Interest; Education;

Labour; Health; Lifestyle and Leisure; Science and Technology; Environmental Issues; Weather; and Religion and Belief.

In this study keeping in view the objective, an attempt had been made here to examine differences in individuals' choice of subject categories of news in reading online newspaper.

After going through certain online newspapers (as declared in Chapter 4), subject categories of news were identified and included in the questionnaire. The questions based on these subjects were framed to fulfil the stated objective. Subjects which were found to be similar to each other and had the features of standing in close proximity, were clubbed into a group. A total number of fifteen (15) questions were asked in statement form. Each statement was given an identification code using alpha numeric combination viz. S1, S2, S3……. S15.

Respondents were asked to give score to each question from 0-10 (details in Appendix-1) based on their reasons for preferring online newspaper.

The statements are given below:

- S1: I like to read / search news on Agriculture
- S2: I like to read / search news on Arts, Culture, Entertainment
- S3: I like to read / search news on Crime, Law and Justice
- S4: I like to read / search news on Disasters, Accidents
- S5: I like to read / search news on Economy, Business, Finance, Trade, Industry
- S6: I like to read / search news on Education, Career
- S7: I like to read / search news on Environment
- S8: I like to read / search news on Government, Politics
- S9: I like to read / search news on Health
- S10: I like to read / search news on Human Rights, Women Rights, Feminism
- S11: I like to read / search news on Lifestyle & Leisure
- S12: I like to read / search news on Religion, Belief
- S13: I like to read / search news on Science & Technology
- S14: I like to read / search news on Sports
- S15: I like to read / search news on Weather

Scores given by individuals for each statement are considered to measure the difference between two individuals in terms of choice of subject categories in reading online newspaper using the below formula:

**Measurement of Pair Difference**

$$x = \sqrt{\frac{(a_1 - b_1)^2 + (a_2 - b_2)^2 + \dots (a_n - b_n)^2}{\mathrm{N}}} * \frac{100}{m}$$

The result of the difference between two individuals is in percentage.

## 5.2 Analysis and Findings

The findings obtained from analysis of collected data are as follows:

### 5.2.1 Individuals' Choice of Subject Categories

Table 5.1 given below shows choice of subject categories of individuals.

Table 5.1: Individuals' Choice of Subject Categories

| **Individuals** | **Individuals' scores for each statement** | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **S1** | **S2** | **S3** | **S4** | **S5** | **S6** | **S7** | **S8** | **S9** | **S10** | **S11** | **S12** | **S13** | **S14** | **S15** |
| A1 | 3 | 10 | 3 | 2 | 1 | 8 | 8 | 7 | 10 | 9 | 9 | 5 | 4 | 7 | 4 |
| A2 | 2 | 9 | 4 | 7 | 7 | 7 | 8 | 6 | 9 | 8 | 2 | 8 | 9 | 8 | 8 |
| A3 | 9 | 5 | 0 | 1 | 1 | 0 | 0 | 4 | 5 | 6 | 5 | 4 | 3 | 7 | 2 |
| A4 | 3 | 7 | 7 | 8 | 7 | 9 | 8 | 8 | 10 | 3 | 6 | 6 | 9 | 7 | 3 |
| A5 | 10 | 6 | 8 | 3 | 3 | 4 | 3 | 7 | 4 | 3 | 2 | 10 | 7 | 1 | 3 |
| A6 | 0 | 10 | 10 | 6 | 5 | 5 | 9 | 6 | 10 | 10 | 10 | 10 | 6 | 3 | 0 |
| A7 | 8 | 7 | 4 | 8 | 4 | 8 | 10 | 7 | 9 | 8 | 8 | 7 | 8 | 6 | 8 |
| A8 | 1 | 7 | 0 | 0 | 7 | 10 | 6 | 0 | 0 | 2 | 9 | 8 | 8 | 6 | 0 |
| A9 | 0 | 6 | 10 | 8 | 2 | 1 | 0 | 1 | 0 | 1 | 10 | 0 | 0 | 6 | 3 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A10 | 0 | 6 | 6 | 6 | 3 | 7 | 1 | 8 | 2 | 0 | 5 | 0 | 6 | 1 | 0 |
| A11 | 9 | 9 | 9 | 9 | 10 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 7 | 8 |
| A12 | 0 | 7 | 8 | 3 | 2 | 9 | 6 | 6 | 9 | 8 | 0 | 4 | 9 | 0 | 5 |
| A13 | 1 | 1 | 1 | 1 | 10 | 6 | 7 | 9 | 3 | 1 | 1 | 4 | 2 | 7 | 5 |
| A14 | 7 | 7 | 3 | 7 | 5 | 0 | 10 | 8 | 8 | 7 | 7 | 4 | 10 | 10 | 6 |
| A15 | 0 | 4 | 4 | 10 | 1 | 3 | 10 | 10 | 3 | 2 | 6 | 2 | 2 | 1 | 4 |
| A16 | 5 | 8 | 10 | 9 | 1 | 1 | 7 | 10 | 4 | 6 | 10 | 9 | 7 | 0 | 7 |
| A17 | 3 | 8 | 6 | 6 | 2 | 1 | 8 | 7 | 9 | 7 | 2 | 9 | 9 | 7 | 0 |
| A18 | 1 | 5 | 10 | 10 | 1 | 0 | 9 | 10 | 0 | 1 | 1 | 5 | 5 | 2 | 5 |
| A19 | 0 | 6 | 6 | 6 | 1 | 10 | 0 | 7 | 7 | 0 | 7 | 6 | 5 | 8 | 5 |
| A20 | 5 | 6 | 9 | 8 | 8 | 7 | 8 | 8 | 7 | 8 | 0 | 8 | 7 | 0 | 4 |
| A21 | 0 | 0 | 9 | 9 | 9 | 0 | 10 | 10 | 3 | 10 | 6 | 5 | 10 | 10 | 10 |
| A22 | 5 | 5 | 4 | 10 | 1 | 6 | 10 | 4 | 10 | 3 | 5 | 3 | 8 | 4 | 8 |
| A23 | 6 | 6 | 3 | 1 | 5 | 7 | 1 | 10 | 6 | 10 | 3 | 7 | 7 | 8 | 10 |
| A24 | 0 | 7 | 8 | 7 | 10 | 4 | 3 | 8 | 7 | 0 | 6 | 6 | 7 | 0 | 7 |
| A25 | 0 | 3 | 4 | 4 | 4 | 10 | 6 | 8 | 3 | 3 | 3 | 7 | 2 | 3 | 6 |
| A26 | 7 | 7 | 7 | 6 | 7 | 0 | 8 | 7 | 7 | 4 | 1 | 4 | 8 | 10 | 0 |
| A27 | 8 | 7 | 6 | 6 | 10 | 7 | 8 | 8 | 10 | 4 | 6 | 10 | 9 | 4 | 8 |
| A28 | 6 | 10 | 10 | 6 | 8 | 6 | 8 | 9 | 10 | 10 | 10 | 6 | 10 | 10 | 10 |
| A29 | 1 | 5 | 10 | 6 | 8 | 0 | 0 | 3 | 0 | 10 | 7 | 5 | 0 | 0 | 0 |
| A30 | 0 | 3 | 7 | 4 | 10 | 7 | 6 | 8 | 0 | 4 | 0 | 4 | 6 | 7 | 6 |

Table 5.1 consists of 30 individuals (from A1 to A30). The scores of each individual for the 15 statements (S1 to S15) are shown here.

A1 gave highest score i.e., 10 for S2, S9 and lowest score i.e., 1 for S5 only. A2 gave highest score i.e., 9 for S2, S9, S13 and lowest score i.e., 2 for S1, S11. A3 gave highest score i.e., 9 for S1 only and lowest score i.e., 0 (zero) for S3, S6, S7. A4 gave highest score i.e., 10 for S9 only and lowest score i.e., 3 for S1, S10, S15. A5 gave highest score i.e., 10 for S1, S12 and lowest score i.e., 1 for S14 only.

A6 gave highest score i.e., 10 for S2, S3, S9, S10, S11, S12 and lowest score i.e., 0 (zero) for S1, S15. A7 gave highest score i.e., 10 for S7 only and lowest score i.e., 4 for S3, S5. A8 gave highest score i.e., 10 for S6 only and lowest score i.e., 0 (zero) for S3,

S4, S8, S9, S15. A9 gave highest score i.e., 10 for S3, S11 and lowest score i.e., 0 (zero) for S1, S7, S9, S12, S13. A10 gave highest score i.e., 8 for S8 only and lowest score i.e., 0 (zero) for S1, S10, S12, S15.

A11 gave highest score i.e., 10 for S5 only and lowest score i.e., 7 for S14 only. A12 gave highest score i.e., 9 for S6, S9, S13 and lowest score i.e., 0 (zero) for S1, S11, S14. A13 gave highest score i.e., 10 for S5 only and lowest score i.e., 1 for S1, S2, S3, S4, S10, S11. A14 gave highest score i.e., 10 for S7, S13, S14 and lowest score i.e., 0 (zero) for S6 only. A15 gave highest score i.e., 10 for S4, S7, S8 and lowest score i.e., 0 (zero) for S1 only.

A16 gave highest score i.e., 10 for S3, S8, S11 and lowest score i.e., 0 (zero) for S14 only. A17 gave highest score i.e., 9 for S9, S12, S13 and lowest score i.e., 0 (zero) for S15 only. A18 gave highest score i.e., 10 for S3, S4, S8 and lowest score i.e., 0 (zero) for S6, S9. A19 gave highest score i.e., 10 for S6 only and lowest score i.e., 0 (zero) for S1, S7, S10. A20 gave highest score i.e., 9 for S3 only and lowest score i.e., 0 (zero) for S11, S14.

A21 gave highest score i.e., 10 for S7, S8, S10, S13, S14, S15 and lowest score i.e., 0 (zero) for S1, S2, S6. A22 gave highest score i.e., 10 for S4, S7, S9 and lowest score i.e., 1 for S5 only. A23 gave highest score i.e., 10 for S8, S10, S15 and lowest score i.e., 1 for S4, S7. A24 gave highest score i.e., 10 for S5 only and lowest score i.e., 0 (zero) for S1, S10, S14. A25 gave highest score i.e., 10 for S6 only and lowest score i.e., 0 (zero) for S1 only.

A26 gave highest score i.e., 10 for S14 only and lowest score i.e., 0 (zero) for S6, S15. A27 gave highest score i.e., 10 for S5, S9, S12 and lowest score i.e., 4 for S10, S14. A28 gave highest score i.e., 10 for S2, S3, S9, S10, S11, S13, S14, S15 and lowest score i.e., 6 for S1, S4, S6, S12. A29 gave highest score i.e., 10 for S3, S10 and lowest score i.e., 0 (zero) for S6, S7, S9, S13, S14, S15. A30 gave highest score i.e., 10 for S5 only and lowest score i.e., 0 (zero) for S1, S9, S11.

#### 5.2.1.1 Measurement of Pair Difference of Individuals' Choice of Subject Categories

Results of measurement of pair difference (calculated using Measurement of Pair

Difference formula) in respect to individuals' choice for categories of subject are shown in Table 5.2.

Table 5.2: Measurement of Pair Difference of Individuals' Choice of Subject Categories

| **Pair** | **Result (%)** | **Pair** | **Result (%)** | **Pair** | **Result (%)** | **Pair** | **Result (%)** |
|---|---|---|---|---|---|---|---|
| A1-A2 | 33.47 | A4-A30 | 38.04 | A9-A24 | 47.61 | A15-A28 | 58.48 |
| A1-A3 | 41.95 | A5-A6 | 47.19 | A9-A25 | 49.26 | A15-A29 | 49.33 |
| A1-A4 | 33.76 | A5-A7 | 41.47 | A9-A26 | 53.73 | A15-A30 | 42.58 |
| A1-A5 | 46.76 | A5-A8 | 49.67 | A9-A27 | 64.96 | A16-A17 | 39.33 |
| A1-A6 | 33.07 | A5-A9 | 54.28 | A9-A28 | 64.65 | A16-A18 | 34.74 |
| A1-A7 | 28.75 | A5-A10 | 41.55 | A9-A29 | 37.15 | A16-A19 | 46.76 |
| A1-A8 | 45.46 | A5-A11 | 43.28 | A9-A30 | 50.99 | A16-A20 | 38.21 |
| A1-A9 | 55.86 | A5-A12 | 39.67 | A10-A11 | 56.80 | A16-A21 | 46.98 |
| A1-A10 | 48.10 | A5-A13 | 47.54 | A10-A12 | 39.75 | A16-A22 | 40.00 |
| A1-A11 | 40.91 | A5-A14 | 45.68 | A10-A13 | 42.74 | A16-A23 | 48.44 |
| A1-A12 | 37.42 | A5-A15 | 47.61 | A10-A14 | 53.67 | A16-A24 | 37.77 |
| A1-A13 | 49.19 | A5-A16 | 36.33 | A10-A15 | 33.76 | A16-A25 | 45.02 |
| A1-A14 | 36.24 | A5-A17 | 35.78 | A10-A16 | 46.98 | A16-A26 | 47.54 |
| A1-A15 | 45.02 | A5-A18 | 41.23 | A10-A17 | 47.12 | A16-A27 | 39.58 |
| A1-A16 | 44.27 | A5-A19 | 43.05 | A10-A18 | 38.99 | A16-A28 | 42.35 |
| A1-A17 | 35.59 | A5-A20 | 32.15 | A10-A19 | 32.15 | A16-A29 | 47.40 |
| A1-A18 | 56.04 | A5-A21 | 58.48 | A10-A20 | 45.31 | A16-A30 | 51.77 |
| A1-A19 | 37.95 | A5-A22 | 43.67 | A10-A21 | 60.44 | A17-A18 | 41.39 |
| A1-A20 | 44.80 | A5-A23 | 39.33 | A10-A22 | 45.24 | A17-A19 | 43.82 |
| A1-A21 | 56.27 | A5-A24 | 39.50 | A10-A23 | 51.45 | A17-A20 | 33.96 |
| A1-A22 | 37.24 | A5-A25 | 38.47 | A10-A24 | 34.74 | A17-A21 | 47.68 |
| A1-A23 | 36.88 | A5-A26 | 37.86 | A10-A25 | 33.76 | A17-A22 | 37.24 |
| A1-A24 | 48.85 | A5-A27 | 35.87 | A10-A26 | 46.48 | A17-A23 | 43.05 |
| A1-A25 | 39.16 | A5-A28 | 52.09 | A10-A27 | 53.29 | A17-A24 | 44.27 |
| A1-A26 | 44.50 | A5-A29 | 47.26 | A10-A28 | 61.43 | A17-A25 | 43.97 |
| A1-A27 | 40.91 | A5-A30 | 43.36 | A10-A29 | 43.82 | A17-A26 | 24.90 |
| A1-A28 | 37.86 | A6-A7 | 38.30 | A10-A30 | 38.38 | A17-A27 | 38.90 |
| A1-A29 | 56.15 | A6-A8 | 51.77 | A11-A12 | 47.26 | A17-A28 | 43.74 |

| A1-A30 | 50.33 | A6-A9 | 56.92 | A11-A13 | 54.53 | A17-A29 | 52.09 |
|---|---|---|---|---|---|---|---|
| A2-A3 | 50.86 | A6-A10 | 51.70 | A11-A14 | 34.25 | A17-A30 | 45.31 |
| A2-A4 | 25.17 | A6-A11 | 39.24 | A11-A15 | 53.85 | A18-A19 | 48.10 |
| A2-A5 | 43.82 | A6-A12 | 40.00 | A11-A16 | 39.07 | A18-A20 | 40.17 |
| A2-A6 | 38.47 | A6-A13 | 59.50 | A11-A17 | 42.66 | A18-A21 | 46.33 |
| A2-A7 | 25.56 | A6-A14 | 44.50 | A11-A18 | 54.53 | A18-A22 | 42.50 |
| A2-A8 | 48.58 | A6-A15 | 48.58 | A11-A19 | 48.10 | A18-A23 | 56.27 |
| A2-A9 | 61.54 | A6-A16 | 36.70 | A11-A20 | 32.86 | A18-A24 | 40.25 |
| A2-A10 | 51.32 | A6-A17 | 32.25 | A11-A21 | 44.27 | A18-A25 | 39.24 |
| A2-A11 | 29.55 | A6-A18 | 52.47 | A11-A22 | 39.58 | A18-A26 | 42.27 |
| A2-A12 | 33.27 | A6-A19 | 47.61 | A11-A23 | 39.75 | A18-A27 | 52.15 |
| A2-A13 | 44.05 | A6-A20 | 37.15 | A11-A24 | 41.23 | A18-A28 | 59.44 |
| A2-A14 | 30.88 | A6-A21 | 53.10 | A11-A25 | 47.82 | A18-A29 | 49.40 |
| A2-A15 | 48.17 | A6-A22 | 45.90 | A11-A26 | 40.82 | A18-A30 | 39.24 |
| A2-A16 | 44.87 | A6-A23 | 52.28 | A11-A27 | 20.33 | A19-A20 | 48.10 |
| A2-A17 | 30.11 | A6-A24 | 43.20 | A11-A28 | 20.33 | A19-A21 | 57.68 |
| A2-A18 | 49.33 | A6-A25 | 47.33 | A11-A29 | 57.85 | A19-A22 | 39.67 |
| A2-A19 | 40.82 | A6-A26 | 45.68 | A11-A30 | 46.12 | A19-A23 | 40.99 |
| A2-A20 | 30.66 | A6-A27 | 40.74 | A12-A13 | 48.79 | A19-A24 | 37.06 |
| A2-A21 | 41.71 | A6-A28 | 39.75 | A12-A14 | 48.51 | A19-A25 | 30.55 |
| A2-A22 | 32.25 | A6-A29 | 46.83 | A12-A15 | 45.17 | A19-A26 | 47.96 |
| A2-A23 | 32.04 | A6-A30 | 53.42 | A12-A16 | 45.46 | A19-A27 | 44.94 |
| A2-A24 | 38.99 | A7-A8 | 50.99 | A12-A17 | 36.15 | A19-A28 | 49.87 |
| A2-A25 | 37.95 | A7-A9 | 61.21 | A12-A18 | 45.97 | A19-A29 | 54.59 |
| A2-A26 | 36.06 | A7-A10 | 52.98 | A12-A19 | 41.15 | A19-A30 | 41.79 |
| A2-A27 | 27.20 | A7-A11 | 22.36 | A12-A20 | 28.87 | A20-A21 | 46.90 |
| A2-A28 | 31.30 | A7-A12 | 40.50 | A12-A21 | 54.83 | A20-A22 | 38.04 |
| A2-A29 | 58.02 | A7-A13 | 50.66 | A12-A22 | 36.70 | A20-A23 | 41.87 |
| A2-A30 | 37.06 | A7-A14 | 26.46 | A12-A23 | 40.33 | A20-A24 | 34.54 |
| A3-A4 | 52.35 | A7-A15 | 44.57 | A12-A24 | 39.50 | A20-A25 | 35.87 |
| A3-A5 | 37.95 | A7-A16 | 36.33 | A12-A25 | 34.64 | A20-A26 | 37.77 |
| A3-A6 | 57.04 | A7-A17 | 36.33 | A12-A26 | 45.97 | A20-A27 | 29.21 |
| A3-A7 | 48.44 | A7-A18 | 51.19 | A12-A27 | 42.19 | A20-A28 | 43.67 |
| A3-A8 | 48.99 | A7-A19 | 43.05 | A12-A28 | 48.37 | A20-A29 | 47.33 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A3-A9 | 47.89 | A7-A20 | 34.54 | A12-A29 | 52.98 | A20-A30 | 36.24 |
| A3-A10 | 46.40 | A7-A21 | 45.39 | A12-A30 | 40.50 | A21-A22 | 48.92 |
| A3-A11 | 56.86 | A7-A22 | 25.03 | A13-A14 | 48.58 | A21-A23 | 48.51 |
| A3-A12 | 52.54 | A7-A23 | 35.96 | A13-A15 | 42.19 | A21-A24 | 48.92 |
| A3-A13 | 46.69 | A7-A24 | 44.27 | A13-A16 | 59.27 | A21-A25 | 51.32 |
| A3-A14 | 42.66 | A7-A25 | 40.99 | A13-A17 | 49.60 | A21-A26 | 45.46 |
| A3-A15 | 50.99 | A7-A26 | 40.74 | A13-A18 | 47.89 | A21-A27 | 47.61 |
| A3-A16 | 52.66 | A7-A27 | 23.80 | A13-A19 | 44.20 | A21-A28 | 41.15 |
| A3-A17 | 42.58 | A7-A28 | 27.69 | A13-A20 | 46.04 | A21-A29 | 57.50 |
| A3-A18 | 55.80 | A7-A29 | 60.17 | A13-A21 | 50.46 | A21-A30 | 39.24 |
| A3-A19 | 45.75 | A7-A30 | 47.47 | A13-A22 | 49.06 | A22-A23 | 46.48 |
| A3-A20 | 54.34 | A8-A9 | 54.65 | A13-A23 | 42.50 | A22-A24 | 40.82 |
| A3-A21 | 62.98 | A8-A10 | 45.09 | A13-A24 | 42.19 | A22-A25 | 39.33 |
| A3-A22 | 48.58 | A8-A11 | 56.39 | A13-A25 | 27.20 | A22-A26 | 40.41 |
| A3-A23 | 39.33 | A8-A12 | 52.41 | A13-A26 | 43.05 | A22-A27 | 35.31 |
| A3-A24 | 54.28 | A8-A13 | 44.50 | A13-A27 | 46.48 | A22-A28 | 43.44 |
| A3-A25 | 46.90 | A8-A14 | 54.34 | A13-A28 | 59.44 | A22-A29 | 60.83 |
| A3-A26 | 41.07 | A8-A15 | 55.26 | A13-A29 | 54.89 | A22-A30 | 47.05 |
| A3-A27 | 53.10 | A8-A16 | 59.78 | A13-A30 | 24.36 | A23-A24 | 46.48 |
| A3-A28 | 59.16 | A8-A17 | 51.25 | A14-A15 | 44.80 | A23-A25 | 38.12 |
| A3-A29 | 48.10 | A8-A18 | 61.81 | A14-A16 | 40.74 | A23-A26 | 45.39 |
| A3-A30 | 51.90 | A8-A19 | 44.27 | A14-A17 | 30.44 | A23-A27 | 37.51 |
| A4-A5 | 40.91 | A8-A20 | 55.32 | A14-A18 | 48.03 | A23-A28 | 39.07 |
| A4-A6 | 33.76 | A8-A21 | 65.47 | A14-A19 | 49.06 | A23-A29 | 56.39 |
| A4-A7 | 26.71 | A8-A22 | 53.54 | A14-A20 | 43.51 | A23-A30 | 39.33 |
| A4-A8 | 45.53 | A8-A23 | 52.66 | A14-A21 | 37.42 | A24-A25 | 35.78 |
| A4-A9 | 55.32 | A8-A24 | 50.60 | A14-A22 | 32.15 | A24-A26 | 44.50 |
| A4-A10 | 40.66 | A8-A25 | 40.82 | A14-A23 | 39.92 | A24-A27 | 33.17 |
| A4-A11 | 28.05 | A8-A26 | 53.10 | A14-A24 | 46.83 | A24-A28 | 46.69 |
| A4-A12 | 35.31 | A8-A27 | 51.19 | A14-A25 | 49.73 | A24-A29 | 45.68 |
| A4-A13 | 43.20 | A8-A28 | 61.16 | A14-A26 | 27.33 | A24-A30 | 36.51 |
| A4-A14 | 33.27 | A8-A29 | 55.56 | A14-A27 | 34.64 | A25-A26 | 47.82 |
| A4-A15 | 41.87 | A8-A30 | 45.17 | A14-A28 | 31.83 | A25-A27 | 41.55 |
| A4-A16 | 41.55 | A9-A10 | 37.15 | A14-A29 | 59.67 | A25-A28 | 54.10 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A4-A17 | 31.30 | A9-A11 | 62.66 | A14-A30 | 46.69 | A25-A29 | 48.24 |
| A4-A18 | 46.04 | A9-A12 | 58.99 | A15-A16 | 37.24 | A25-A30 | 27.57 |
| A4-A19 | 32.35 | A9-A13 | 56.15 | A15-A17 | 43.97 | A26-A27 | 39.33 |
| A4-A20 | 30.77 | A9-A14 | 58.25 | A15-A18 | 26.20 | A26-A28 | 44.27 |
| A4-A21 | 45.75 | A9-A15 | 43.97 | A15-A19 | 43.05 | A26-A29 | 52.66 |
| A4-A22 | 29.55 | A9-A16 | 50.60 | A15-A20 | 43.28 | A26-A30 | 39.24 |
| A4-A23 | 42.03 | A9-A17 | 56.92 | A15-A21 | 49.60 | A27-A28 | 30.98 |
| A4-A24 | 32.35 | A9-A18 | 46.26 | A15-A22 | 35.02 | A27-A29 | 59.67 |
| A4-A25 | 36.24 | A9-A19 | 42.11 | A15-A23 | 54.89 | A27-A30 | 43.44 |
| A4-A26 | 32.66 | A9-A20 | 61.05 | A15-A24 | 40.00 | A28-A29 | 63.03 |
| A4-A27 | 25.03 | A9-A21 | 61.37 | A15-A25 | 32.46 | A28-A30 | 50.92 |
| A4-A28 | 33.27 | A9-A22 | 53.67 | A15-A26 | 46.40 | A29-A30 | 47.54 |
| A4-A29 | 56.69 | A9-A23 | 62.08 | A15-A27 | 50.92 | - | - |

In the above table a total of 30 individuals (from A1 to A30 of Table 5.1) are compared pairwise. A total of 435 pairs are formed.

Table 5.2 reveals that the results of measurement of pair difference, calculated from the Measurement of Pair Difference formula, are not equal to zero for any of the 435 pairs. It therefore indicates that there exist differences in choice of subject categories among individuals.

Among all the pairs, the highest difference exists between A8 and A21 i.e., 65.47% and the lowest difference are found among pairs between A11 and A27, A11 and A28 i.e., 20.33%.

So, in respect to individuals' choice of subject categories, the results of the measurement of pair difference of the thirty individuals varies within the range of 20.33% to 65.47%.

#### 5.2.1.2 Gravity of Difference

Results of measurement of pair difference (shown in table 5.2) are considered for calculating mean absolute deviation of all the pairs for finding gravity of difference in terms of individuals' choice of subject categories in reading online newspaper.

The Mean Absolute Deviation formula is given below:

$$\frac{\sum_{i=1}^{n}|x_i - \bar{x}|}{n}$$

**Mean $\bar{x}$ :** Sum of results of measurement of pair difference of 435 pairs / Total number of pairs

= 19264.49/ 435

= 44.28618391

i.e., $\bar{x}$ = 44.29

Mean of the results of measurement of pair differences is 44.29.

So, the average difference among individuals in terms of individuals' choice of subject categories in reading online newspaper is 44.29.

**Absolute deviation of each pair $|x_i - \bar{x}|$**

| Result of measurement of Pair difference of a pair ($x_i$) – Mean ($\bar{x}$) |

The results of all the 435 pairs after calculating $|x_i - \bar{x}|$ are shown in the below table.

Table 5.3: Absolute Deviation of Each Pair

| **Pair** | $\lvert x_i - \bar{x} \rvert$ | **Pair** | $\lvert x_i - \bar{x} \rvert$ | **Pair** | $\lvert x_i - \bar{x} \rvert$ | **Pair** | $\lvert x_i - \bar{x} \rvert$ |
|---|---|---|---|---|---|---|---|
| A1-A2 | 10.82 | A4-A30 | 6.25 | A9-A24 | 3.32 | A15-A28 | 14.19 |
| A1-A3 | 2.34 | A5-A6 | 2.90 | A9-A25 | 4.97 | A15-A29 | 5.04 |
| A1-A4 | 10.53 | A5-A7 | 2.82 | A9-A26 | 9.44 | A15-A30 | 1.71 |
| A1-A5 | 2.47 | A5-A8 | 5.38 | A9-A27 | 20.67 | A16-A17 | 4.96 |
| A1-A6 | 11.22 | A5-A9 | 9.99 | A9-A28 | 20.36 | A16-A18 | 9.55 |
| A1-A7 | 15.54 | A5-A10 | 2.74 | A9-A29 | 7.14 | A16-A19 | 2.47 |
| A1-A8 | 1.17 | A5-A11 | 1.01 | A9-A30 | 6.70 | A16-A20 | 6.08 |
| A1-A9 | 11.57 | A5-A12 | 4.62 | A10-A11 | 12.51 | A16-A21 | 2.69 |
| A1-A10 | 3.81 | A5-A13 | 3.25 | A10-A12 | 4.54 | A16-A22 | 4.29 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1-A11 | 3.38 | A5-A14 | 1.39 | A10-A13 | 1.55 | A16-A23 | 4.15 |
| A1-A12 | 6.87 | A5-A15 | 3.32 | A10-A14 | 9.38 | A16-A24 | 6.52 |
| A1-A13 | 4.90 | A5-A16 | 7.96 | A10-A15 | 10.53 | A16-A25 | 0.73 |
| A1-A14 | 8.05 | A5-A17 | 8.51 | A10-A16 | 2.69 | A16-A26 | 3.25 |
| A1-A15 | 0.73 | A5-A18 | 3.06 | A10-A17 | 2.83 | A16-A27 | 4.71 |
| A1-A16 | 0.02 | A5-A19 | 1.24 | A10-A18 | 5.30 | A16-A28 | 1.94 |
| A1-A17 | 8.70 | A5-A20 | 12.14 | A10-A19 | 12.14 | A16-A29 | 3.11 |
| A1-A18 | 11.75 | A5-A21 | 14.19 | A10-A20 | 1.02 | A16-A30 | 7.48 |
| A1-A19 | 6.34 | A5-A22 | 0.62 | A10-A21 | 16.15 | A17-A18 | 2.90 |
| A1-A20 | 0.51 | A5-A23 | 4.96 | A10-A22 | 0.95 | A17-A19 | 0.47 |
| A1-A21 | 11.98 | A5-A24 | 4.79 | A10-A23 | 7.16 | A17-A20 | 10.33 |
| A1-A22 | 7.05 | A5-A25 | 5.82 | A10-A24 | 9.55 | A17-A21 | 3.39 |
| A1-A23 | 7.41 | A5-A26 | 6.43 | A10-A25 | 10.53 | A17-A22 | 7.05 |
| A1-A24 | 4.56 | A5-A27 | 8.42 | A10-A26 | 2.19 | A17-A23 | 1.24 |
| A1-A25 | 5.13 | A5-A28 | 7.80 | A10-A27 | 9.00 | A17-A24 | 0.02 |
| A1-A26 | 0.21 | A5-A29 | 2.97 | A10-A28 | 17.14 | A17-A25 | 0.32 |
| A1-A27 | 3.38 | A5-A30 | 0.93 | A10-A29 | 0.47 | A17-A26 | 19.39 |
| A1-A28 | 6.43 | A6-A7 | 5.99 | A10-A30 | 5.91 | A17-A27 | 5.39 |
| A1-A29 | 11.86 | A6-A8 | 7.48 | A11-A12 | 2.97 | A17-A28 | 0.55 |
| A1-A30 | 6.04 | A6-A9 | 12.63 | A11-A13 | 10.24 | A17-A29 | 7.80 |
| A2-A3 | 6.57 | A6-A10 | 7.41 | A11-A14 | 10.04 | A17-A30 | 1.02 |
| A2-A4 | 19.12 | A6-A11 | 5.05 | A11-A15 | 9.56 | A18-A19 | 3.81 |
| A2-A5 | 0.47 | A6-A12 | 4.29 | A11-A16 | 5.22 | A18-A20 | 4.12 |
| A2-A6 | 5.82 | A6-A13 | 15.21 | A11-A17 | 1.63 | A18-A21 | 2.04 |
| A2-A7 | 18.73 | A6-A14 | 0.21 | A11-A18 | 10.24 | A18-A22 | 1.79 |
| A2-A8 | 4.29 | A6-A15 | 4.29 | A11-A19 | 3.81 | A18-A23 | 11.98 |
| A2-A9 | 17.25 | A6-A16 | 7.59 | A11-A20 | 11.43 | A18-A24 | 4.04 |
| A2-A10 | 7.03 | A6-A17 | 12.04 | A11-A21 | 0.02 | A18-A25 | 5.05 |
| A2-A11 | 14.74 | A6-A18 | 8.18 | A11-A22 | 4.71 | A18-A26 | 2.02 |
| A2-A12 | 11.02 | A6-A19 | 3.32 | A11-A23 | 4.54 | A18-A27 | 7.86 |
| A2-A13 | 0.24 | A6-A20 | 7.14 | A11-A24 | 3.06 | A18-A28 | 15.15 |
| A2-A14 | 13.41 | A6-A21 | 8.81 | A11-A25 | 3.53 | A18-A29 | 5.11 |
| A2-A15 | 3.88 | A6-A22 | 1.61 | A11-A26 | 3.47 | A18-A30 | 5.05 |
| A2-A16 | 0.58 | A6-A23 | 7.99 | A11-A27 | 23.96 | A19-A20 | 3.81 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A2-A17 | 14.18 | A6-A24 | 1.09 | A11-A28 | 23.96 | A19-A21 | 13.39 |
| A2-A18 | 5.04 | A6-A25 | 3.04 | A11-A29 | 13.56 | A19-A22 | 4.62 |
| A2-A19 | 3.47 | A6-A26 | 1.39 | A11-A30 | 1.83 | A19-A23 | 3.30 |
| A2-A20 | 13.63 | A6-A27 | 3.55 | A12-A13 | 4.50 | A19-A24 | 7.23 |
| A2-A21 | 2.58 | A6-A28 | 4.54 | A12-A14 | 4.22 | A19-A25 | 13.74 |
| A2-A22 | 12.04 | A6-A29 | 2.54 | A12-A15 | 0.88 | A19-A26 | 3.67 |
| A2-A23 | 12.25 | A6-A30 | 9.13 | A12-A16 | 1.17 | A19-A27 | 0.65 |
| A2-A24 | 5.30 | A7-A8 | 6.70 | A12-A17 | 8.14 | A19-A28 | 5.58 |
| A2-A25 | 6.34 | A7-A9 | 16.92 | A12-A18 | 1.68 | A19-A29 | 10.30 |
| A2-A26 | 8.23 | A7-A10 | 8.69 | A12-A19 | 3.14 | A19-A30 | 2.50 |
| A2-A27 | 17.09 | A7-A11 | 21.93 | A12-A20 | 15.42 | A20-A21 | 2.61 |
| A2-A28 | 12.99 | A7-A12 | 3.79 | A12-A21 | 10.54 | A20-A22 | 6.25 |
| A2-A29 | 13.73 | A7-A13 | 6.37 | A12-A22 | 7.59 | A20-A23 | 2.42 |
| A2-A30 | 7.23 | A7-A14 | 17.83 | A12-A23 | 3.96 | A20-A24 | 9.75 |
| A3-A4 | 8.06 | A7-A15 | 0.28 | A12-A24 | 4.79 | A20-A25 | 8.42 |
| A3-A5 | 6.34 | A7-A16 | 7.96 | A12-A25 | 9.65 | A20-A26 | 6.52 |
| A3-A6 | 12.75 | A7-A17 | 7.96 | A12-A26 | 1.68 | A20-A27 | 15.08 |
| A3-A7 | 4.15 | A7-A18 | 6.90 | A12-A27 | 2.10 | A20-A28 | 0.62 |
| A3-A8 | 4.70 | A7-A19 | 1.24 | A12-A28 | 4.08 | A20-A29 | 3.04 |
| A3-A9 | 3.60 | A7-A20 | 9.75 | A12-A29 | 8.69 | A20-A30 | 8.05 |
| A3-A10 | 2.11 | A7-A21 | 1.10 | A12-A30 | 3.79 | A21-A22 | 4.63 |
| A3-A11 | 12.57 | A7-A22 | 19.26 | A13-A14 | 4.29 | A21-A23 | 4.22 |
| A3-A12 | 8.25 | A7-A23 | 8.33 | A13-A15 | 2.10 | A21-A24 | 4.63 |
| A3-A13 | 2.40 | A7-A24 | 0.02 | A13-A16 | 14.98 | A21-A25 | 7.03 |
| A3-A14 | 1.63 | A7-A25 | 3.30 | A13-A17 | 5.31 | A21-A26 | 1.17 |
| A3-A15 | 6.70 | A7-A26 | 3.55 | A13-A18 | 3.60 | A21-A27 | 3.32 |
| A3-A16 | 8.37 | A7-A27 | 20.49 | A13-A19 | 0.09 | A21-A28 | 3.14 |
| A3-A17 | 1.71 | A7-A28 | 16.60 | A13-A20 | 1.75 | A21-A29 | 13.21 |
| A3-A18 | 11.51 | A7-A29 | 15.88 | A13-A21 | 6.17 | A21-A30 | 5.05 |
| A3-A19 | 1.46 | A7-A30 | 3.18 | A13-A22 | 4.77 | A22-A23 | 2.19 |
| A3-A20 | 10.05 | A8-A9 | 10.36 | A13-A23 | 1.79 | A22-A24 | 3.47 |
| A3-A21 | 18.69 | A8-A10 | 0.80 | A13-A24 | 2.10 | A22-A25 | 4.96 |
| A3-A22 | 4.29 | A8-A11 | 12.10 | A13-A25 | 17.09 | A22-A26 | 3.88 |
| A3-A23 | 4.96 | A8-A12 | 8.12 | A13-A26 | 1.24 | A22-A27 | 8.98 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A3-A24 | 9.99 | A8-A13 | 0.21 | A13-A27 | 2.19 | A22-A28 | 0.85 |
| A3-A25 | 2.61 | A8-A14 | 10.05 | A13-A28 | 15.15 | A22-A29 | 16.54 |
| A3-A26 | 3.22 | A8-A15 | 10.97 | A13-A29 | 10.60 | A22-A30 | 2.76 |
| A3-A27 | 8.81 | A8-A16 | 15.49 | A13-A30 | 19.93 | A23-A24 | 2.19 |
| A3-A28 | 14.87 | A8-A17 | 6.96 | A14-A15 | 0.51 | A23-A25 | 6.17 |
| A3-A29 | 3.81 | A8-A18 | 17.52 | A14-A16 | 3.55 | A23-A26 | 1.10 |
| A3-A30 | 7.61 | A8-A19 | 0.02 | A14-A17 | 13.85 | A23-A27 | 6.78 |
| A4-A5 | 3.38 | A8-A20 | 11.03 | A14-A18 | 3.74 | A23-A28 | 5.22 |
| A4-A6 | 10.53 | A8-A21 | 21.18 | A14-A19 | 4.77 | A23-A29 | 12.10 |
| A4-A7 | 17.58 | A8-A22 | 9.25 | A14-A20 | 0.78 | A23-A30 | 4.96 |
| A4-A8 | 1.24 | A8-A23 | 8.37 | A14-A21 | 6.87 | A24-A25 | 8.51 |
| A4-A9 | 11.03 | A8-A24 | 6.31 | A14-A22 | 12.14 | A24-A26 | 0.21 |
| A4-A10 | 3.63 | A8-A25 | 3.47 | A14-A23 | 4.37 | A24-A27 | 11.12 |
| A4-A11 | 16.24 | A8-A26 | 8.81 | A14-A24 | 2.54 | A24-A28 | 2.40 |
| A4-A12 | 8.98 | A8-A27 | 6.90 | A14-A25 | 5.44 | A24-A29 | 1.39 |
| A4-A13 | 1.09 | A8-A28 | 16.87 | A14-A26 | 16.96 | A24-A30 | 7.78 |
| A4-A14 | 11.02 | A8-A29 | 11.27 | A14-A27 | 9.65 | A25-A26 | 3.53 |
| A4-A15 | 2.42 | A8-A30 | 0.88 | A14-A28 | 12.46 | A25-A27 | 2.74 |
| A4-A16 | 2.74 | A9-A10 | 7.14 | A14-A29 | 15.38 | A25-A28 | 9.81 |
| A4-A17 | 12.99 | A9-A11 | 18.37 | A14-A30 | 2.40 | A25-A29 | 3.95 |
| A4-A18 | 1.75 | A9-A12 | 14.70 | A15-A16 | 7.05 | A25-A30 | 16.72 |
| A4-A19 | 11.94 | A9-A13 | 11.86 | A15-A17 | 0.32 | A26-A27 | 4.96 |
| A4-A20 | 13.52 | A9-A14 | 13.96 | A15-A18 | 18.09 | A26-A28 | 0.02 |
| A4-A21 | 1.46 | A9-A15 | 0.32 | A15-A19 | 1.24 | A26-A29 | 8.37 |
| A4-A22 | 14.74 | A9-A16 | 6.31 | A15-A20 | 1.01 | A26-A30 | 5.05 |
| A4-A23 | 2.26 | A9-A17 | 12.63 | A15-A21 | 5.31 | A27-A28 | 13.31 |
| A4-A24 | 11.94 | A9-A18 | 1.97 | A15-A22 | 9.27 | A27-A29 | 15.38 |
| A4-A25 | 8.05 | A9-A19 | 2.18 | A15-A23 | 10.60 | A27-A30 | 0.85 |
| A4-A26 | 11.63 | A9-A20 | 16.76 | A15-A24 | 4.29 | A28-A29 | 18.74 |
| A4-A27 | 19.26 | A9-A21 | 17.08 | A15-A25 | 11.83 | A28-A30 | 6.63 |
| A4-A28 | 11.02 | A9-A22 | 9.38 | A15-A26 | 2.11 | A29-A30 | 3.25 |
| A4-A29 | 12.40 | A9-A23 | 17.79 | A15-A27 | 6.63 | - | - |

Table 5.3 shows the absolute deviation of each pair (total 435 pairs) i.e., the deviation

of the measurement of pair difference results from the average difference (44.29).

So, it indicates how varied the difference between two individuals is from the average difference in terms of individuals' choice of subject categories in reading online newspaper.

**Mean Absolute Deviation**

Sum of absolute deviation of each pair/ Total number of pairs

= 3063.36 / 435

= 7.042207

= 7.04

Mean Absolute Deviation = 7.04

The result of the Mean Absolute Deviation is 7.04. It indicates that among all the individuals the average difference is 7.04 from the mean (44.29) in terms of choice of subject categories in reading online newspaper.

So, the gravity of difference in terms of individuals' choice of subject categories in reading online newspaper is 7.04.

### 5.2.1.3 Validating Using R Statistical Software

The following table shows descriptive statistics using R software for validating the Minimum difference, Maximum difference, Mean, Mean absolute deviation on results of Measurement of Pair Difference (Table: 5.2) in terms of individuals' choice of subject categories in reading online newspaper. The table also shows Standard Deviation and Skewness values.

Table 5.4: Results Using R Software

| **Validating Parameters** | **Results** |
|---|---|
| Minimum Value | 20.33% |
| Maximum Value | 65.47% |
| Mean | 44.29 |
| Mean Absolute Deviation | 7.04 |

| | |
|---|---|
| Standard Deviation | 8.81 |
| Skewness | -0.06 |

It is evident from the above table that the minimum difference existing between individuals in terms of individuals' choice of subject categories in reading online newspaper is 20.33% and the maximum difference found is 65.47%. It also describes that the dataset with a mean of 44.29, indicating the central tendency of the data. The mean absolute deviation of 7.04 suggests that the data points are dispersed around the mean by an average of approximately 7.04 units.

The negative skewness of -0.06 indicates that the higher pair difference values occur more frequently than the lower pair difference values.

The results obtained using the R statistical software align with the outcomes of the calculations in sections 5.2.1.1 and 5.2.1.2.

The distribution of the observed pair difference (n=435) in terms of individuals' choice of subject categories in reading online newspaper is shown in the following histogram (Figure 5.1)

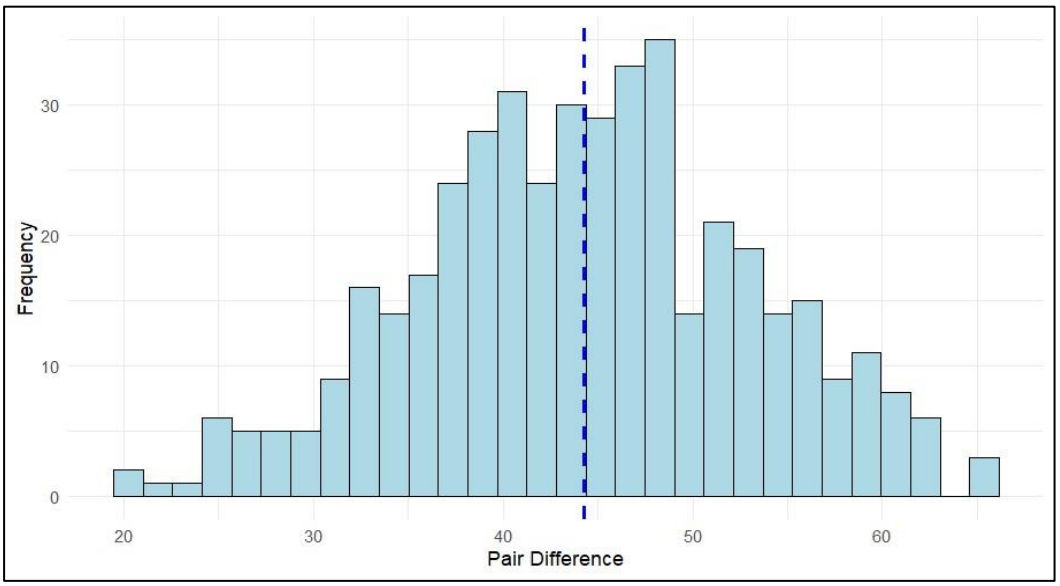


Figure 5.1: Histogram of Results of Pair Difference in Terms of Individuals' Choice of Subject Categories in Reading Online Newspaper of Observed Pairs (n=435)

Measurement of pair difference results are shown frequency wise in Figure 5.1. It is evident that the distribution of pair difference values for all observed pairs (n=435)

appears to be almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of -0.06 and the mean value of 44.29, which lies almost in the middle of the histogram.

## 5.3 Inferences

Upon analysing the outcomes of the Measurement of Pair Difference for individuals it is evident that significant individual variations exist. Notably, the lowest degree of difference in scores is at least 20.33%. The gravity of difference in terms of individuals' choice of subject categories is 7.04. Additionally, the distribution of these differences is dispersed around the mean, suggesting that the values are mostly symmetrical but not identical. Consequently, it can be inferred that each individual differs from one another in their choice of subject categories in reading online newspaper, and these differences are concentrated around the mean value.

## References

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Chapter – 6

# Frequency of Reading

Frequency represents how often an action or event happens. Study of frequency of any action has been done from various perspectives. Bala (2013) showed frequency of respondents by categorizing as daily, alternative days, twice a week etc. Duration of time spent was represented in hours. Nagashetti & Kenchakkanavar (2015) also described difference in time spent by readers in reading newspaper and depicted it in hours viz: less than an hour, 1-2 hours, 2-3 hours etc.

The frequency in reading online newspaper may vary among individuals depending on their information need, reason for reading newspaper, their newspaper reading habits, in terms of time spent, place of access, medium of languages etc. In this research work, keeping in view the objective, an attempt had been made to examine the frequency of reading online newspaper of the respondents. The frequency of reading is identified in relation with ‘where people prefer to read’, ‘in which time of the day people prefer to read’, ‘in which language people prefer to read’, etc.

After going through an extensive literature search certain questions relating to frequency of online newspaper reading were framed and asked to the respondents through the questionnaire. A total number of seventeen (17) questions were asked in statement form. Each statement was given an identification code using alpha numeric combination viz. S1, S2, S3……. S17.

Respondents were asked to give score to each question from 0-10 (details in Appendix-1) based on their frequency of reading online newspaper.

The statements asked are given below:

- S1: I read online newspaper(s) at home
- S2: I read online newspaper(s) at office
- S3: I read online newspaper(s) at institution
- S4: I read online newspaper(s) at library
- S5: I read online newspaper(s) while travelling
- S6: I read online newspaper(s) from computer
- S7: I read online newspaper(s) from phone / tablet
- S8: I read online newspaper(s) in weekdays
- S9: I read online newspaper(s) in weekends
- S10: I read online newspaper(s) at early morning
- S11: I read online newspaper(s) at night
- S12: I read online newspaper(s) at any time in a day (except early morning & night)
- S13: I read online newspaper(s) in my mother tongue
- S14: I read online newspaper(s) in languages other than mother tongue
- S15: I read online newspaper(s) to develop my reading / writing / vocabulary skills
- S16: I read news from archives of online newspaper(s)
- S17: I search for information/ news on specific subject / subjects while reading online newspaper(s)

Scores given by individuals for each statement are considered to measure the difference between two individuals in respect to frequency of reading online newspaper using the

below formula:

**Measurement of Pair Difference**

$$x = \sqrt{\frac{(a_1 - b_1)^2 + (a_2 - b_2)^2 + \dots (a_n - b_n)^2}{\mathrm{N}}} * \frac{100}{m}$$

The result of the difference between two individuals is in percentage.

## 6.2 Analysis and Findings

The findings obtained from analysis of collected data are as follows:

### 6.2.1 Individuals' Frequency of Reading

Table 6.1 given below shows individuals' frequency of reading

Table 6.1: Individuals' Frequency of Reading

| Individuals | Individuals' scores for each statement | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **S1** | **S2** | **S3** | **S4** | **S5** | **S6** | **S7** | **S8** | **S9** | **S10** | **S11** | **S12** | **S13** | **S14** | **S15** | **S16** | **S17** |
| A1 | 10 | 1 | 0 | 2 | 10 | 2 | 10 | 2 | 8 | 2 | 8 | 8 | 9 | 9 | 3 | 3 | 4 |
| A2 | 8 | 0 | 0 | 0 | 0 | 0 | 8 | 10 | 1 | 8 | 1 | 1 | 6 | 3 | 8 | 4 | 6 |
| A3 | 6 | 0 | 0 | 0 | 0 | 0 | 8 | 3 | 3 | 0 | 0 | 7 | 7 | 0 | 0 | 0 | 1 |
| A4 | 8 | 0 | 0 | 0 | 2 | 0 | 9 | 6 | 4 | 6 | 9 | 10 | 10 | 7 | 5 | 1 | 6 |
| A5 | 3 | 5 | 0 | 0 | 3 | 0 | 5 | 9 | 4 | 0 | 4 | 7 | 9 | 2 | 7 | 2 | 0 |
| A6 | 6 | 9 | 0 | 0 | 9 | 0 | 9 | 9 | 10 | 9 | 9 | 9 | 8 | 9 | 0 | 5 | 2 |
| A7 | 5 | 0 | 3 | 5 | 8 | 4 | 8 | 6 | 1 | 4 | 6 | 7 | 7 | 6 | 6 | 9 | 4 |
| A8 | 9 | 0 | 0 | 0 | 3 | 2 | 0 | 4 | 4 | 0 | 9 | 0 | 6 | 1 | 8 | 1 | 4 |
| A9 | 6 | 1 | 0 | 0 | 0 | 1 | 9 | 4 | 4 | 1 | 0 | 6 | 4 | 4 | 6 | 4 | 6 |
| A10 | 6 | 6 | 0 | 0 | 6 | 4 | 9 | 8 | 6 | 4 | 1 | 8 | 8 | 8 | 4 | 7 | 0 |
| A11 | 8 | 1 | 4 | 0 | 1 | 6 | 8 | 1 | 4 | 4 | 4 | 4 | 4 | 6 | 6 | 6 | 6 |
| A12 | 10 | 1 | 0 | 1 | 10 | 1 | 8 | 8 | 10 | 8 | 6 | 4 | 0 | 8 | 4 | 0 | 8 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A13 | 6 | 6 | 0 | 0 | 10 | 10 | 10 | 8 | 4 | 1 | 1 | 9 | 8 | 6 | 0 | 4 | 7 |
| A14 | 4 | 5 | 0 | 0 | 9 | 4 | 9 | 6 | 6 | 2 | 10 | 8 | 2 | 10 | 6 | 4 | 9 |
| A15 | 10 | 6 | 0 | 0 | 6 | 10 | 6 | 10 | 8 | 4 | 4 | 10 | 8 | 10 | 4 | 4 | 4 |
| A16 | 2 | 10 | 0 | 0 | 4 | 10 | 8 | 10 | 0 | 6 | 0 | 10 | 10 | 6 | 3 | 0 | 4 |
| A17 | 10 | 6 | 0 | 6 | 6 | 6 | 8 | 8 | 4 | 6 | 6 | 6 | 8 | 6 | 10 | 4 | 6 |
| A18 | 8 | 8 | 0 | 0 | 0 | 8 | 6 | 6 | 10 | 2 | 0 | 8 | 10 | 1 | 4 | 2 | 7 |
| A19 | 4 | 6 | 0 | 0 | 0 | 4 | 8 | 6 | 2 | 1 | 0 | 8 | 8 | 0 | 0 | 0 | 6 |
| A20 | 6 | 4 | 0 | 0 | 6 | 6 | 6 | 10 | 10 | 8 | 1 | 6 | 8 | 10 | 0 | 4 | 0 |
| A21 | 8 | 4 | 0 | 2 | 10 | 8 | 0 | 8 | 10 | 10 | 1 | 1 | 0 | 10 | 1 | 4 | 0 |
| A22 | 10 | 2 | 0 | 0 | 9 | 0 | 9 | 9 | 8 | 4 | 1 | 9 | 0 | 9 | 4 | 4 | 8 |
| A23 | 8 | 4 | 0 | 0 | 8 | 4 | 10 | 8 | 6 | 6 | 4 | 2 | 1 | 8 | 8 | 8 | 8 |
| A24 | 8 | 2 | 0 | 0 | 6 | 6 | 6 | 6 | 0 | 0 | 0 | 6 | 6 | 0 | 0 | 1 | 4 |
| A25 | 6 | 8 | 0 | 0 | 1 | 4 | 8 | 10 | 6 | 4 | 1 | 8 | 9 | 6 | 1 | 0 | 0 |
| A26 | 6 | 1 | 0 | 0 | 9 | 4 | 6 | 10 | 4 | 1 | 8 | 6 | 9 | 8 | 0 | 4 | 2 |
| A27 | 8 | 10 | 0 | 0 | 8 | 6 | 7 | 7 | 4 | 8 | 6 | 4 | 10 | 8 | 4 | 2 | 4 |
| A28 | 4 | 0 | 0 | 4 | 8 | 8 | 10 | 4 | 8 | 10 | 10 | 0 | 10 | 10 | 4 | 8 | 6 |
| A29 | 10 | 0 | 0 | 0 | 0 | 0 | 10 | 4 | 6 | 0 | 0 | 8 | 0 | 9 | 0 | 0 | 0 |
| A30 | 6 | 4 | 0 | 0 | 8 | 8 | 0 | 6 | 8 | 1 | 0 | 8 | 6 | 8 | 1 | 0 | 4 |

Table 6.1 consists of 30 individuals (from A1 to A30). The scores of each individual for the 15 statements (S1 to S15) are shown here.

It is seen from the above table that A1 gave highest score i.e., 10 for S1, S5, S7 and lowest score i.e., 0 (zero) for S3 only. A2 gave highest score i.e., 10 for S8 only and lowest score i.e., 0 (zero) for S2 – S6. A3 gave highest score i.e., 8 for S7 only and lowest score i.e., 0 (zero) for S2 – S6, S10, S11, S14 - S16. A4 gave highest score i.e., 10 for S12, S13 and lowest score i.e., 0 (zero) for S2 – S4, S6. A5 gave highest score i.e., 9 for S8, S13 and lowest score i.e., 0 (zero) for S3, S4, S6, S10, S17.

A6 gave highest score i.e., 10 for S9 only and lowest score i.e., 0 (zero) for S3, S4, S6, S15. A7 gave highest score i.e., 9 for S16 only and lowest score i.e., 0 (zero) for S2 only. A8 gave highest score i.e., 9 for S1, S11 and lowest score i.e., 0 (zero) for S2 – S4, S7, S10, S12. A9 gave highest score i.e., 9 for S7 only and lowest score i.e., 0 (zero)

for S3 – S5, S11. A10 gave highest score i.e., 9 for S7 only and lowest score i.e., 0 (zero) for S3, S4, S17.

A11 gave highest score i.e., 8 for S1, S7 and lowest score i.e., 0 (zero) for S4 only. A12 gave highest score i.e., 10 for S1, S5, S9 and lowest score i.e., 0 (zero) for S3, S13, S16. A13 gave highest score i.e., 10 for S5 - S7 and lowest score i.e., 0 (zero) for S3, S4, S15. A14 gave highest score i.e., 10 for S11, S14 and lowest score i.e., 0 (zero) for S3, S4. A15 gave highest score i.e., 10 for S1, S6, S8, S12, S14 and lowest score i.e., 0 (zero) for S3, S4.

A16 gave highest score i.e., 10 for S2, S6, S8, S12, S13 and lowest score i.e., 0 (zero) for S3, S4, S9, S11, S16. A17 gave highest score i.e., 10 for S1, S15 and lowest score i.e., 0 (zero) for S3 only. A18 gave highest score i.e., 10 for S9, S13 and lowest score i.e., 0 (zero) for S3 – S5, S11. A19 gave highest score i.e., 8 for S7, S12, S13 and lowest score i.e., 0 (zero) for S3 – S5, S11, S14 – S16. A20 gave highest score i.e., 10 for S8, S9, S14 and lowest score i.e., 0 (zero) for S3, S4, S15, S17.

A21 gave highest score i.e., 10 for S5, S9, S10, S14 and lowest score i.e., 0 (zero) for S3, S7, S13, S17. A22 gave highest score i.e., 10 for S1 only and lowest score i.e., 0 (zero) for S3, S4, S6, S13. A23 gave highest score i.e., 10 for S7 only and lowest score i.e., 0 (zero) for S3, S4. A24 gave highest score i.e., 8 for S1 only and lowest score i.e., 0 (zero) for S3, S4, S9 – S11, S14, S15. A25 gave highest score i.e., 10 for S8 only and lowest score i.e., 0 (zero) for S3, S4, S16, S17.

A26 gave highest score i.e., 10 for S8 only and lowest score i.e., 0 (zero) for S3, S4, S15. A27 gave highest score i.e., 10 for S2, S13 and lowest score i.e., 0 (zero) for S3, S4. A28 gave highest score i.e., 10 for S7, S10, S11, S13, S14 and lowest score i.e., 0 (zero) for S2, S3, S12. A29 gave highest score i.e., 10 for S1, S7 and lowest score i.e., 0 (zero) for S2 – S6, S10, S11, S13, S15 – S17. A30 gave highest score i.e., 8 for S5, S6, S9, S12, S14 and lowest score i.e., 0 (zero) for S3, S4, S7, S11, S16.

#### 6.2.1.1 Measurement of Pair Difference of Individuals' Frequency of Reading

Results of Measurement of Pair Difference (calculated using Measurement of Pair Difference formula) in terms of individuals' frequency of reading online newspaper are shown in Table 6.2.

Table 6.2: Measurement of Pair Difference of Individuals' Frequency of Reading

| **Pair** | **Result (%)** | **Pair** | **Result (%)** | **Pair** | **Result (%)** | **Pair** | **Result (%)** |
|---|---|---|---|---|---|---|---|
| A1-A2 | 50.82 | A4-A30 | 46.34 | A9-A24 | 31.15 | A15-A28 | 44.98 |
| A1-A3 | 44.46 | A5-A6 | 44.39 | A9-A25 | 35.97 | A15-A29 | 47.09 |
| A1-A4 | 29.51 | A5-A7 | 37.34 | A9-A26 | 41.44 | A15-A30 | 28.90 |
| A1-A5 | 43.05 | A5-A8 | 35.73 | A9-A27 | 44.72 | A16-A17 | 40.66 |
| A1-A6 | 35.31 | A5-A9 | 31.06 | A9-A28 | 52.02 | A16-A18 | 37.50 |
| A1-A7 | 33.25 | A5-A10 | 30.00 | A9-A29 | 30.39 | A16-A19 | 31.99 |
| A1-A8 | 45.11 | A5-A11 | 41.23 | A9-A30 | 41.44 | A16-A20 | 38.96 |
| A1-A9 | 40.22 | A5-A12 | 50.47 | A10-A11 | 35.48 | A16-A21 | 56.05 |
| A1-A10 | 33.78 | A5-A13 | 43.25 | A10-A12 | 43.25 | A16-A22 | 52.41 |
| A1-A11 | 37.10 | A5-A14 | 43.52 | A10-A13 | 29.21 | A16-A23 | 50.76 |
| A1-A12 | 35.15 | A5-A15 | 41.73 | A10-A14 | 37.34 | A16-A24 | 38.65 |
| A1-A13 | 37.65 | A5-A16 | 39.63 | A10-A15 | 25.55 | A16-A25 | 27.76 |
| A1-A14 | 31.72 | A5-A17 | 38.19 | A10-A16 | 33.95 | A16-A26 | 43.18 |
| A1-A15 | 35.73 | A5-A18 | 37.10 | A10-A17 | 32.45 | A16-A27 | 32.45 |
| A1-A16 | 53.36 | A5-A19 | 30.77 | A10-A18 | 36.06 | A16-A28 | 56.62 |
| A1-A17 | 35.73 | A5-A20 | 40.94 | A10-A19 | 37.26 | A16-A29 | 55.84 |
| A1-A18 | 46.59 | A5-A21 | 56.10 | A10-A20 | 22.49 | A16-A30 | 39.78 |
| A1-A19 | 48.14 | A5-A22 | 46.15 | A10-A21 | 42.84 | A17-A18 | 38.65 |
| A1-A20 | 39.26 | A5-A23 | 45.95 | A10-A22 | 34.39 | A17-A19 | 44.52 |
| A1-A21 | 51.68 | A5-A24 | 34.39 | A10-A23 | 33.61 | A17-A20 | 40.66 |
| A1-A22 | 35.40 | A5-A25 | 28.08 | A10-A24 | 36.78 | A17-A21 | 48.93 |
| A1-A23 | 39.41 | A5-A26 | 33.43 | A10-A25 | 23.89 | A17-A22 | 39.56 |
| A1-A24 | 42.84 | A5-A27 | 38.96 | A10-A26 | 29.00 | A17-A23 | 30.39 |
| A1-A25 | 43.18 | A5-A28 | 55.73 | A10-A27 | 28.59 | A17-A24 | 42.36 |
| A1-A26 | 28.80 | A5-A29 | 44.52 | A10-A28 | 43.59 | A17-A25 | 39.11 |
| A1-A27 | 35.89 | A5-A30 | 39.70 | A10-A29 | 39.70 | A17-A26 | 38.19 |
| A1-A28 | 38.27 | A6-A7 | 43.93 | A10-A30 | 34.39 | A17-A27 | 26.79 |
| A1-A29 | 42.01 | A6-A8 | 58.71 | A11-A12 | 41.73 | A17-A28 | 39.11 |
| A1-A30 | 40.07 | A6-A9 | 51.73 | A11-A13 | 41.66 | A17-A29 | 52.52 |

| A2-A3 | 40.07 | A6-A10 | 31.25 | A11-A14 | 37.18 | A17-A30 | 43.52 |
|---|---|---|---|---|---|---|---|
| A2-A4 | 36.70 | A6-A11 | 50.76 | A11-A15 | 39.63 | A18-A19 | 27.76 |
| A2-A5 | 37.42 | A6-A12 | 39.26 | A11-A16 | 48.26 | A18-A20 | 39.93 |
| A2-A6 | 54.18 | A6-A13 | 42.77 | A11-A17 | 34.56 | A18-A21 | 55.15 |
| A2-A7 | 39.03 | A6-A14 | 37.18 | A11-A18 | 38.58 | A18-A22 | 47.40 |
| A2-A8 | 39.78 | A6-A15 | 36.06 | A11-A19 | 38.81 | A18-A23 | 47.47 |
| A2-A9 | 28.28 | A6-A16 | 47.65 | A11-A20 | 42.84 | A18-A24 | 36.54 |
| A2-A10 | 40.37 | A6-A17 | 41.80 | A11-A21 | 49.35 | A18-A25 | 29.70 |
| A2-A11 | 34.21 | A6-A18 | 49.53 | A11-A22 | 40.07 | A18-A26 | 46.40 |
| A2-A12 | 43.59 | A6-A19 | 51.56 | A11-A23 | 31.44 | A18-A27 | 38.81 |
| A2-A13 | 51.34 | A6-A20 | 30.68 | A11-A24 | 36.62 | A18-A28 | 55.84 |
| A2-A14 | 49.94 | A6-A21 | 47.28 | A11-A25 | 42.36 | A18-A29 | 48.81 |
| A2-A15 | 48.99 | A6-A22 | 40.22 | A11-A26 | 41.09 | A18-A30 | 35.31 |
| A2-A16 | 49.05 | A6-A23 | 42.43 | A11-A27 | 39.63 | A19-A20 | 44.59 |
| A2-A17 | 36.94 | A6-A24 | 53.80 | A11-A28 | 40.51 | A19-A21 | 60.39 |
| A2-A18 | 45.76 | A6-A25 | 36.70 | A11-A29 | 38.81 | A19-A22 | 47.71 |
| A2-A19 | 40.37 | A6-A26 | 34.56 | A11-A30 | 42.08 | A19-A23 | 50.29 |
| A2-A20 | 45.70 | A6-A27 | 30.20 | A12-A13 | 46.21 | A19-A24 | 23.51 |
| A2-A21 | 54.61 | A6-A28 | 43.72 | A12-A14 | 32.63 | A19-A25 | 27.12 |
| A2-A22 | 42.84 | A6-A29 | 52.92 | A12-A15 | 41.37 | A19-A26 | 41.94 |
| A2-A23 | 35.40 | A6-A30 | 46.34 | A12-A16 | 57.60 | A19-A27 | 41.94 |
| A2-A24 | 40.07 | A7-A8 | 43.66 | A12-A17 | 39.03 | A19-A28 | 59.66 |
| A2-A25 | 41.59 | A7-A9 | 35.23 | A12-A18 | 51.62 | A19-A29 | 41.59 |
| A2-A26 | 45.50 | A7-A10 | 30.68 | A12-A19 | 53.58 | A19-A30 | 39.18 |
| A2-A27 | 43.25 | A7-A11 | 30.49 | A12-A20 | 39.70 | A20-A21 | 30.87 |
| A2-A28 | 50.41 | A7-A12 | 43.93 | A12-A21 | 38.96 | A20-A22 | 38.27 |
| A2-A29 | 46.72 | A7-A13 | 37.34 | A12-A22 | 23.39 | A20-A23 | 40.15 |
| A2-A30 | 52.58 | A7-A14 | 34.21 | A12-A23 | 28.70 | A20-A24 | 43.25 |
| A3-A4 | 38.65 | A7-A15 | 39.33 | A12-A24 | 48.02 | A20-A25 | 26.46 |
| A3-A5 | 31.34 | A7-A16 | 46.02 | A12-A25 | 47.96 | A20-A26 | 31.15 |
| A3-A6 | 55.41 | A7-A17 | 29.00 | A12-A26 | 40.37 | A20-A27 | 30.96 |
| A3-A7 | 44.85 | A7-A18 | 49.05 | A12-A27 | 40.07 | A20-A28 | 41.52 |
| A3-A8 | 41.59 | A7-A19 | 44.72 | A12-A28 | 44.13 | A20-A29 | 43.52 |

| A3-A9 | 25.32 | A7-A20 | 41.73 | A12-A29 | 44.46 | A20-A30 | 30.58 |
|---|---|---|---|---|---|---|---|
| A3-A10 | 40.00 | A7-A21 | 50.87 | A12-A30 | 42.91 | A21-A22 | 44.52 |
| A3-A11 | 38.04 | A7-A22 | 39.93 | A13-A14 | 36.46 | A21-A23 | 42.01 |
| A3-A12 | 53.14 | A7-A23 | 33.08 | A13-A15 | 27.44 | A21-A24 | 51.79 |
| A3-A13 | 46.08 | A7-A24 | 38.35 | A13-A16 | 30.39 | A21-A25 | 48.69 |
| A3-A14 | 53.74 | A7-A25 | 44.79 | A13-A17 | 38.19 | A21-A26 | 45.70 |
| A3-A15 | 51.39 | A7-A26 | 30.00 | A13-A18 | 35.97 | A21-A27 | 42.36 |
| A3-A16 | 48.39 | A7-A27 | 38.27 | A13-A19 | 34.89 | A21-A28 | 48.69 |
| A3-A17 | 50.70 | A7-A28 | 35.89 | A13-A20 | 35.56 | A21-A29 | 53.58 |
| A3-A18 | 39.48 | A7-A29 | 49.47 | A13-A21 | 50.12 | A21-A30 | 36.22 |
| A3-A19 | 23.51 | A7-A30 | 44.52 | A13-A22 | 38.35 | A22-A23 | 27.33 |
| A3-A20 | 46.90 | A8-A9 | 38.27 | A13-A23 | 39.78 | A22-A24 | 43.05 |
| A3-A21 | 60.88 | A8-A10 | 49.94 | A13-A24 | 30.39 | A22-A25 | 43.25 |
| A3-A22 | 48.20 | A8-A11 | 36.78 | A13-A25 | 35.15 | A22-A26 | 39.11 |
| A3-A23 | 53.80 | A8-A12 | 47.03 | A13-A26 | 31.62 | A22-A27 | 43.11 |
| A3-A24 | 25.90 | A8-A13 | 55.89 | A13-A27 | 33.08 | A22-A28 | 52.36 |
| A3-A25 | 34.21 | A8-A14 | 47.47 | A13-A28 | 48.02 | A22-A29 | 36.70 |
| A3-A26 | 42.22 | A8-A15 | 51.39 | A13-A29 | 49.29 | A22-A30 | 39.41 |
| A3-A27 | 50.47 | A8-A16 | 60.10 | A13-A30 | 31.44 | A23-A24 | 45.63 |
| A3-A28 | 61.41 | A8-A17 | 42.36 | A14-A15 | 35.97 | A23-A25 | 46.72 |
| A3-A29 | 30.87 | A8-A18 | 47.09 | A14-A16 | 48.08 | A23-A26 | 40.22 |
| A3-A30 | 43.32 | A8-A19 | 46.40 | A14-A17 | 34.98 | A23-A27 | 35.56 |
| A4-A5 | 35.40 | A8-A20 | 54.02 | A14-A18 | 48.75 | A23-A28 | 37.96 |
| A4-A6 | 38.65 | A8-A21 | 54.99 | A14-A19 | 48.32 | A23-A29 | 48.39 |
| A4-A7 | 34.81 | A8-A22 | 52.52 | A14-A20 | 44.26 | A23-A30 | 45.95 |
| A4-A8 | 41.44 | A8-A23 | 46.65 | A14-A21 | 51.05 | A24-A25 | 35.06 |
| A4-A9 | 33.52 | A8-A24 | 39.70 | A14-A22 | 31.62 | A24-A26 | 34.39 |
| A4-A10 | 36.78 | A8-A25 | 50.23 | A14-A23 | 28.39 | A24-A27 | 41.09 |
| A4-A11 | 34.98 | A8-A26 | 41.66 | A14-A24 | 47.09 | A24-A28 | 56.83 |
| A4-A12 | 39.70 | A8-A27 | 46.72 | A14-A25 | 46.40 | A24-A29 | 40.15 |
| A4-A13 | 44.66 | A8-A28 | 53.41 | A14-A26 | 33.95 | A24-A30 | 33.17 |
| A4-A14 | 36.22 | A8-A29 | 51.11 | A14-A27 | 36.30 | A25-A26 | 34.98 |
| A4-A15 | 38.58 | A8-A30 | 45.44 | A14-A28 | 41.16 | A25-A27 | 31.25 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A4-A16 | 46.27 | A9-A10 | 32.99 | A14-A29 | 48.81 | A25-A28 | 54.23 |
| A4-A17 | 34.04 | A9-A11 | 23.39 | A14-A30 | 41.59 | A25-A29 | 37.96 |
| A4-A18 | 43.18 | A9-A12 | 43.05 | A15-A16 | 35.06 | A25-A30 | 34.64 |
| A4-A19 | 39.56 | A9-A13 | 41.30 | A15-A17 | 30.29 | A26-A27 | 32.72 |
| A4-A20 | 42.01 | A9-A14 | 40.00 | A15-A18 | 33.43 | A26-A28 | 40.58 |
| A4-A21 | 59.41 | A9-A15 | 43.39 | A15-A19 | 43.99 | A26-A29 | 44.79 |
| A4-A22 | 39.78 | A9-A16 | 45.83 | A15-A20 | 25.78 | A26-A30 | 33.61 |
| A4-A23 | 42.70 | A9-A17 | 38.50 | A15-A21 | 41.37 | A27-A28 | 38.35 |
| A4-A24 | 42.56 | A9-A18 | 35.15 | A15-A22 | 36.46 | A27-A29 | 53.08 |
| A4-A25 | 37.02 | A9-A19 | 28.18 | A15-A23 | 37.65 | A27-A30 | 37.57 |
| A4-A26 | 33.34 | A9-A20 | 43.72 | A15-A24 | 41.52 | A28-A29 | 62.54 |
| A4-A27 | 37.02 | A9-A21 | 55.25 | A15-A25 | 30.68 | A28-A30 | 53.25 |
| A4-A28 | 43.99 | A9-A22 | 34.98 | A15-A26 | 31.44 | A29-A30 | 43.59 |
| A4-A29 | 42.29 | A9-A23 | 35.40 | A15-A27 | 28.08 | - | - |

In the above table a total of 30 individuals (from A1 to A30 of Table 6.1) are compared pairwise. A total of 435 pairs are formed.

Table 5.2 reveals that the results of measurement of pair difference, calculated from the Measurement of Pair Difference formula, are not equal to zero for any of the 435 pairs. Therefore, it indicates that there exist differences in terms of frequency of reading online newspaper among individuals.

Among all the pairs, the highest difference exists between A28 and A29 i.e., 62.54% and the lowest difference is found between A10 and A20 i.e., 22.49%.

So, in respect to individuals' frequency of reading online newspaper, the results of the measurement of pair difference of the thirty individuals varies within the range of 22.49% to 62.54%.

#### 6.2.1.2 Gravity of Difference

Results of measurement of pair difference (shown in table 6.2) are considered for calculating mean absolute deviation of all the pairs for finding gravity of differences in terms of frequency of reading online newspaper among individuals.

The Mean Absolute Deviation formula is given below:

$$\frac{\sum_{i=1}^{n}|x_i - \bar{x}|}{n}$$

**Mean $\bar{x}$** : Sum of results of measurement of pair difference of 435 pairs / Total number of pairs

= 17847.78 / 435

= 41.02937931

i.e., $\bar{x}$ = 41.03

Mean of the results of measurement of pair differences is 41.03.

So, the average difference among individuals in terms of frequency of reading online newspaper is 41.03.

**Absolute deviation of each pair $|x_i - \bar{x}|$**

| Result of measurement of Pair difference of a pair ($x_i$) – Mean ($\bar{x}$) |

The results of all the 435 pairs after calculating $|x_i - \bar{x}|$ are shown in the below table.

Table 6.3: Absolute Deviation of Each Pair

| **Pair** | $\|x_i - \bar{x}\|$ | **Pair** | $\|x_i - \bar{x}\|$ | **Pair** | $\|x_i - \bar{x}\|$ | **Pair** | $\|x_i - \bar{x}\|$ |
|---|---|---|---|---|---|---|---|
| A1-A2 | 9.79 | A4-A30 | 5.31 | A9-A24 | 9.88 | A15-A28 | 3.95 |
| A1-A3 | 3.43 | A5-A6 | 3.36 | A9-A25 | 5.06 | A15-A29 | 6.06 |
| A1-A4 | 11.52 | A5-A7 | 3.69 | A9-A26 | 0.41 | A15-A30 | 12.13 |
| A1-A5 | 2.02 | A5-A8 | 5.30 | A9-A27 | 3.69 | A16-A17 | 0.37 |
| A1-A6 | 5.72 | A5-A9 | 9.97 | A9-A28 | 10.99 | A16-A18 | 3.53 |
| A1-A7 | 7.78 | A5-A10 | 11.03 | A9-A29 | 10.64 | A16-A19 | 9.04 |
| A1-A8 | 4.08 | A5-A11 | 0.20 | A9-A30 | 0.41 | A16-A20 | 2.07 |
| A1-A9 | 0.81 | A5-A12 | 9.44 | A10-A11 | 5.55 | A16-A21 | 15.02 |
| A1-A10 | 7.25 | A5-A13 | 2.22 | A10-A12 | 2.22 | A16-A22 | 11.38 |
| A1-A11 | 3.93 | A5-A14 | 2.49 | A10-A13 | 11.82 | A16-A23 | 9.73 |

| A1-A12 | 5.88 | A5-A15 | 0.70 | A10-A14 | 3.69 | A16-A24 | 2.38 |
|---|---|---|---|---|---|---|---|
| A1-A13 | 3.38 | A5-A16 | 1.40 | A10-A15 | 15.48 | A16-A25 | 13.27 |
| A1-A14 | 9.31 | A5-A17 | 2.84 | A10-A16 | 7.08 | A16-A26 | 2.15 |
| A1-A15 | 5.30 | A5-A18 | 3.93 | A10-A17 | 8.58 | A16-A27 | 8.58 |
| A1-A16 | 12.33 | A5-A19 | 10.26 | A10-A18 | 4.97 | A16-A28 | 15.59 |
| A1-A17 | 5.30 | A5-A20 | 0.09 | A10-A19 | 3.77 | A16-A29 | 14.81 |
| A1-A18 | 5.56 | A5-A21 | 15.07 | A10-A20 | 18.54 | A16-A30 | 1.25 |
| A1-A19 | 7.11 | A5-A22 | 5.12 | A10-A21 | 1.81 | A17-A18 | 2.38 |
| A1-A20 | 1.77 | A5-A23 | 4.92 | A10-A22 | 6.64 | A17-A19 | 3.49 |
| A1-A21 | 10.65 | A5-A24 | 6.64 | A10-A23 | 7.42 | A17-A20 | 0.37 |
| A1-A22 | 5.63 | A5-A25 | 12.95 | A10-A24 | 4.25 | A17-A21 | 7.90 |
| A1-A23 | 1.62 | A5-A26 | 7.60 | A10-A25 | 17.14 | A17-A22 | 1.47 |
| A1-A24 | 1.81 | A5-A27 | 2.07 | A10-A26 | 12.03 | A17-A23 | 10.64 |
| A1-A25 | 2.15 | A5-A28 | 14.70 | A10-A27 | 12.44 | A17-A24 | 1.33 |
| A1-A26 | 12.23 | A5-A29 | 3.49 | A10-A28 | 2.56 | A17-A25 | 1.92 |
| A1-A27 | 5.14 | A5-A30 | 1.33 | A10-A29 | 1.33 | A17-A26 | 2.84 |
| A1-A28 | 2.76 | A6-A7 | 2.90 | A10-A30 | 6.64 | A17-A27 | 14.24 |
| A1-A29 | 0.98 | A6-A8 | 17.68 | A11-A12 | 0.70 | A17-A28 | 1.92 |
| A1-A30 | 0.96 | A6-A9 | 10.70 | A11-A13 | 0.63 | A17-A29 | 11.49 |
| A2-A3 | 0.96 | A6-A10 | 9.78 | A11-A14 | 3.85 | A17-A30 | 2.49 |
| A2-A4 | 4.33 | A6-A11 | 9.73 | A11-A15 | 1.40 | A18-A19 | 13.27 |
| A2-A5 | 3.61 | A6-A12 | 1.77 | A11-A16 | 7.23 | A18-A20 | 1.10 |
| A2-A6 | 13.15 | A6-A13 | 1.74 | A11-A17 | 6.47 | A18-A21 | 14.12 |
| A2-A7 | 2.00 | A6-A14 | 3.85 | A11-A18 | 2.45 | A18-A22 | 6.37 |
| A2-A8 | 1.25 | A6-A15 | 4.97 | A11-A19 | 2.22 | A18-A23 | 6.44 |
| A2-A9 | 12.75 | A6-A16 | 6.62 | A11-A20 | 1.81 | A18-A24 | 4.49 |
| A2-A10 | 0.66 | A6-A17 | 0.77 | A11-A21 | 8.32 | A18-A25 | 11.33 |
| A2-A11 | 6.82 | A6-A18 | 8.50 | A11-A22 | 0.96 | A18-A26 | 5.37 |
| A2-A12 | 2.56 | A6-A19 | 10.53 | A11-A23 | 9.59 | A18-A27 | 2.22 |
| A2-A13 | 10.31 | A6-A20 | 10.35 | A11-A24 | 4.41 | A18-A28 | 14.81 |
| A2-A14 | 8.91 | A6-A21 | 6.25 | A11-A25 | 1.33 | A18-A29 | 7.78 |
| A2-A15 | 7.96 | A6-A22 | 0.81 | A11-A26 | 0.06 | A18-A30 | 5.72 |
| A2-A16 | 8.02 | A6-A23 | 1.40 | A11-A27 | 1.40 | A19-A20 | 3.56 |
| A2-A17 | 4.09 | A6-A24 | 12.77 | A11-A28 | 0.52 | A19-A21 | 19.36 |

| A2-A18 | 4.73 | A6-A25 | 4.33 | A11-A29 | 2.22 | A19-A22 | 6.68 |
|---|---|---|---|---|---|---|---|
| A2-A19 | 0.66 | A6-A26 | 6.47 | A11-A30 | 1.05 | A19-A23 | 9.26 |
| A2-A20 | 4.67 | A6-A27 | 10.83 | A12-A13 | 5.18 | A19-A24 | 17.52 |
| A2-A21 | 13.58 | A6-A28 | 2.69 | A12-A14 | 8.40 | A19-A25 | 13.91 |
| A2-A22 | 1.81 | A6-A29 | 11.89 | A12-A15 | 0.34 | A19-A26 | 0.91 |
| A2-A23 | 5.63 | A6-A30 | 5.31 | A12-A16 | 16.57 | A19-A27 | 0.91 |
| A2-A24 | 0.96 | A7-A8 | 2.63 | A12-A17 | 2.00 | A19-A28 | 18.63 |
| A2-A25 | 0.56 | A7-A9 | 5.80 | A12-A18 | 10.59 | A19-A29 | 0.56 |
| A2-A26 | 4.47 | A7-A10 | 10.35 | A12-A19 | 12.55 | A19-A30 | 1.85 |
| A2-A27 | 2.22 | A7-A11 | 10.54 | A12-A20 | 1.33 | A20-A21 | 10.16 |
| A2-A28 | 9.38 | A7-A12 | 2.90 | A12-A21 | 2.07 | A20-A22 | 2.76 |
| A2-A29 | 5.69 | A7-A13 | 3.69 | A12-A22 | 17.64 | A20-A23 | 0.88 |
| A2-A30 | 11.55 | A7-A14 | 6.82 | A12-A23 | 12.33 | A20-A24 | 2.22 |
| A3-A4 | 2.38 | A7-A15 | 1.70 | A12-A24 | 6.99 | A20-A25 | 14.57 |
| A3-A5 | 9.69 | A7-A16 | 4.99 | A12-A25 | 6.93 | A20-A26 | 9.88 |
| A3-A6 | 14.38 | A7-A17 | 12.03 | A12-A26 | 0.66 | A20-A27 | 10.07 |
| A3-A7 | 3.82 | A7-A18 | 8.02 | A12-A27 | 0.96 | A20-A28 | 0.49 |
| A3-A8 | 0.56 | A7-A19 | 3.69 | A12-A28 | 3.10 | A20-A29 | 2.49 |
| A3-A9 | 15.71 | A7-A20 | 0.70 | A12-A29 | 3.43 | A20-A30 | 10.45 |
| A3-A10 | 1.03 | A7-A21 | 9.84 | A12-A30 | 1.88 | A21-A22 | 3.49 |
| A3-A11 | 2.99 | A7-A22 | 1.10 | A13-A14 | 4.57 | A21-A23 | 0.98 |
| A3-A12 | 12.11 | A7-A23 | 7.95 | A13-A15 | 13.59 | A21-A24 | 10.76 |
| A3-A13 | 5.05 | A7-A24 | 2.68 | A13-A16 | 10.64 | A21-A25 | 7.66 |
| A3-A14 | 12.71 | A7-A25 | 3.76 | A13-A17 | 2.84 | A21-A26 | 4.67 |
| A3-A15 | 10.36 | A7-A26 | 11.03 | A13-A18 | 5.06 | A21-A27 | 1.33 |
| A3-A16 | 7.36 | A7-A27 | 2.76 | A13-A19 | 6.14 | A21-A28 | 7.66 |
| A3-A17 | 9.67 | A7-A28 | 5.14 | A13-A20 | 5.47 | A21-A29 | 12.55 |
| A3-A18 | 1.55 | A7-A29 | 8.44 | A13-A21 | 9.09 | A21-A30 | 4.81 |
| A3-A19 | 17.52 | A7-A30 | 3.49 | A13-A22 | 2.68 | A22-A23 | 13.70 |
| A3-A20 | 5.87 | A8-A9 | 2.76 | A13-A23 | 1.25 | A22-A24 | 2.02 |
| A3-A21 | 19.85 | A8-A10 | 8.91 | A13-A24 | 10.64 | A22-A25 | 2.22 |
| A3-A22 | 7.17 | A8-A11 | 4.25 | A13-A25 | 5.88 | A22-A26 | 1.92 |
| A3-A23 | 12.77 | A8-A12 | 6.00 | A13-A26 | 9.41 | A22-A27 | 2.08 |
| A3-A24 | 15.13 | A8-A13 | 14.86 | A13-A27 | 7.95 | A22-A28 | 11.33 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A3-A25 | 6.82 | A8-A14 | 6.44 | A13-A28 | 6.99 | A22-A29 | 4.33 |
| A3-A26 | 1.19 | A8-A15 | 10.36 | A13-A29 | 8.26 | A22-A30 | 1.62 |
| A3-A27 | 9.44 | A8-A16 | 19.07 | A13-A30 | 9.59 | A23-A24 | 4.60 |
| A3-A28 | 20.38 | A8-A17 | 1.33 | A14-A15 | 5.06 | A23-A25 | 5.69 |
| A3-A29 | 10.16 | A8-A18 | 6.06 | A14-A16 | 7.05 | A23-A26 | 0.81 |
| A3-A30 | 2.29 | A8-A19 | 5.37 | A14-A17 | 6.05 | A23-A27 | 5.47 |
| A4-A5 | 5.63 | A8-A20 | 12.99 | A14-A18 | 7.72 | A23-A28 | 3.07 |
| A4-A6 | 2.38 | A8-A21 | 13.96 | A14-A19 | 7.29 | A23-A29 | 7.36 |
| A4-A7 | 6.22 | A8-A22 | 11.49 | A14-A20 | 3.23 | A23-A30 | 4.92 |
| A4-A8 | 0.41 | A8-A23 | 5.62 | A14-A21 | 10.02 | A24-A25 | 5.97 |
| A4-A9 | 7.51 | A8-A24 | 1.33 | A14-A22 | 9.41 | A24-A26 | 6.64 |
| A4-A10 | 4.25 | A8-A25 | 9.20 | A14-A23 | 12.64 | A24-A27 | 0.06 |
| A4-A11 | 6.05 | A8-A26 | 0.63 | A14-A24 | 6.06 | A24-A28 | 15.80 |
| A4-A12 | 1.33 | A8-A27 | 5.69 | A14-A25 | 5.37 | A24-A29 | 0.88 |
| A4-A13 | 3.63 | A8-A28 | 12.38 | A14-A26 | 7.08 | A24-A30 | 7.86 |
| A4-A14 | 4.81 | A8-A29 | 10.08 | A14-A27 | 4.73 | A25-A26 | 6.05 |
| A4-A15 | 2.45 | A8-A30 | 4.41 | A14-A28 | 0.13 | A25-A27 | 9.78 |
| A4-A16 | 5.24 | A9-A10 | 8.04 | A14-A29 | 7.78 | A25-A28 | 13.20 |
| A4-A17 | 6.99 | A9-A11 | 17.64 | A14-A30 | 0.56 | A25-A29 | 3.07 |
| A4-A18 | 2.15 | A9-A12 | 2.02 | A15-A16 | 5.97 | A25-A30 | 6.39 |
| A4-A19 | 1.47 | A9-A13 | 0.27 | A15-A17 | 10.74 | A26-A27 | 8.31 |
| A4-A20 | 0.98 | A9-A14 | 1.03 | A15-A18 | 7.60 | A26-A28 | 0.45 |
| A4-A21 | 18.38 | A9-A15 | 2.36 | A15-A19 | 2.96 | A26-A29 | 3.76 |
| A4-A22 | 1.25 | A9-A16 | 4.80 | A15-A20 | 15.25 | A26-A30 | 7.42 |
| A4-A23 | 1.67 | A9-A17 | 2.53 | A15-A21 | 0.34 | A27-A28 | 2.68 |
| A4-A24 | 1.53 | A9-A18 | 5.88 | A15-A22 | 4.57 | A27-A29 | 12.05 |
| A4-A25 | 4.01 | A9-A19 | 12.85 | A15-A23 | 3.38 | A27-A30 | 3.46 |
| A4-A26 | 7.69 | A9-A20 | 2.69 | A15-A24 | 0.49 | A28-A29 | 21.51 |
| A4-A27 | 4.01 | A9-A21 | 14.22 | A15-A25 | 10.35 | A28-A30 | 12.22 |
| A4-A28 | 2.96 | A9-A22 | 6.05 | A15-A26 | 9.59 | A29-A30 | 2.56 |
| A4-A29 | 1.26 | A9-A23 | 5.63 | A15-A27 | 12.95 | - | - |

Table 6.3 shows the absolute deviation of each pair (total 435 pairs) i.e., the deviation of the measurement of pair difference results from the average difference (41.03).

So, it indicates how varied the difference between two individuals is from the average difference in terms of frequency of reading online newspaper.

**Mean Absolute Deviation**

Sum of absolute deviation of each pair/ Total number of pairs

= 2737.85/ 435
= 6.293908046
= 6.29

Mean Absolute Deviation = 6.29

The result of the Mean Absolute Deviation is 6.29. It indicates that among all the individuals the average difference is 6.29 from the mean (41.03) in terms of frequency of reading online newspaper.

So, the gravity of difference in terms of frequency of reading online newspaper is 6.29.

### 6.2.1.3 Validating Using R Statistical Software

The following table shows descriptive statistics using R software for validating the Minimum difference, Maximum difference, Mean, Mean absolute deviation on results of Measurement of Pair Difference (Table: 6.2) in terms of individuals' frequency of reading online newspaper. The table also shows Standard Deviation and Skewness values.

Table 6.4: Results Using R Software

| **Validating Parameters** | **Results** |
|---|---|
| Minimum Value | 22.49% |
| Maximum Value | 62.54% |
| Mean | 41.03 |
| Mean Absolute Deviation | 6.29 |
| Standard Deviation | 7.86 |
| Skewness | 0.18 |

It is evident from the above table that the minimum difference existing between individuals in terms of frequency of reading online newspaper is 22.49% and the maximum difference found is 62.54%. It also describes that the dataset with a mean of 41.03, indicating the central tendency of the data. The mean absolute deviation of 6.29 suggests that the data points are dispersed around the mean by an average of approximately 6.29 units.

The positive skewness of 0.18 indicates that the lower pair differences values occur more frequently than higher pair differences values.

The results obtained using the R statistical software align with the outcomes of the calculations in sections 6.2.1.1 and 6.2.1.2.

The distribution of the observed pair difference (n=435) in terms of frequency of reading online newspaper is shown in the following histogram (Figure 6.1)

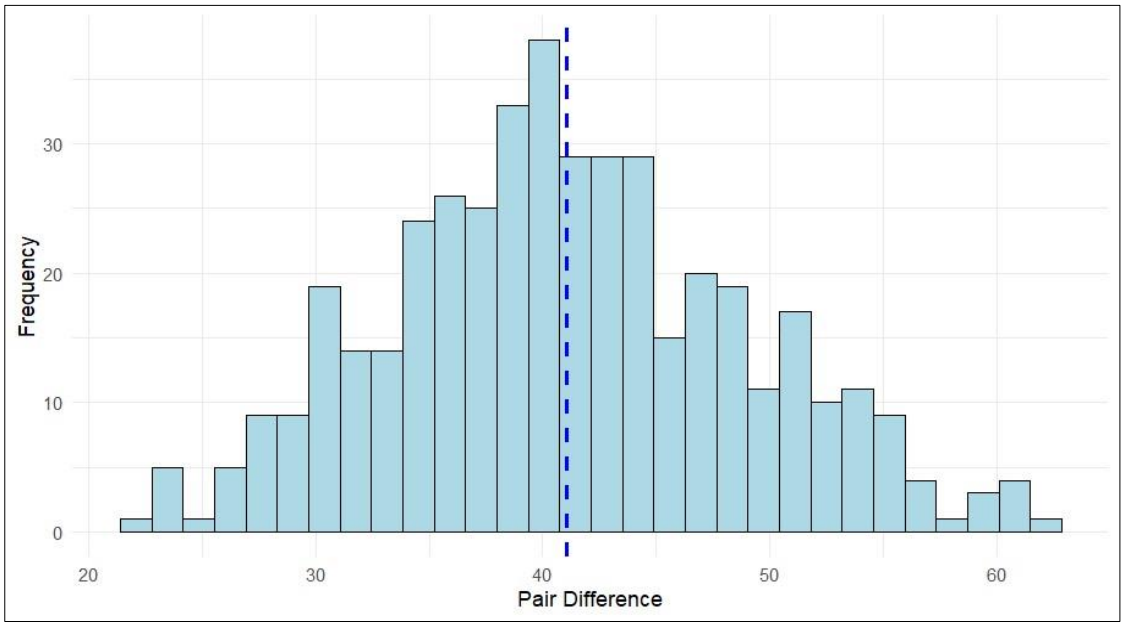


Figure 6.1: Histogram of Results of Pair Difference in Terms Frequency of Reading Online Newspaper of Observed Pairs (n=435)

Measurement of pair difference results are shown frequency wise in Figure 6.1. It is evident that the distribution of pair difference values for all observed pairs (n=435) appears to be almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of 0.18 and the mean value of 41.03, which lies almost in the middle of the histogram.

## 6.3 Inferences

Upon analysing the outcomes of the Measurement of Pair Difference for individuals it is evident that significant individual variations exist. Notably, the lowest degree of difference in scores is at least 22.49%. The gravity of difference in terms of frequency of reading online newspaper is 6.29. Additionally, the distribution of these differences is dispersed around the mean, suggesting that the values are mostly symmetrical but not identical. Consequently, it can be inferred that each individual differs from one another in their frequency of reading online newspaper, and these differences are concentrated around the mean value.

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Chapter – 7

# Level of Satisfaction

'Satisfaction' simply put relates to the fulfilment of a need or want. It involves a feeling of containment and gratification. Individual level of satisfaction depends on one's own preferences or need. In his research work Chandra (2019) proved that individuals vary in their information need as well as in their satisfaction level in seeking information.

The satisfaction level of readers regarding 'content' of online newspaper was explored by Hassan, Azmi & Atek (2015), where they asked the respondents some relevant questions in statement form and revealed that the content of online newspapers satisfies readers' need for information to a moderate extent. Bhuvaneswari & Sudha (2016) in their study found that readers of online newspapers had high level of satisfaction and good perception on newspaper services. In this study keeping in view the objective, an attempt had been made here to examine differences in individuals' satisfaction level in reading online newspaper.

Individuals were asked questions pertaining to their satisfaction level in reading online newspaper. A total number of six (6) questions were asked in statement form. Each

statement was given an identification code using alpha numeric combination viz. S1, S2, S3……. S6.

Respondents were asked to give score to each question from 0-10 (details in Appendix-1) based on their level of satisfaction in reading online newspaper.

The statements are given below:

S1: Real time news update of online newspaper(s) satisfies my need for current news
S2: I am satisfied with the coverage of 'State' news by online newspaper(s)
S3: I am satisfied with the coverage of 'Country/ Nation' news by online newspaper(s)
S4: I am satisfied with the coverage of 'World' news by online newspaper(s)
S5: The content covered by online newspaper(s) satisfy my need as per my subject(s) of interest
S6: I am satisfied with the searching method provided by online newspaper(s)
S7: I am satisfied with the quality of articles published in online newspaper(s)
S8: I am satisfied with my frequency of reading online newspaper(s)
S9: The interactive interface makes my online newspaper reading more satisfying.
S10: Images and videos in online newspaper(s) makes my reading more satisfying
S11: I am satisfied with the default font size of online newspaper(s)
S12: I am satisfied with the overall structure (colour schemes, layouts and arrangements) of online newspaper(s) website

Scores given by individuals for each statement are considered to measure the difference between two individuals in respect to level of satisfaction in reading online newspaper using the below formula:

**Measurement of Pair Difference**

$$x = \sqrt{\frac{(a_1 - b_1)^2 + (a_2 - b_2)^2 + \dots (a_n - b_n)^2}{\mathrm{N}}} * \frac{100}{m}$$

The result of the difference between two individuals is in percentage.

## 7.2 Analysis and Findings

The findings obtained from analysis of collected data are as follows:

### 7.2.1 Level of Satisfaction of Individuals

Table 7.1 given below shows individuals' satisfaction level.

Table 7.1: Level of Satisfaction of Individuals

| **Individuals** | **Individuals' scores for each statement** | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **S1** | **S2** | **S3** | **S4** | **S5** | **S6** | **S7** | **S8** | **S9** | **S10** | **S11** | **S12** |
| A1 | 8 | 7 | 1 | 6 | 8 | 9 | 5 | 7 | 5 | 8 | 5 | 7 |
| A2 | 10 | 2 | 3 | 3 | 8 | 9 | 7 | 9 | 8 | 6 | 1 | 9 |
| A3 | 4 | 9 | 9 | 5 | 10 | 10 | 6 | 10 | 1 | 10 | 9 | 10 |
| A4 | 1 | 5 | 6 | 5 | 6 | 8 | 8 | 7 | 4 | 5 | 2 | 8 |
| A5 | 4 | 4 | 6 | 2 | 6 | 8 | 9 | 7 | 0 | 6 | 0 | 9 |
| A6 | 5 | 2 | 2 | 5 | 5 | 6 | 2 | 10 | 1 | 4 | 9 | 6 |
| A7 | 10 | 7 | 7 | 7 | 8 | 9 | 3 | 7 | 4 | 1 | 6 | 6 |
| A8 | 6 | 1 | 3 | 1 | 7 | 7 | 10 | 8 | 0 | 10 | 10 | 10 |
| A9 | 5 | 3 | 4 | 6 | 4 | 4 | 4 | 6 | 0 | 5 | 0 | 3 |
| A10 | 7 | 7 | 7 | 9 | 10 | 8 | 10 | 9 | 0 | 7 | 9 | 9 |
| A11 | 8 | 10 | 10 | 0 | 7 | 9 | 8 | 7 | 6 | 6 | 10 | 8 |
| A12 | 6 | 10 | 10 | 9 | 9 | 7 | 7 | 9 | 9 | 0 | 1 | 9 |
| A13 | 5 | 6 | 6 | 5 | 2 | 2 | 4 | 6 | 5 | 4 | 2 | 4 |
| A14 | 10 | 4 | 8 | 8 | 5 | 5 | 5 | 8 | 6 | 1 | 10 | 5 |
| A15 | 9 | 6 | 2 | 0 | 6 | 6 | 3 | 9 | 1 | 6 | 8 | 6 |
| A16 | 10 | 8 | 8 | 9 | 9 | 6 | 7 | 8 | 0 | 9 | 6 | 8 |
| A17 | 10 | 9 | 8 | 4 | 7 | 6 | 6 | 6 | 10 | 1 | 2 | 8 |
| A18 | 7 | 5 | 3 | 4 | 9 | 7 | 10 | 5 | 1 | 1 | 3 | 8 |
| A19 | 10 | 6 | 3 | 3 | 7 | 6 | 6 | 7 | 2 | 0 | 0 | 7 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A20 | 8 | 5 | 8 | 8 | 4 | 5 | 5 | 4 | 3 | 3 | 4 | 5 |
| A21 | 2 | 3 | 3 | 0 | 5 | 4 | 1 | 6 | 0 | 6 | 6 | 5 |
| A22 | 6 | 5 | 8 | 6 | 5 | 4 | 5 | 8 | 3 | 2 | 7 | 6 |
| A23 | 10 | 7 | 6 | 8 | 7 | 8 | 7 | 7 | 5 | 5 | 8 | 7 |
| A24 | 4 | 9 | 9 | 5 | 10 | 10 | 10 | 5 | 1 | 7 | 6 | 10 |
| A25 | 5 | 8 | 1 | 8 | 8 | 7 | 9 | 8 | 0 | 6 | 9 | 8 |
| A26 | 10 | 7 | 6 | 1 | 5 | 2 | 1 | 5 | 5 | 8 | 5 | 5 |
| A27 | 10 | 8 | 8 | 0 | 7 | 6 | 7 | 8 | 9 | 1 | 0 | 8 |
| A28 | 9 | 6 | 0 | 3 | 5 | 7 | 6 | 4 | 10 | 3 | 8 | 7 |
| A29 | 3 | 9 | 8 | 9 | 6 | 6 | 7 | 10 | 1 | 4 | 10 | 7 |
| A30 | 8 | 7 | 5 | 6 | 6 | 6 | 6 | 7 | 1 | 7 | 9 | 6 |

Table 7.1 consists of 30 individuals (from A1 to A30). The scores of each individual for the 12 statements (S1 to S12) are shown here.

It is seen from the above table that A1 gave highest score i.e., 9 for S6 and lowest score i.e., 1 for S3. A2 gave highest score i.e., 10 for S1 and lowest score i.e., 1 for S11. A3 gave highest score i.e., 10 for S5, S6, S8, S10, S12 and lowest score i.e., 1 for S9 only. A4 gave highest score i.e., 8 for S6, S7, S12 and lowest score i.e., 1 for S1 only. A5 gave highest score i.e., 9 for S7, S12 and lowest score i.e., 0 (zero) for S9, S11.

A6 gave highest score i.e., 10 for S8 and lowest score i.e., 1 for S9. A7 gave highest score i.e., 10 for S1 and lowest score i.e., 1 for S10. A8 gave highest score i.e., 10 for S7, S10, S11, S12 and lowest score i.e., 0 (zero) for S9. A9 gave highest score i.e., 6 for S4, S8 and lowest score i.e., 0 (zero) for S9, S11. A10 gave highest score i.e., 10 for S5, S7 and lowest score i.e., 0 (zero) for S9 only.

A11 gave highest score i.e., 10 for S2, S3, S11 and lowest score i.e., 0 (zero) for S4. A12 gave highest score i.e., 10 for S2, S3, and lowest score i.e., 0 (zero) for S10. A13 gave highest score i.e., 6 for S2, S3, S8 and lowest score i.e., 2 for S5, S6, S11. A14 gave highest score i.e., 10 for S1, S11 and lowest score i.e., 1 for S10. A15 gave highest score i.e., 9 for S1, S8 and lowest score i.e., 0 (zero) for S4.

A16 gave highest score i.e., 10 for S1 and lowest score i.e., 0 (zero) for S9. A17 gave highest score i.e., 10 for S1, S9 and lowest score i.e., 1 for S10. A18 gave highest score

i.e., 10 for S7 and lowest score i.e., 1 for S9, S10. A19 gave highest score i.e., 10 for S1 only and lowest score i.e., 0 (zero) for S10, S11. A20 gave highest score i.e., 8 for S1, S3, S4 and lowest score i.e., 3 for S9, S10.

A21 gave highest score i.e., 6 for S8, S10, S11 and lowest score i.e., 0 (zero) for S4, S9. A22 gave highest score i.e., 8 for S3, S8 and lowest score i.e., 2 for S10. A23 gave highest score i.e., 10 for S1 and lowest score i.e., 5 for S9, S10. A24 gave highest score i.e., 10 for S5 – S7, S12 and lowest score i.e., 1 for S9. A25 gave highest score i.e., 9 for S7, S11 and lowest score i.e., 0 (zero) for S9.

A26 gave highest score i.e., 10 for S1 only and lowest score i.e., 1 for S4, S7. A27 gave highest score i.e., 10 for S1 only and lowest score i.e., 0 (zero) for S4, S11. A28 gave highest score i.e., 10 for S9, and lowest score i.e., 0 (zero) for S3. A29 gave highest score i.e., 10 for S8, S11 and lowest score i.e., 1 for S9. A30 gave highest score i.e., 9 for S11 and lowest score i.e., 1 for S9 only.

#### 7.2.1.1 Measurement of Pair Difference of Level of Satisfaction of Individuals

Results of measurement of pair difference (calculated using Measurement of Pair Difference formula) in individuals' satisfaction level are shown in Table 7.2.

Table 7.2: Measurement of Pair Difference of Level of Satisfaction of Individuals

| Pair | Result (%) | Pair | Result (%) | Pair | Result (%) | Pair | Result (%) |
|---|---|---|---|---|---|---|---|
| A1-A2 | 26.30 | A4-A30 | 32.79 | A9-A24 | 46.73 | A15-A28 | 34.16 |
| A1-A3 | 34.76 | A5-A6 | 39.58 | A9-A25 | 40.72 | A15-A29 | 39.58 |
| A1-A4 | 30.69 | A5-A7 | 40.62 | A9-A26 | 35.12 | A15-A30 | 22.73 |
| A1-A5 | 34.76 | A5-A8 | 34.64 | A9-A27 | 45.64 | A16-A17 | 42.33 |
| A1-A6 | 31.75 | A5-A9 | 29.58 | A9-A28 | 45.83 | A16-A18 | 36.63 |
| A1-A7 | 28.43 | A5-A10 | 37.75 | A9-A29 | 42.43 | A16-A19 | 40.10 |
| A1-A8 | 36.86 | A5-A11 | 42.03 | A9-A30 | 33.42 | A16-A20 | 31.36 |
| A1-A9 | 35.59 | A5-A12 | 44.81 | A10-A11 | 36.17 | A16-A21 | 47.70 |
| A1-A10 | 32.40 | A5-A13 | 35.36 | A10-A12 | 43.20 | A16-A22 | 31.75 |
| A1-A11 | 37.31 | A5-A14 | 48.30 | A10-A13 | 47.87 | A16-A23 | 22.55 |
| A1-A12 | 42.43 | A5-A15 | 37.31 | A10-A14 | 37.53 | A16-A24 | 28.58 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1-A13 | 36.17 | A5-A16 | 37.53 | A10-A15 | 40.00 | A16-A25 | 28.72 |
| A1-A14 | 37.75 | A5-A17 | 42.23 | A10-A16 | 18.26 | A16-A26 | 38.94 |
| A1-A15 | 27.39 | A5-A18 | 24.83 | A10-A17 | 46.82 | A16-A27 | 47.08 |
| A1-A16 | 29.72 | A5-A19 | 30.00 | A10-A18 | 33.79 | A16-A28 | 48.30 |
| A1-A17 | 36.17 | A5-A20 | 34.76 | A10-A19 | 44.06 | A16-A29 | 29.72 |
| A1-A18 | 31.22 | A5-A21 | 35.59 | A10-A20 | 37.42 | A16-A30 | 20.82 |
| A1-A19 | 32.53 | A5-A22 | 34.40 | A10-A21 | 49.58 | A17-A18 | 35.82 |
| A1-A20 | 33.17 | A5-A23 | 38.73 | A10-A22 | 32.79 | A17-A19 | 29.72 |
| A1-A21 | 38.41 | A5-A24 | 29.86 | A10-A23 | 23.63 | A17-A20 | 31.22 |
| A1-A22 | 33.79 | A5-A25 | 37.19 | A10-A24 | 23.09 | A17-A21 | 51.96 |
| A1-A23 | 21.79 | A5-A26 | 42.91 | A10-A25 | 20.62 | A17-A22 | 32.66 |
| A1-A24 | 34.88 | A5-A27 | 38.41 | A10-A26 | 49.16 | A17-A23 | 30.00 |
| A1-A25 | 25.98 | A5-A28 | 46.82 | A10-A27 | 51.15 | A17-A24 | 42.52 |
| A1-A26 | 33.67 | A5-A29 | 41.33 | A10-A28 | 48.13 | A17-A25 | 48.30 |
| A1-A27 | 40.41 | A5-A30 | 35.00 | A10-A29 | 23.45 | A17-A26 | 35.94 |
| A1-A28 | 27.99 | A6-A7 | 33.42 | A10-A30 | 23.09 | A17-A27 | 15.00 |
| A1-A29 | 37.64 | A6-A8 | 34.88 | A11-A12 | 43.30 | A17-A28 | 32.27 |
| A1-A30 | 23.09 | A6-A9 | 32.02 | A11-A13 | 44.91 | A17-A29 | 45.37 |
| A2-A3 | 46.73 | A6-A10 | 39.05 | A11-A14 | 37.86 | A17-A30 | 40.10 |
| A2-A4 | 33.17 | A6-A11 | 46.01 | A11-A15 | 35.71 | A18-A19 | 20.00 |
| A2-A5 | 32.66 | A6-A12 | 53.31 | A11-A16 | 37.53 | A18-A20 | 30.96 |
| A2-A6 | 40.82 | A6-A13 | 34.88 | A11-A17 | 34.64 | A18-A21 | 40.41 |
| A2-A7 | 35.59 | A6-A14 | 32.15 | A11-A18 | 41.43 | A18-A22 | 30.82 |
| A2-A8 | 40.62 | A6-A15 | 23.27 | A11-A19 | 45.09 | A18-A23 | 30.82 |
| A2-A9 | 40.52 | A6-A16 | 40.52 | A11-A20 | 40.72 | A18-A24 | 31.75 |
| A2-A10 | 43.68 | A6-A17 | 49.16 | A11-A21 | 47.78 | A18-A25 | 29.72 |
| A2-A11 | 42.62 | A6-A18 | 37.64 | A11-A22 | 34.88 | A18-A26 | 43.87 |
| A2-A12 | 41.53 | A6-A19 | 38.08 | A11-A23 | 29.15 | A18-A27 | 35.94 |
| A2-A13 | 40.41 | A6-A20 | 34.28 | A11-A24 | 29.86 | A18-A28 | 36.40 |
| A2-A14 | 41.83 | A6-A21 | 24.49 | A11-A25 | 41.03 | A18-A29 | 39.26 |
| A2-A15 | 36.86 | A6-A22 | 25.17 | A11-A26 | 38.19 | A18-A30 | 31.49 |
| A2-A16 | 41.53 | A6-A23 | 33.67 | A11-A27 | 36.17 | A19-A20 | 29.58 |
| A2-A17 | 32.40 | A6-A24 | 46.82 | A11-A28 | 38.41 | A19-A21 | 40.41 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A2-A18 | 32.66 | A6-A25 | 31.36 | A11-A29 | 36.63 | A19-A22 | 31.09 |
| A2-A19 | 30.00 | A6-A26 | 37.97 | A11-A30 | 30.96 | A19-A23 | 33.91 |
| A2-A20 | 39.05 | A6-A27 | 51.07 | A12-A13 | 40.72 | A19-A24 | 43.30 |
| A2-A21 | 46.37 | A6-A28 | 38.41 | A12-A14 | 39.69 | A19-A25 | 40.00 |
| A2-A22 | 39.16 | A6-A29 | 33.29 | A12-A15 | 54.31 | A19-A26 | 37.08 |
| A2-A23 | 32.66 | A6-A30 | 25.66 | A12-A16 | 42.23 | A19-A27 | 27.54 |
| A2-A24 | 43.87 | A7-A8 | 48.99 | A12-A17 | 23.27 | A19-A28 | 36.63 |
| A2-A25 | 43.59 | A7-A9 | 37.75 | A12-A18 | 40.31 | A19-A29 | 45.37 |
| A2-A26 | 40.10 | A7-A10 | 34.28 | A12-A19 | 38.84 | A19-A30 | 35.47 |
| A2-A27 | 30.14 | A7-A11 | 34.88 | A12-A20 | 36.74 | A20-A21 | 37.97 |
| A2-A28 | 33.04 | A7-A12 | 32.02 | A12-A21 | 59.37 | A20-A22 | 17.56 |
| A2-A29 | 50.91 | A7-A13 | 35.12 | A12-A22 | 35.71 | A20-A23 | 24.32 |
| A2-A30 | 39.05 | A7-A14 | 22.73 | A12-A23 | 34.76 | A20-A24 | 38.51 |
| A3-A4 | 35.82 | A7-A15 | 33.04 | A12-A24 | 40.41 | A20-A25 | 37.75 |
| A3-A5 | 38.73 | A7-A16 | 31.22 | A12-A25 | 47.87 | A20-A26 | 31.36 |
| A3-A6 | 41.63 | A7-A17 | 27.39 | A12-A26 | 50.83 | A20-A27 | 37.86 |
| A3-A7 | 39.37 | A7-A18 | 31.36 | A12-A27 | 30.82 | A20-A28 | 37.19 |
| A3-A8 | 36.51 | A7-A19 | 27.99 | A12-A28 | 47.08 | A20-A29 | 33.17 |
| A3-A9 | 50.91 | A7-A20 | 23.27 | A12-A29 | 39.79 | A20-A30 | 25.50 |
| A3-A10 | 23.27 | A7-A21 | 43.40 | A12-A30 | 45.46 | A21-A22 | 32.66 |
| A3-A11 | 30.55 | A7-A22 | 23.09 | A13-A14 | 34.16 | A21-A23 | 45.09 |
| A3-A12 | 46.82 | A7-A23 | 18.71 | A13-A15 | 36.40 | A21-A24 | 47.52 |
| A3-A13 | 50.33 | A7-A24 | 37.31 | A13-A16 | 41.73 | A21-A25 | 41.43 |
| A3-A14 | 46.37 | A7-A25 | 36.29 | A13-A17 | 33.42 | A21-A26 | 32.27 |
| A3-A15 | 39.05 | A7-A26 | 35.94 | A13-A18 | 37.42 | A21-A27 | 51.07 |
| A3-A16 | 27.54 | A7-A27 | 34.52 | A13-A19 | 31.89 | A21-A28 | 43.87 |
| A3-A17 | 49.50 | A7-A28 | 34.52 | A13-A20 | 20.62 | A21-A29 | 43.30 |
| A3-A18 | 44.16 | A7-A29 | 33.04 | A13-A21 | 31.62 | A21-A30 | 33.54 |
| A3-A19 | 50.83 | A7-A30 | 26.61 | A13-A22 | 22.73 | A22-A23 | 23.80 |
| A3-A20 | 45.00 | A8-A9 | 46.82 | A13-A23 | 35.59 | A22-A24 | 36.86 |
| A3-A21 | 46.01 | A8-A10 | 34.03 | A13-A24 | 46.64 | A22-A25 | 32.91 |
| A3-A22 | 38.30 | A8-A11 | 40.82 | A13-A25 | 43.01 | A22-A26 | 32.02 |
| A3-A23 | 33.17 | A8-A12 | 62.65 | A13-A26 | 26.93 | A22-A27 | 36.86 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A3-A24 | 22.17 | A8-A13 | 50.17 | A13-A27 | 36.17 | A22-A28 | 36.63 |
| A3-A25 | 31.89 | A8-A14 | 47.78 | A13-A28 | 37.53 | A22-A29 | 23.27 |
| A3-A26 | 46.99 | A8-A15 | 32.27 | A13-A29 | 38.62 | A22-A30 | 21.79 |
| A3-A27 | 51.88 | A8-A16 | 39.69 | A13-A30 | 32.53 | A23-A24 | 31.22 |
| A3-A28 | 52.36 | A8-A17 | 56.57 | A14-A15 | 37.31 | A23-A25 | 26.77 |
| A3-A29 | 28.43 | A8-A18 | 38.08 | A14-A16 | 36.86 | A23-A26 | 35.47 |
| A3-A30 | 29.30 | A8-A19 | 47.96 | A14-A17 | 34.16 | A23-A27 | 37.75 |
| A4-A5 | 18.71 | A8-A20 | 47.17 | A14-A18 | 39.58 | A23-A28 | 29.86 |
| A4-A6 | 35.82 | A8-A21 | 38.30 | A14-A19 | 38.94 | A23-A29 | 27.84 |
| A4-A7 | 36.06 | A8-A22 | 41.03 | A14-A20 | 24.32 | A23-A30 | 17.56 |
| A4-A8 | 38.94 | A8-A23 | 39.16 | A14-A21 | 45.83 | A24-A25 | 30.69 |
| A4-A9 | 29.86 | A8-A24 | 37.97 | A14-A22 | 18.71 | A24-A26 | 48.13 |
| A4-A10 | 35.47 | A8-A25 | 32.40 | A14-A23 | 21.60 | A24-A27 | 45.28 |
| A4-A11 | 39.37 | A8-A26 | 46.46 | A14-A24 | 46.28 | A24-A28 | 48.30 |
| A4-A12 | 35.24 | A8-A27 | 55.30 | A14-A25 | 39.79 | A24-A29 | 31.36 |
| A4-A13 | 29.44 | A8-A28 | 45.18 | A14-A26 | 37.75 | A24-A30 | 30.82 |
| A4-A14 | 41.63 | A8-A29 | 43.11 | A14-A27 | 41.53 | A25-A26 | 46.64 |
| A4-A15 | 39.69 | A8-A30 | 30.96 | A14-A28 | 34.52 | A25-A27 | 52.52 |
| A4-A16 | 37.97 | A9-A10 | 46.19 | A14-A29 | 32.02 | A25-A28 | 39.90 |
| A4-A17 | 36.97 | A9-A11 | 53.46 | A14-A30 | 27.84 | A25-A29 | 25.00 |
| A4-A18 | 27.39 | A9-A12 | 49.16 | A15-A16 | 37.19 | A25-A30 | 20.62 |
| A4-A19 | 33.91 | A9-A13 | 21.02 | A15-A17 | 43.49 | A26-A27 | 37.64 |
| A4-A20 | 30.41 | A9-A14 | 41.73 | A15-A18 | 35.47 | A26-A28 | 36.06 |
| A4-A21 | 35.12 | A9-A15 | 36.29 | A15-A19 | 32.53 | A26-A29 | 46.55 |
| A4-A22 | 28.28 | A9-A16 | 40.21 | A15-A20 | 37.19 | A26-A30 | 30.28 |
| A4-A23 | 33.42 | A9-A17 | 45.00 | A15-A21 | 26.30 | A27-A28 | 37.64 |
| A4-A24 | 28.14 | A9-A18 | 33.54 | A15-A22 | 30.69 | A27-A29 | 50.83 |
| A4-A25 | 33.17 | A9-A19 | 29.86 | A15-A23 | 32.27 | A27-A30 | 44.53 |
| A4-A26 | 42.72 | A9-A20 | 24.49 | A15-A24 | 43.40 | A28-A29 | 47.43 |
| A4-A27 | 37.75 | A9-A21 | 28.43 | A15-A25 | 33.29 | A28-A30 | 34.88 |
| A4-A28 | 40.52 | A9-A22 | 29.30 | A15-A26 | 26.77 | A29-A30 | 23.80 |
| A4-A29 | 32.79 | A9-A23 | 39.69 | A15-A27 | 42.43 | - | - |

In the above table a total of 30 individuals (from A1 to A30 of Table 7.1) are compared pairwise. A total of 435 pairs are formed.

Table 7.2 reveals that the results of measurement of pair difference, calculated from the Measurement of Pair Difference formula, are not equal to zero for any of the 435 pairs. Therefore, it indicates that there are differences in satisfaction level among individuals in reading online newspaper.

Among all the pairs, the highest difference exists between A8 and A12 i.e., 62.65% and the lowest differences is found between A17 and A27 i.e., 15.00%.

So, in respect to satisfaction level in reading online newspaper, the results of the measurement of pair difference of the thirty individuals varies within the range of 15.00% to 62.65%.

**7.2.1.2 Gravity of Difference**

Results of measurement of pair difference (shown in table 7.2) are considered for calculating mean absolute deviation of all the pairs for finding gravity of difference in terms of individuals' level of satisfaction in reading online newspaper.

The Mean Absolute Deviation formula is given below:

$$\frac{\sum_{i=1}^{n}|x_i - \bar{x}|}{n}$$

**Mean $\bar{x}$** : Sum of results of measurement of pair difference of 435 pairs / Total number of pairs

= 15917.41 / 435

= 36.59

i.e., $\bar{x}$ = 36.59

Mean of the results of measurement of pair differences is 36.59.

So, the average difference among individuals in terms of level of satisfaction in reading online newspaper is 36.59.

**Absolute deviation of each pair $|x_i - \bar{x}|$**

| Result of measurement of Pair difference of a pair ($x_i$) – Mean ($\bar{x}$) |

The results of all the 435 pairs after calculating $|x_i - \bar{x}|$ are shown in the below table.

Table 7.3: Absolute Deviation of Each Pair

| Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ | Pair | $\lvert x_i - \bar{x} \rvert$ |
|---|---|---|---|---|---|---|---|
| A1-A2 | 10.29 | A4-A30 | 3.80 | A9-A24 | 10.14 | A15-A28 | 2.43 |
| A1-A3 | 1.83 | A5-A6 | 2.99 | A9-A25 | 4.13 | A15-A29 | 2.99 |
| A1-A4 | 5.90 | A5-A7 | 4.03 | A9-A26 | 1.47 | A15-A30 | 13.86 |
| A1-A5 | 1.83 | A5-A8 | 1.95 | A9-A27 | 9.05 | A16-A17 | 5.74 |
| A1-A6 | 4.84 | A5-A9 | 7.01 | A9-A28 | 9.24 | A16-A18 | 0.04 |
| A1-A7 | 8.16 | A5-A10 | 1.16 | A9-A29 | 5.84 | A16-A19 | 3.51 |
| A1-A8 | 0.27 | A5-A11 | 5.44 | A9-A30 | 3.17 | A16-A20 | 5.23 |
| A1-A9 | 1.00 | A5-A12 | 8.22 | A10-A11 | 0.42 | A16-A21 | 11.11 |
| A1-A10 | 4.19 | A5-A13 | 1.23 | A10-A12 | 6.61 | A16-A22 | 4.84 |
| A1-A11 | 0.72 | A5-A14 | 11.71 | A10-A13 | 11.28 | A16-A23 | 14.04 |
| A1-A12 | 5.84 | A5-A15 | 0.72 | A10-A14 | 0.94 | A16-A24 | 8.01 |
| A1-A13 | 0.42 | A5-A16 | 0.94 | A10-A15 | 3.41 | A16-A25 | 7.87 |
| A1-A14 | 1.16 | A5-A17 | 5.64 | A10-A16 | 18.33 | A16-A26 | 2.35 |
| A1-A15 | 9.20 | A5-A18 | 11.76 | A10-A17 | 10.23 | A16-A27 | 10.49 |
| A1-A16 | 6.87 | A5-A19 | 6.59 | A10-A18 | 2.80 | A16-A28 | 11.71 |
| A1-A17 | 0.42 | A5-A20 | 1.83 | A10-A19 | 7.47 | A16-A29 | 6.87 |
| A1-A18 | 5.37 | A5-A21 | 1.00 | A10-A20 | 0.83 | A16-A30 | 15.77 |
| A1-A19 | 4.06 | A5-A22 | 2.19 | A10-A21 | 12.99 | A17-A18 | 0.77 |
| A1-A20 | 3.42 | A5-A23 | 2.14 | A10-A22 | 3.80 | A17-A19 | 6.87 |
| A1-A21 | 1.82 | A5-A24 | 6.73 | A10-A23 | 12.96 | A17-A20 | 5.37 |
| A1-A22 | 2.80 | A5-A25 | 0.60 | A10-A24 | 13.50 | A17-A21 | 15.37 |
| A1-A23 | 14.80 | A5-A26 | 6.32 | A10-A25 | 15.97 | A17-A22 | 3.93 |
| A1-A24 | 1.71 | A5-A27 | 1.82 | A10-A26 | 12.57 | A17-A23 | 6.59 |
| A1-A25 | 10.61 | A5-A28 | 10.23 | A10-A27 | 14.56 | A17-A24 | 5.93 |
| A1-A26 | 2.92 | A5-A29 | 4.74 | A10-A28 | 11.54 | A17-A25 | 11.71 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A1-A27 | 3.82 | A5-A30 | 1.59 | A10-A29 | 13.14 | A17-A26 | 0.65 |
| A1-A28 | 8.60 | A6-A7 | 3.17 | A10-A30 | 13.50 | A17-A27 | 21.59 |
| A1-A29 | 1.05 | A6-A8 | 1.71 | A11-A12 | 6.71 | A17-A28 | 4.32 |
| A1-A30 | 13.50 | A6-A9 | 4.57 | A11-A13 | 8.32 | A17-A29 | 8.78 |
| A2-A3 | 10.14 | A6-A10 | 2.46 | A11-A14 | 1.27 | A17-A30 | 3.51 |
| A2-A4 | 3.42 | A6-A11 | 9.42 | A11-A15 | 0.88 | A18-A19 | 16.59 |
| A2-A5 | 3.93 | A6-A12 | 16.72 | A11-A16 | 0.94 | A18-A20 | 5.63 |
| A2-A6 | 4.23 | A6-A13 | 1.71 | A11-A17 | 1.95 | A18-A21 | 3.82 |
| A2-A7 | 1.00 | A6-A14 | 4.44 | A11-A18 | 4.84 | A18-A22 | 5.77 |
| A2-A8 | 4.03 | A6-A15 | 13.32 | A11-A19 | 8.50 | A18-A23 | 5.77 |
| A2-A9 | 3.93 | A6-A16 | 3.93 | A11-A20 | 4.13 | A18-A24 | 4.84 |
| A2-A10 | 7.09 | A6-A17 | 12.57 | A11-A21 | 11.19 | A18-A25 | 6.87 |
| A2-A11 | 6.03 | A6-A18 | 1.05 | A11-A22 | 1.71 | A18-A26 | 7.28 |
| A2-A12 | 4.94 | A6-A19 | 1.49 | A11-A23 | 7.44 | A18-A27 | 0.65 |
| A2-A13 | 3.82 | A6-A20 | 2.31 | A11-A24 | 6.73 | A18-A28 | 0.19 |
| A2-A14 | 5.24 | A6-A21 | 12.10 | A11-A25 | 4.44 | A18-A29 | 2.67 |
| A2-A15 | 0.27 | A6-A22 | 11.42 | A11-A26 | 1.60 | A18-A30 | 5.10 |
| A2-A16 | 4.94 | A6-A23 | 2.92 | A11-A27 | 0.42 | A19-A20 | 7.01 |
| A2-A17 | 4.19 | A6-A24 | 10.23 | A11-A28 | 1.82 | A19-A21 | 3.82 |
| A2-A18 | 3.93 | A6-A25 | 5.23 | A11-A29 | 0.04 | A19-A22 | 5.50 |
| A2-A19 | 6.59 | A6-A26 | 1.38 | A11-A30 | 5.63 | A19-A23 | 2.68 |
| A2-A20 | 2.46 | A6-A27 | 14.48 | A12-A13 | 4.13 | A19-A24 | 6.71 |
| A2-A21 | 9.78 | A6-A28 | 1.82 | A12-A14 | 3.10 | A19-A25 | 3.41 |
| A2-A22 | 2.57 | A6-A29 | 3.30 | A12-A15 | 17.72 | A19-A26 | 0.49 |
| A2-A23 | 3.93 | A6-A30 | 10.93 | A12-A16 | 5.64 | A19-A27 | 9.05 |
| A2-A24 | 7.28 | A7-A8 | 12.40 | A12-A17 | 13.32 | A19-A28 | 0.04 |
| A2-A25 | 7.00 | A7-A9 | 1.16 | A12-A18 | 3.72 | A19-A29 | 8.78 |
| A2-A26 | 3.51 | A7-A10 | 2.31 | A12-A19 | 2.25 | A19-A30 | 1.12 |
| A2-A27 | 6.45 | A7-A11 | 1.71 | A12-A20 | 0.15 | A20-A21 | 1.38 |
| A2-A28 | 3.55 | A7-A12 | 4.57 | A12-A21 | 22.78 | A20-A22 | 19.03 |
| A2-A29 | 14.32 | A7-A13 | 1.47 | A12-A22 | 0.88 | A20-A23 | 12.27 |
| A2-A30 | 2.46 | A7-A14 | 13.86 | A12-A23 | 1.83 | A20-A24 | 1.92 |
| A3-A4 | 0.77 | A7-A15 | 3.55 | A12-A24 | 3.82 | A20-A25 | 1.16 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A3-A5 | 2.14 | A7-A16 | 5.37 | A12-A25 | 11.28 | A20-A26 | 5.23 |
| A3-A6 | 5.04 | A7-A17 | 9.20 | A12-A26 | 14.24 | A20-A27 | 1.27 |
| A3-A7 | 2.78 | A7-A18 | 5.23 | A12-A27 | 5.77 | A20-A28 | 0.60 |
| A3-A8 | 0.08 | A7-A19 | 8.60 | A12-A28 | 10.49 | A20-A29 | 3.42 |
| A3-A9 | 14.32 | A7-A20 | 13.32 | A12-A29 | 3.20 | A20-A30 | 11.09 |
| A3-A10 | 13.32 | A7-A21 | 6.81 | A12-A30 | 8.87 | A21-A22 | 3.93 |
| A3-A11 | 6.04 | A7-A22 | 13.50 | A13-A14 | 2.43 | A21-A23 | 8.50 |
| A3-A12 | 10.23 | A7-A23 | 17.88 | A13-A15 | 0.19 | A21-A24 | 10.93 |
| A3-A13 | 13.74 | A7-A24 | 0.72 | A13-A16 | 5.14 | A21-A25 | 4.84 |
| A3-A14 | 9.78 | A7-A25 | 0.30 | A13-A17 | 3.17 | A21-A26 | 4.32 |
| A3-A15 | 2.46 | A7-A26 | 0.65 | A13-A18 | 0.83 | A21-A27 | 14.48 |
| A3-A16 | 9.05 | A7-A27 | 2.07 | A13-A19 | 4.70 | A21-A28 | 7.28 |
| A3-A17 | 12.91 | A7-A28 | 2.07 | A13-A20 | 15.97 | A21-A29 | 6.71 |
| A3-A18 | 7.57 | A7-A29 | 3.55 | A13-A21 | 4.97 | A21-A30 | 3.05 |
| A3-A19 | 14.24 | A7-A30 | 9.98 | A13-A22 | 13.86 | A22-A23 | 12.79 |
| A3-A20 | 8.41 | A8-A9 | 10.23 | A13-A23 | 1.00 | A22-A24 | 0.27 |
| A3-A21 | 9.42 | A8-A10 | 2.56 | A13-A24 | 10.05 | A22-A25 | 3.68 |
| A3-A22 | 1.71 | A8-A11 | 4.23 | A13-A25 | 6.42 | A22-A26 | 4.57 |
| A3-A23 | 3.42 | A8-A12 | 26.06 | A13-A26 | 9.66 | A22-A27 | 0.27 |
| A3-A24 | 14.42 | A8-A13 | 13.58 | A13-A27 | 0.42 | A22-A28 | 0.04 |
| A3-A25 | 4.70 | A8-A14 | 11.19 | A13-A28 | 0.94 | A22-A29 | 13.32 |
| A3-A26 | 10.40 | A8-A15 | 4.32 | A13-A29 | 2.03 | A22-A30 | 14.80 |
| A3-A27 | 15.29 | A8-A16 | 3.10 | A13-A30 | 4.06 | A23-A24 | 5.37 |
| A3-A28 | 15.77 | A8-A17 | 19.98 | A14-A15 | 0.72 | A23-A25 | 9.82 |
| A3-A29 | 8.16 | A8-A18 | 1.49 | A14-A16 | 0.27 | A23-A26 | 1.12 |
| A3-A30 | 7.29 | A8-A19 | 11.37 | A14-A17 | 2.43 | A23-A27 | 1.16 |
| A4-A5 | 17.88 | A8-A20 | 10.58 | A14-A18 | 2.99 | A23-A28 | 6.73 |
| A4-A6 | 0.77 | A8-A21 | 1.71 | A14-A19 | 2.35 | A23-A29 | 8.75 |
| A4-A7 | 0.53 | A8-A22 | 4.44 | A14-A20 | 12.27 | A23-A30 | 19.03 |
| A4-A8 | 2.35 | A8-A23 | 2.57 | A14-A21 | 9.24 | A24-A25 | 5.90 |
| A4-A9 | 6.73 | A8-A24 | 1.38 | A14-A22 | 17.88 | A24-A26 | 11.54 |
| A4-A10 | 1.12 | A8-A25 | 4.19 | A14-A23 | 14.99 | A24-A27 | 8.69 |
| A4-A11 | 2.78 | A8-A26 | 9.87 | A14-A24 | 9.69 | A24-A28 | 11.71 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A4-A12 | 1.35 | A8-A27 | 18.71 | A14-A25 | 3.20 | A24-A29 | 5.23 |
| A4-A13 | 7.15 | A8-A28 | 8.59 | A14-A26 | 1.16 | A24-A30 | 5.77 |
| A4-A14 | 5.04 | A8-A29 | 6.52 | A14-A27 | 4.94 | A25-A26 | 10.05 |
| A4-A15 | 3.10 | A8-A30 | 5.63 | A14-A28 | 2.07 | A25-A27 | 15.93 |
| A4-A16 | 1.38 | A9-A10 | 9.60 | A14-A29 | 4.57 | A25-A28 | 3.31 |
| A4-A17 | 0.38 | A9-A11 | 16.87 | A14-A30 | 8.75 | A25-A29 | 11.59 |
| A4-A18 | 9.20 | A9-A12 | 12.57 | A15-A16 | 0.60 | A25-A30 | 15.97 |
| A4-A19 | 2.68 | A9-A13 | 15.57 | A15-A17 | 6.90 | A26-A27 | 1.05 |
| A4-A20 | 6.18 | A9-A14 | 5.14 | A15-A18 | 1.12 | A26-A28 | 0.53 |
| A4-A21 | 1.47 | A9-A15 | 0.30 | A15-A19 | 4.06 | A26-A29 | 9.96 |
| A4-A22 | 8.31 | A9-A16 | 3.62 | A15-A20 | 0.60 | A26-A30 | 6.31 |
| A4-A23 | 3.17 | A9-A17 | 8.41 | A15-A21 | 10.29 | A27-A28 | 1.05 |
| A4-A24 | 8.45 | A9-A18 | 3.05 | A15-A22 | 5.90 | A27-A29 | 14.24 |
| A4-A25 | 3.42 | A9-A19 | 6.73 | A15-A23 | 4.32 | A27-A30 | 7.94 |
| A4-A26 | 6.13 | A9-A20 | 12.10 | A15-A24 | 6.81 | A28-A29 | 10.84 |
| A4-A27 | 1.16 | A9-A21 | 8.16 | A15-A25 | 3.30 | A28-A30 | 1.71 |
| A4-A28 | 3.93 | A9-A22 | 7.29 | A15-A26 | 9.82 | A29-A30 | 12.79 |
| A4-A29 | 3.80 | A9-A23 | 3.10 | A15-A27 | 5.84 | - | - |

Table 7.3 shows the absolute deviation of each pair (total 435 pairs) i.e., the deviation of the measurement of pair difference results from the average difference (36.59).

So, it indicates how varied the difference between two individuals is from the average difference in terms of level of satisfaction in reading online newspaper.

**Mean Absolute Deviation**

Sum of absolute deviation of each pair/ Total number of pairs

= 2726.36 / 435

= 6.267494253

= 6.27

Mean Absolute Deviation = 6.27

The result of the Mean Absolute Deviation is 6.27. It indicates that among all the individuals the average difference is 6.27 from the mean (36.59) in terms of level of satisfaction in reading online newspaper.

So, the gravity of difference in terms of individuals' level of satisfaction in reading online newspaper is 6.27.

### 7.2.1.3 Validating Using R Statistical Software

The following table shows descriptive statistics using R software for validating the Minimum difference, Maximum difference, Mean, Mean absolute deviation on results of Measurement of Pair Difference (Table: 7.2) in terms of individuals' level of satisfaction in reading online newspaper. The table also shows Standard Deviation and Skewness values.

Table 7.4: Results Using R Software

| **Validating Parameters** | **Results** |
|---|---|
| Minimum Value | 15.00% |
| Maximum Value | 62.65% |
| Mean | 36.59 |
| Mean Absolute Deviation | 6.27 |
| Standard Deviation | 7.96 |
| Skewness | 0.03 |

It is evident from the above table that the minimum difference existing between individuals in terms of individual's level of satisfaction in reading online newspaper is 15.00% and the maximum difference found is 62.65%. It also describes that the dataset with a mean of 36.59, indicating the central tendency of the data. The mean absolute deviation of 6.27 suggests that the data points are dispersed around the mean by an average of approximately 6.27 units.

The positive skewness of 0.03 indicates that the lower pair differences values occur more frequently than higher pair differences values.

The results obtained using the R statistical software align with the outcomes of the calculations in sections 7.2.1.1 and 7.2.1.2.

The distribution of the observed pair difference (n=435) in terms of individual's level of satisfaction in reading online newspaper is shown in the following histogram (Figure 7.1)

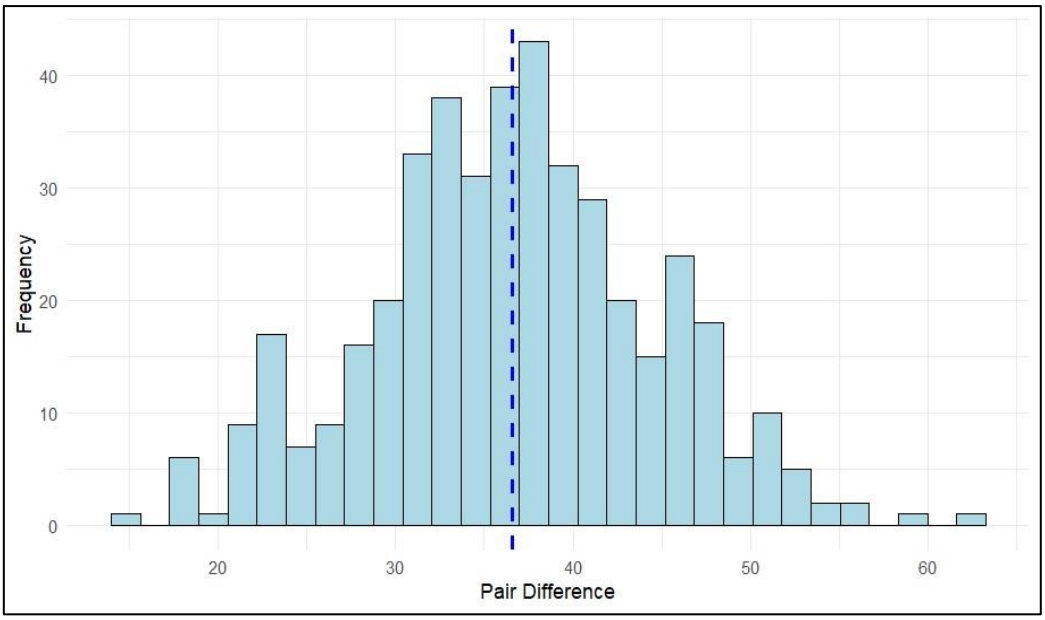


Figure 7.1: Histogram of Results of Pair Difference in Terms of Individuals' Level of Satisfaction in Reading Online Newspaper of Observed Pairs (n=435)

Measurement of pair difference results are shown frequency wise in Figure 7.1. It is evident that the distribution of pair difference values for all observed pairs (n=435) appears to be almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of 0.03 and the mean value of 36.59, which lies almost in the middle of the histogram.

## 7.3 Inferences

Upon analysing the outcomes of the Measurement of Pair Difference for individuals it is evident that significant individual variations exist. Notably, the lowest degree of difference in scores is at least 15.00%. The gravity of difference in terms of individuals' level of satisfaction in online newspaper reading is 6.27. Additionally, the distribution of these differences is dispersed around the mean, suggesting that the values are mostly symmetrical but not identical. Consequently, it can be inferred that each individual differs from one another in their level of satisfaction in online newspaper reading, and these differences are concentrated around the mean value.

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Chapter – 8

# Summary of Findings and Conclusion

## 8.1 Summary of Findings

The findings drawn from this research work are summarized below:

**Parameter 1: Individuals' Reasons for Preferring Online Newspaper (vide Chapter 3)**

- Individual differences exist in terms of preferences for reading online newspaper as the results of 'Measurement of Pair Difference' of all the pairs are in numbers; not in zero (435 pairs).
- After analyzing the results of the 'Measurement of Pair Difference' it is found that the difference of the thirty individuals varies within the range of 16.17% to 69.28%.

- So, the extent of the difference in scores among individuals is not less than 16.17% as per individuals'' reasons for reading online newspaper.

- The Mean Absolute Deviation indicates that among all the individuals the average difference is 7.49 from the mean (40.77).

- Therefore, the gravity of difference in terms of reasons for preferring online newspaper is 7.49.

- Histogram of 'Measurement of Pair Difference' results shows frequency wise distribution of pair difference results. It is evident from the distribution of pair difference values that all results are almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of 0.32 and the mean value of 40.77, which lies almost in the middle of the histogram.

**Parameter 2: Individuals' Choice of News Categories (vide Chapter 4)**

- Individual differences exist in terms of choice of categories of news in reading online newspaper as the results of 'Measurement of Pair Difference' of all the pairs are in numbers; not in zero (435 pairs).

- After analyzing the results of the 'Measurement of Pair Difference' it is found that the difference of the thirty individuals varies within the range of 13.63% to 72.11%.

- So, the extent of the difference in scores among individuals is not less than 13.63% as per choice of categories of news.

- The Mean Absolute Deviation indicates that among all the individuals the average difference is 6.90 from the mean (38.36).

- Therefore, the gravity of difference in terms of choice of categories of news in reading online newspaper is 6.90.

- Histogram of 'Measurement of Pair Difference' results shows frequency wise distribution of pair difference results. It is evident from the distribution of pair

difference values that all results are almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of 0.22 and the mean value of 38.36, which lies almost in the middle of the histogram.

## Parameter 3: Individuals' Choice of Subject Categories (vide Chapter 5)

- Individual differences exist in terms of choice of categories of subjects in reading online newspaper as the results of 'Measurement of Pair Difference' of all pairs are in numbers; not in zero (435 pairs).
- After analyzing the results of the 'Measurement of Pair Difference' it is found that the difference of the thirty individuals varies within the range of 20.33% to 65.47%.
- So, the extent of the difference in scores among individuals is not less than 20.33% as per their choice of subject categories in reading online newspaper.
- The Mean Absolute Deviation indicates that among all the individuals the average difference is 7.04 from the mean (44.29).
- Therefore, the gravity of difference in terms individuals' choice of subject categories in reading online newspaper is 7.04.
- Histogram of 'Measurement of Pair Difference' results shows frequency wise distribution of pair difference results. It is evident from the distribution of pair difference values that all results are almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of -0.06 and the mean value of 44.29, which lies almost in the middle of the histogram.

## Parameter 4: Frequency of Reading Online Newspaper (vide Chapter 6)

- Individual differences exist in terms of frequency of reading online newspaper as the results of 'Measurement of Pair Difference' of all pairs are in numbers; not in zero (435 pairs).

- After analyzing the results of the 'Measurement of Pair Difference' it is found that the difference of the thirty individuals varies within the range of 22.49% to 62.54%.

- So, the extent of the difference in scores among individuals is not less than 22.49% as per their frequency of reading online newspaper.

- The Mean Absolute Deviation indicates that among all the individuals the average difference is 6.29 from the mean (41.03).

- Therefore, the gravity of difference in terms individuals' frequency of reading online newspaper is 6.29.

- Histogram of 'Measurement of Pair Difference' results shows frequency wise distribution of pair difference results. It is evident from the distribution of pair difference values that all results are almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of 0.18 and the mean value of 41.03, which lies almost in the middle of the histogram.

## Parameter 5: Level of Satisfaction in Reading Online Newspaper (vide Chapter 7)

- Individual differences exist in terms of level of satisfaction in reading online newspaper as the results of 'Measurement of Pair Difference' of are in numbers; not in zero (435 pairs).

- After analyzing the results of the 'Measurement of Pair Difference' it is found that the difference of the thirty individuals varies within the range of 15.00% to 62.65%.

- So, the extent of the difference in scores among individuals is not less than 15.00% as per their level of satisfaction in reading online newspaper.

- The Mean Absolute Deviation indicates that among all the individuals the average difference is 6.27 from the mean (36.59).

- Therefore, the gravity of difference in terms individuals' level of satisfaction in reading online newspaper is 6.27.

- Histogram of 'Measurement of Pair Difference' results shows frequency wise distribution of pair difference results. It is evident from the distribution of pair difference values that all results are almost symmetrical, suggesting a normal distribution. This is supported by the skewness value of 0.03 and the mean value of 36.59, which lies almost in the middle of the histogram.

## 8.2 Conclusion

From the analysis of all the parameters, it is observed that differences exist among all individuals in online newspaper reading. The extent of the differences in scores for online newspaper reading among all individuals is at least 13.63%.

The minimum Mean Absolute Deviation across all parameters is 6.27, with a minimum mean value of 36.59 across all parameters. The gravity of difference in terms of online newspaper reading is therefore 6.27. It indicates that among all individuals, the average difference is 6.27 from the mean (36.59) in reading online newspaper.

The following aspects need consideration for further study and research in this connection:

- Measurement of individual differences in information behaviour for assimilation.
- Measurement of individual differences in reading comprehension.
- Measurement of variables of psychological make-up of the individuals and determining their impact on retrieval for assimilation.
- Measurement of variables of psychological make-up of individual nonusers and users of a formal retrieval system.

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Appendix – 1

# Questionnaire

Record identification no.:

Dear Sir / Madam,

This questionnaire has been designed as tool for collecting data for a research project entitled: *Measurement of Individual Differences in Online Newspaper Reading.* You are requested to follow the instructions noted in the questionnaire. Your answers, in response to this questionnaire, will be kept strictly in confidence. You may ask explanation or interpretation on the question(s), if you feel so necessary. Your cooperation, in this regard, will highly be solicited.

Thanking you,

(Prof. Goutam Maity)
Supervisor
Dept. of Library & Information Science
Jadavpur University
Kolkta-700032
West Bengal
India

(Atanu Mondal)
Research Scholar
Dept. of Library & Information Science
Jadavpur University
Kolkata-700032
West Bengal
India

**1) Name:**
*(Write in Block Letter)*

**2) Address:**
*(Please mention your Ward number)*

**3) Name and address of the Institution/Organization with which you are associated with:**

**4) Designation/Status/Occupation:**

**5) Annual Income:**

**6) Age:**
*(Please write your age below)*

**7) Gender:**
*(Please give tick mark (√) in the appropriate box)*

☐ Male ☐ Female ☐ Other

**8) Area of Residence:**
*(Please give tick mark (√) in the appropriate box)*

☐ Village ☐ Sub-Urban ☐ Urban

**9) Educational qualifications (latest only):**
*(Please give tick mark (√) in the appropriate box)*

☐ Upto Higher Secondary ☐ Graduate
☐ Post-Graduate ☐ Above Post-Graduate

## 10) Physical disability:

*(Please give tick mark (√) in the appropriate box)*

☐ Yes ☐ No

**If yes, mention the kind of disability:**

*(Please give tick mark (√) in the appropriate box)*

☐ Locomotor disability

☐ Hearing impairment

☐ Speech and language disability

## 11) Reasons for Preferring Online Newspaper

*(Please give score from 0-10 as per your preferences for reading online newspapers where 0 represents lowest score and 10 represents highest score)*

| Sl. No. | Statements | Score |
|---|---|---|
| 1. | I read online newspaper(s) to get real time updated news | |
| 2. | I read online newspaper(s) as it is my hobby | |
| 3. | I read online newspaper(s) for time pass | |
| 4. | I prefer online newspaper(s) as I can access more than one newspaper easily | |
| 5. | I read online newspaper(s) as it improves my reading / writing / vocabulary skills | |
| 6. | I prefer online newspaper(s) as it allows me to search a particular news/ topic quickly using search facility | |
| 7. | I prefer online newspaper(s) as it does not require any physical storage space | |
| 8. | I prefer online newspaper(s) as it is cost effective than printed newspaper | |
| 9. | I prefer online newspaper(s) as I can read it from anywhere by carrying smart phone / tablet with internet | |

| Sl. No. | Statements | Score |
|---|---|---|
| 10. | I prefer to read online newspaper(s) as I can watch videos / view photos / make comments | |
| 11. | I prefer to read online newspaper(s) as I can access old news from archives easily | |
| 12. | I prefer to read online newspaper(s) as I can adjust the font size of articles as per my need | |
| 13. | I prefer online newspaper(s) as I can share the news with others easily | |

## 12) Categories of News (as reflected in online newspapers)

*(Please give score from 0-10 for your choice of news categories in reading online newspapers where 0 represents lowest score and 10 represents highest score)*

| Sl. No. | Statements | Score |
|---|---|---|
| 1. | I like to read news from the category of State | |
| 2. | I like to read news from the category of Country / Nation | |
| 3. | I like to read news from the category of World / International | |
| 4. | I like to read news from the category of Sports | |
| 5. | I like to read news from the category of Editorial | |
| 6. | I like to read news from the category of Entertainment | |
| 7. | I like to read news from the category of Business | |
| 8. | I like to read from the category of Horoscope | |
| 9. | I like to read news from the category of Lifestyle | |
| 10. | I like to read news from the category of Science & Technology | |
| 11. | I like to read news from the category of Education / Career | |
| 12. | I like to read news from the category of Health | |
| 13. | I like to read news from the Homepage / First page | |
| 14. | I like to watch / read news from the category of Video / Photo (Gallery) | |

## 13) Categories of Subject

*(Please give score from 0-10 for your choice of subject categories in reading online newspapers where 0 represents lowest score and 10 represents highest score)*

| Sl. No. | Statements | Score |
|---|---|---|
| 1. | I like to read / search news on Agriculture | |
| 2. | I like to read / search news on Arts, Culture, Entertainment | |
| 3. | I like to read / search news on Crime, Law and Justice | |
| 4. | I like to read / search news on Disasters, Accidents | |
| 5. | I like to read / search news on Economy, Business, Finance, Trade, Industry | |
| 6. | I like to read / search news on Education, Career | |
| 7. | I like to read / search news on Environment | |
| 8. | I like to read / search news on Government, Politics | |
| 9. | I like to read / search news on Health | |
| 10. | I like to read / search news on Human Rights, Women Rights, Feminism | |
| 11. | I like to read / search news on Lifestyle & Leisure | |
| 12. | I like to read / search news on Religion, Belief | |
| 13. | I like to read / search news on Science & Technology | |
| 14. | I like to read / search news on Sports | |
| 15. | I like to read / search news on Weather | |

## 14) Frequency of Reading

*(Please give score from 0 – 10 as per your frequency of reading online newspapers where 0 represents lowest score and 10 represents highest score)*

| Sl. No. | Statements | Score |
|---|---|---|
| 1. | I read online newspaper(s) at home | |
| 2. | I read online newspaper(s) at office | |
| 3. | I read online newspaper(s) at institution | |

| Sl. No. | Statements | Score |
|---|---|---|
| 4. | I read online newspaper(s) at library | |
| 5. | I read online newspaper(s) while travelling | |
| 6. | I read online newspaper(s) from computer | |
| 7. | I read online newspaper(s) from phone / tablet | |
| 8. | I read online newspaper(s) in weekdays | |
| 9. | I read online newspaper(s) in weekends | |
| 10. | I read online newspaper(s) at early morning | |
| 11. | I read online newspaper(s) at night | |
| 12. | I read online newspaper(s) at any time in a day (except early morning & night) | |
| 13. | I read online newspaper(s) in my mother tongue | |
| 14. | I read online newspaper(s) in languages other than mother tongue | |
| 15. | I read online newspaper(s) to develop my reading / writing / vocabulary skills | |
| 16. | I read news from archives of online newspaper(s) | |
| 17. | I search for information/ news on specific subject / subjects while reading online newspaper(s) | |

## 15) Level of Satisfaction

(*Please give score from 0-10 as per your level of satisfaction in reading online newspapers where 0 represents lowest score and 10 represents highest score*)

| Sl. No. | Statements | Score |
|---|---|---|
| 1. | Real time news update of online newspaper(s) satisfies my need for current news | |
| 2. | I am satisfied with the coverage of 'State' news by online newspaper(s) | |
| 3. | I am satisfied with the coverage of 'Country/ Nation' news by online newspaper(s) | |
| 4. | I am satisfied with the coverage of 'World' news by online newspaper(s) | |

| Sl. No. | Statements | Score |
|---|---|---|
| 5. | The content covered by online newspaper(s), satisfy my need as per my subject(s) of interest. | |
| 6. | I am satisfied with the searching method provided by online newspaper(s) | |
| 7. | I am satisfied with the quality of articles published in online newspaper(s) | |
| 8. | I am satisfied with my frequency of reading online newspaper(s) | |
| 9. | The interactive interface makes my online newspaper reading more satisfying | |
| 10. | Images and videos in online newspaper(s) makes my reading more satisfying | |
| 11. | I am satisfied with the default font size of online newspaper(s) | |
| 12. | I am satisfied with the overall structure (colour schemes, layouts and arrangements) of online newspaper(s) website | |

Appendix – II

# C Programme for Measurement of Pair Difference

Below code have been tested using ***Code::Blocks***, *version:17.12 (*https://www.codeblocks.org/*)* which is a free, open-source cross-platform Integrated Development Environment (IDE).

```
#include <stdio.h>
#include <stdlib.h>
 #include <math.h>
 void compute_x_Comb (double **a, char (*participants)[10], int n, int N, int m)
 {
  double value_of_x = 0;
  int i, j, k, count = 0;
  double sq_diff_i_j;
   double res,final;
  for (i = 0; i < n; i++)
  {
    for (j = i + 1; j < n; j++)
    {
```

```
      count++;
       for (k = 0, sq_diff_i_j = 0; k < N; k++)
       {
          double diff_i_j = a[i][k] - a[j][k];
          sq_diff_i_j += diff_i_j * diff_i_j;
       }
       value_of_x += sq_diff_i_j;
       final=(sqrt(sq_diff_i_j/N))*(100/m);
       printf ("%s %s ::: Result--> %lf\n", participants[i], participants[j],final);
     }
   }
}
int main ()
{
  int n, N, i, j, m;
 double **a;
 //char *participants;
  printf ("Provide the no. of participants: ");
  scanf ("%d", &n);
  printf ("Provide the no. of questions asked: ");
  scanf ("%d", &N);
  printf ("Provide maximum score for a question: ");
  scanf ("%d", &m);
  a = (double **) malloc (sizeof (double *) * n);
```

```
//participants = (char *) malloc (sizeof (double) * n);
 char participants[n][10];
 for (i = 0; i < n; i++)
 {
   a[i] = (double *) malloc (sizeof (double) * N);
 }
 for (i = 0; i < n; i++)
 {
   //getchar ();
   printf ("Enter the participant name : \n");
       scanf ("%s", &participants[i]);
   printf ("Enter the scores for %s : \n",participants[i]);
   for (j = 0; j < N; j++)
   {
     scanf ("%lf", &a[i][j]);
   }
 }
compute_x_Comb (a, participants, n, N, m);
 return 0;
}
```