A comparative analysis of Information Resources for Academic Researchers

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ABSTRACT

Research papers are a major part of school and college education. A research paper requires a sufficient amount of knowledge, time, and energy as well as it should create a clear vision for readers. The paper should have a defined audience, a clear purpose, a well-supported thesis, and a clear and perfect conclusion. Therefore, it is very important to gather knowledge, information and data from a well resource. Through this research a study was conducted among the Academic Researchers in order to get the type of information resource most preferred by the Academic Researchers. The survey was conducted on different platforms. The data was collected among different age groups with various information resources i.e., Library, Google, Digital Library, YouTube etc. and analysed on different parameters i.e., Availability, Accessibility and Convenience. The data was analysed and various tests were done in order to test the independence of each and every attribute on SPSS version 29.0.0.0 . It was concluded that all the information resources were used by the Researchers according to their Availability, Accessibility and Convenience.

Keywords—Academic Researchers, SPSS, Information Resource, Digital Library

1. Introduction

Research papers are a major part of school or college education. There are numerous reasons why writing a research paper is important. Firstly, of course education is about the value of knowledge and a dissertation is all about uncovering knowledge and building upon it, so the capacity to work in research represents a good skill of any educated person. Second, to be a part of the knowledge economy, the skill of writing a good research paper plays a major role. The point is, working with facts, information and ideas is the fundamental category of work today, and chances are you will experience the same in your career and life. Finally, understanding how to analyse, evaluate, criticise, combine, and draw conclusions from information sources is crucial to everyday decisions, including decisions like what products to buy, whom to vote for, where to live, what job to take, and what government policies to support.

There are different types of images that come to our mind when we hear the word "research". Mostly related to the word "Information" or "data". But it is more than that, more than a collection of different pieces of information about a topic, and more than a review of the literature in a field. A research paper analyses a perspective. For example, a lawyer researches and reads about many cases and uses them to support his or her case. In the same way, a history student writing about the Vietnam War might read newspaper articles and books and interview veterans to develop and/or confirm a viewpoint and support it with evidence. In simple words, it is an exercise that helps in developing skills to conclude. The objective of the research is not to present a collection of quotations that show how you can report what others have said but rather to analyse, evaluate and synthesise the issues you research and take ownership of the newly -found knowledge which will inform and support your opinions.

1.1. Perspective of Research Papers

A research paper requires a sufficient amount of knowledge, time, and energy as well as it should create a clear vision for readers. The paper should have a defined audience, a clear purpose, a well-

supported thesis, and a clear and perfect conclusion. Therefore, it is very important to gather knowledge, information and data from a well resource. The type of sources you might need for your research will depend on the type of research you are conducting. Familiarising with various types of sources will help in both current paper and future research. The broad categories are Background information, General information, News and current events, scholarly information, Discipline specific information.

The objective of this paper is to conduct a survey and to analyse what people usually prefer to get information for a research work or thesis.

2. Literature Review

Our prime objective for this research paper is to analyse the modes of information resources preferred by academic researchers to write research papers, books etc.We went through many research papers [1][2] to gather information in order to help students, teachers, and researchers select the best possible way to get help and choose the right resources available to help them during their research work. The type of information researchers, students, teachers want often lead them to select the source of information. If you want some quick background information, Wikipedia is fast and easy, it is an excellent source for background information, and leads you to citations, but it is not the source you want to base a paper on. For many assignments, they often use a range of materials, books, journal articles, newspapers, archival sources, and websites. In order to obtain the material needed to produce a solid paper for a research paper, it is sometimes required to undertake a sizable quantity of research. The internet and libraries are only two of the numerous tools accessible for research in the modern digital age. Using library or internet as a source of information is completely subjective but we can still observe the users' preferences. The hypothesis made was internet is the only source of information that is preferred by mass number of researchers nowadays but after conducting the survey there are new options emerged as the need for resources for information raised. We have a variety of sources of information digital libraries, YouTube, social media sites etc and here researchers, students, faculty share their insights on different subjects. Hence information now not only limited to library and internet but also diversified new branches.

3. Methodology

To gather information on peoples' preferences we did pilot surveys using questionnaires and from google surveys.

In the next step we sampled the data where we selected a specific set of data to perform research.

After gathering the data to get a conclusion we analysed the data using many mathematical tools like – Z -test, Chi-square test, Cross table etc.

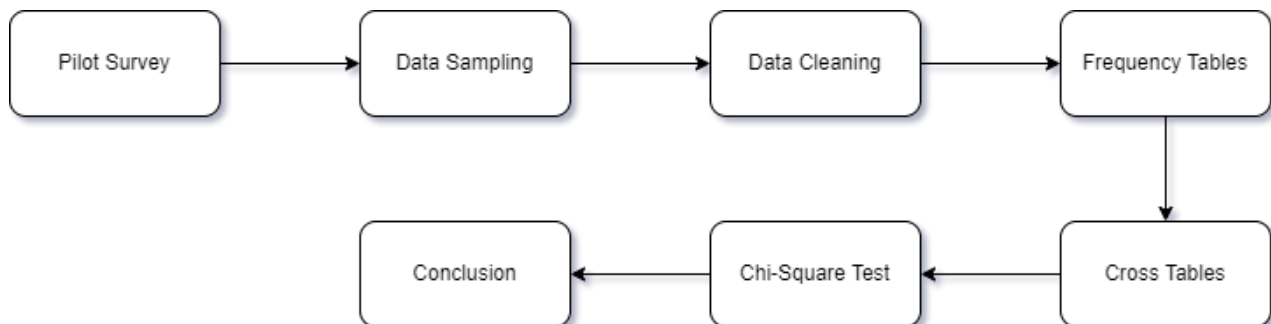
Fig 3.1. Block Diagram

3.1. Pilot Survey

For the purpose of this research, a psychological survey has been conducted where a questionnaire is used in which a list of questions (both open ended and close ended) is distributed by mail and

recipients fill it out. The major advantage of this questionnaire was a large amount of data was easily collected and the targeted audience were specific which were Academic Researchers

3.2. Data Sampling

While collecting the data it was very important to know what kind of sample is required for this research. As it was already mentioned the sample to be collected from the population were majorly Researchers. To maintain that integrity, data was reviewed or sampled periodically simultaneously and a sample of 60 people has been collected.

3.3. Data Cleaning

After collecting and sampling the dataset it was required to check if any incorrect, corrupted, incorrectly formatted, duplicate, or incomplete data was there. Because it can lead to incorrect and unreliable outcomes, even though it may look correct.

3.4. Frequency Table

Frequency table for close ended variables from the dataset have been created.

- Age
- Profession
- Publication
- Used Digital Library
- Types of Information Resource Preferred
- Availability of Library
- Convenience in Library
- Accessibility of Library
- Availability of Google
- Convenience in Google
- Accessibility of Google
- Availability of Digital Library
- Convenience in Digital Library
- Accessibility of Digital Library

3.5. Cross Table

Cross tables are used to investigate dataset at a more granular level.

- Profession with Ever used digital library
- Age with Ever used digital library
- Profession with Any Publication
- Age with Any Publication
- Profession with Information Resource Preferred
- Age with Information Resource Preferred
- Profession with Availability of Library
- Profession with Convenience in Library
- Profession with Accessibility of Library
- Profession with Availability of Google
- Profession with Convenience in Google
- Profession with Accessibility of Google
- Profession with Availability of Digital Library
- Profession with Convenience in Digital Library
- Profession with Accessibility of Digital Library
- Age with Availability of Library
- Age with Convenience in Library
- Age with Accessibility of Library
- Age with Availability of Google
- Age with Convenience in Google
- Age with Accessibility of Google
- Age with Availability of Digital Library

- Age with Convenience in Digital Library
- Age with Accessibility of Digital Library

3.6. Chi-Square Test

To analyse all the cross-tabulations of the dataset Chi-Square Test tool was used. To compare observed results with expected results and to check if the variables which are used in a cross table are independent or not.

4.Results and discussion

The following results have been gathered from our research:

Table 4.1. Frequency Distribution for Age

Age	Frequency	Percent	Valid Percent	Cumulative Percent
Below 35	46	76.67%	76.67%	76.67%
35-45	8	13.33%	13.33%	90.00%
45 and above	6	10.00%	10.00%	100.00%
Total	60	100.00%	100.00%	

Table 4.1. provides the information of Frequency Distribution for Age. The left column shows the **Age-Group** and as the name says, it is classified into 3 class intervals - below 35, 35-45 and 45 and above and the right column is the **frequency** —population of different age group participated in the survey.

Table 4.2. Frequency Distribution for Profession

Profession	Frequency	Percent	Valid Percent	Cumulative Percent
Professor	14	23.33%	23.33%	23.33%
Research Scholar	46	76.67%	76.67%	100.00%
Total	60	100.00%	100.00%	

Table 4.2. provides the information of Frequency Distribution for Profession. The left column shows the **Profession as per the requirement of the research. There are two type of population is their Professor and Research Scholars** and the right column is the **frequency** —population of these two categories age participated in the survey

Table 4.3. Frequency Distribution for Publication

Any Publication	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	33	55.00%	55.00%	55.00%
No	27	45.00%	45.00%	100.00%
Total	60	100.00%	100.00%	

Table 4.3. provides the information of Frequency Distribution for Publication. The left column shows the whether the **Academic Researchers published any journal or Research. There are two type of population is their Professor and Research Scholars** and the right column is the **frequency** —population of these two categories age participated in the survey

Table 4.4. Frequency Distribution for Ever used Digital Library

Ever used Digital Library	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	44	73.33%	73.33%	73.33%
No	16	26.67%	26.67%	100.00%
Total	60	100.00%	100.00%	

Table 4.4. provides the information of Frequency Distribution of usage of Digital Library. The table shows the how many of the **population knows about Digital Library.**

Table 4.5. Frequency Distribution for Information Resource preferred

Information Resource preferred	Frequency	Percent	Valid Percent	Cumulative Percent
Library	2	3.33%	3.33%	3.33%
Google	20	33.33%	33.33%	36.67%
Digital Library	1	1.67%	1.67%	38.33%
Library, Google	11	18.33%	18.33%	56.67%
Library, Digital Library	1	1.67%	1.67%	58.33%
Google, Digital Library	13	21.67%	21.67%	80.00%
Google, YouTube	1	1.67%	1.67%	81.67%
Library, Google, Digital Library	10	16.67%	16.67%	98.33%
Library, Google, Digital Library, YouTube	1	1.67%	1.67%	100.00%
Total	60	100.00%	100.00%	

Table 4.5. provides the information of Frequency Distribution of Information Resource preferred. It is very much clearly visible that 66.67% of the population prefer more than one information resource for their work.

Table 4.6. Frequency Distribution for Library rating Availability

Library rating Availability	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	2	3.33%	3.33%	3.33%
Fair	3	5.00%	5.00%	8.33%
Good	15	25.00%	25.00%	33.33%
Very Good	28	46.67%	46.67%	80.00%
Strongly Recommend	12	20.00%	20.00%	100.00%
Total	60	100.00%	100.00%	

Table 4.6. provides the information of Frequency Distribution of Library in terms of Availability, which means whether the library is available to everyone. From the table it is visible that 91.66% of the population agreed that Library is available in their surroundings.

Table 4.7. Frequency Distribution for Library rating Convenience

Library rating Convenience	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	3	5.00%	5.00%	5.00%
Fair	4	6.67%	6.67%	11.67%
Good	13	21.67%	21.67%	33.33%
Very Good	24	40.00%	40.00%	73.33%
Strongly Recommend	16	26.67%	26.67%	100.00%
Total	60	100.00%	100.00%	

Table 4.7. provides the information of Frequency Distribution of Library in terms of convenience, which means how much Library is convenient to everyone. From the table it is visible that 88.34% of the population agreed that Library is convenient option.

Table 4.8. Frequency Distribution for Library rating Accessibility

Library rating Accessibility	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	2	3.33%	3.33%	3.33%

Fair	3	5.00%	5.00%	8.33%
Good	17	28.33%	28.33%	36.67%
Very Good	23	38.33%	38.33%	75.00%
Strongly Recommend	15	25.00%	25.00%	100.00%
Total	60	100.00%	100.00%	

Table 4.8. provides the information of Frequency Distribution of Library in terms of accessibility, which means how much of the population has an access to Library. From the table it is visible that more than 90% of the population agreed that Library is accessible to them.

Table 4.9. Frequency Distribution for Google rating Availability

Google rating Availability	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	0	0.00%	0.00%	0.00%
Fair	0	0.00%	0.00%	0.00%
Good	3	5.00%	5.00%	5.00%
Very Good	23	38.33%	38.33%	43.33%
Strongly Recommend	34	56.67%	56.67%	100.00%
Total	60	100.00%	100.00%	

Table 4.9. provides the information of Frequency Distribution of Google in terms of Availability, which means whether the library is available to everyone. From the table it is visible that 100.00% of the population agreed that Google is available every time.

Table 4.10. Frequency Distribution for Google rating Convenience

Google rating Convenience	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	0	0.00%	0.00%	0.00%
Fair	1	1.67%	1.67%	1.67%
Good	6	10.00%	10.00%	11.67%
Very Good	21	35.00%	35.00%	46.67%
Strongly Recommend	32	53.33%	53.33%	100.00%
Total	60	100.00%	100.00%	

Table 4.10. provides the information of Frequency Distribution of Google in terms of convenience, which means how much Google is convenient to everyone. From the table it is visible that 99% of the population agreed that Google is convenient option.

Table 4.11. Frequency Distribution for Google rating Accessibility

Google rating Accessibility	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	1	1.67%	1.67%	1.67%
Fair	2	3.33%	3.33%	5.00%
Good	1	1.67%	1.67%	6.67%
Very Good	24	40.00%	40.00%	46.67%
Strongly Recommend	32	53.33%	53.33%	100.00%
Total	60	100.00%	100.00%	

Table 4.11. provides the information of Frequency Distribution of Google in terms of accessibility, which means how much of the population has an access to Google. From the table it is visible that

more than 90% of the population agreed that Library is accessible to them. Only 6.66% people disagreed to it, this can be happened due to the internet connectivity issues.

Table 4.12. Frequency Distribution for Digital Library rating Availability

Digital Library rating Availability	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	2	3.33%	3.33%	3.33%
Fair	3	5.00%	5.00%	8.33%
Good	13	21.67%	21.67%	30.00%
Very Good	32	53.33%	53.33%	83.33%
Strongly Recommend	10	16.67%	16.67%	100.00%
Total	60	100.00%	100.00%	

Table 4.12. provides the information of Frequency Distribution of Digital Library in terms of Availability, which means whether the library is available to everyone. From the table it is visible that 91.66% of the population agreed that Digital Library is available in their surroundings.

Table 4.13. Frequency Distribution for Digital Library rating Convenience

Digital Library rating Convenience	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	2	3.33%	3.33%	3.33%
Fair	3	5.00%	5.00%	8.33%
Good	12	20.00%	20.00%	28.33%
Very Good	31	51.67%	51.67%	80.00%
Strongly Recommend	12	20.00%	20.00%	100.00%
Total	60	100.00%	100.00%	

Table 4.13. provides the information of Frequency Distribution of Digital Library in terms of convenience, which means how much Digital Library is convenient to everyone. From the table it is visible that 91.67% of the population agreed that Digital Library is convenient option.

Table 4.14. Frequency Distribution for Digital Library rating Accessibility

Digital Library rating Accessibility	Frequency	Percent	Valid Percent	Cumulative Percent
Poor	1	1.67%	1.67%	1.67%
Fair	4	6.67%	6.67%	8.33%
Good	15	25.00%	25.00%	33.33%
Very Good	29	48.33%	48.33%	81.67%
Strongly Recommend	11	18.33%	18.33%	100.00%
Total	60	100.00%	100.00%	

Table 4.14. provides the information of Frequency Distribution of Google in terms of accessibility, which means how much of the population has an access to Google. From the table it is visible that more than 90% of the population agreed that Library is accessible to them.

Table 4.16. p-Value of different Cross Table

Cross Tables	p-value	Hypothesis
Profession with Ever used digital library	0.231536959	There is no dependency between Profession with Ever used digital library
Age with Ever used digital library	0.132228824	There is no dependency between Age with Ever used digital library

Profession with Any Publication	0.853964083	There is no dependency between Profession with Any Publication
Age with Any Publication	0.273543042	There is no dependency between Age with Any Publication
Profession with Information Resource Preferred	0.366811516	There is no dependency between Profession with Information Resource Preferred
Age with Information Resource Preferred	0.592827447	There is no dependency between Age with Information Resource Preferred
Profession with Availability of Library	0.013929037	There is dependency between Profession with Availability of Library
Profession with Convenience in Library	0.099869784	There is no dependency between Profession with Convenience in Library
Profession with Accessibility of Library	0.00	There is dependency between Profession with Accessibility of Library
Profession with Availability of Google	0.024995493	There is dependency between Profession with Availability of Google
Profession with Convenience in Google	0.099527564	There is no dependency between Profession with Convenience in Google
Profession with Accessibility of Google	0.284125784	There is no dependency between Profession with Accessibility in Google
Profession with Availability of Digital Library	0.089568953	There is no dependency between Profession with Availability of Digital Library
Profession with Convenience in Digital Library	0.068277703	There is no dependency between Profession with Availability of Digital Library
Profession with Accessibility of Digital Library	0.746011229	There is no dependency between Profession with Accessibility of Digital Library
Age with Availability of Library	0.288237166	There is no dependency between Age with Availability of Library
Age with Convenience in Library	0.746744026	There is no dependency between Age with Convenience in Library
Age with Accessibility of Library	0.522960142	There is no dependency between Age with Accessibility of Library
Age with Availability of Google	0.627425021	There is no dependency between Age with Availability of Google
Age with Convenience in Google	0.146630829	There is no dependency between Age with Convenience in Google
Age with Accessibility of Google	0.249490567	There is no dependency between Age with Accessibility of Google
Age with Availability of Digital Library	0.219864437	There is no dependency between Age with Availability of Digital Library
Age with Convenience in Digital Library	0.204084657	There is no dependency between Age with Convenience in Digital Library

Age with Accessibility of Digital Library	0.744090815	There is no dependency between Age with Accessibility of Digital Library

Table 4.16 is the result of different Cross tables after applying the Chi-Square Test performed in SPSS version 29.0.0.0 . As already mentioned, this tool is used to check if the variables which are used in a cross table are independent of each other or not.

From **Table 4.16,** looking at the p-Value we can conclude which Hypothesis to accept. Here we found that there is dependency with Profession with Availability of Library and Google which represents that both the professions Professor and Research Scholar prefer the Library and Google, according to their information needed in their research. Also, it was found that there is relation between Profession with accessibility of Library which can be concluded that not everyone has the access of the library in their perspective circumstance.

CONCLUSION

From the above analysis it can be concluded that all type of information resources is required for any research work. Library, Google and digital library all are important to do any work. i.e., Libraries provide free access to books, magazines, newspapers, journals, and other materials. This allows people to learn about a variety of topics, stay up to date on current events, and expand their knowledge and understanding. Libraries promote lifelong learning by providing resources and programming for people of all ages. Google is the most widely used search engine in the world, to get the first information or knowledge, Google plays a perfect role and also it is affordable to everyone. Digital Libraries are the collaborative version of Library as well as Google or a new innovation. Here one can get all the free access of the books as Library does but in their smartphones as Google. It is affordable and can also use as a first information resource.

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