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Wikipedia as a Source of Information to Engineering Students-A Study

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Abstract

The study explored the use of Wikipedia as a source of information by the engineering students at Nellore dist in Andhra Pradesh. The study also tries to examine the reasons to prefer Wikipedia over the traditional encyclopaedia by the engineering students. The study adopted survey method and an online questionnaire for collecting the data from the respondents. After analysing the data the results revealed that 'easy to understand' was the reason to prefer Wikipedia to the traditional encyclopaedia. The study also found that 77.42 percent of the respondents using Wikipedia to get background information. The investigator suggests that faculty working in the engineering colleges have to take an initiative to improve the content available on Wikipedia by editing articles with the latest reliable information.

Keywords: Wikipedia; Information; Survey; Engineering students

1. INTRODUCTION

The enormous changes and improvement of ICT based technologies and the rise of using internet by the general public led the information revolution. In the 21st century apart from tradition information sources online sources are also popular among the users. Information need to the changing society created an opportunity to popularise online encyclopaedia like Wikipedia. Since its inception in 2001 Wikipedia emerged as a largest compilation of human knowledge. As of December 2022 it is available in more than 300 languages. It is useful as an instant source for getting background information of a topic. The prime motives behind the use of these sources by the students are ease of use and

convenience. The present study aims to examine how the engineering students using Wikipedia as source of information.

2. REVIEW OF LITERATURE

Lim (2009) explored journalism and mass communication students' perceptions, uses, and motivations for using Wikipedia in a public university in the Midwestern United States. The study employed the uses and gratification approach, and a web survey was conducted to collect the data in spring 2008. The findings of the study show that 53.7% accessed wikipedia through search engines, whereas 47% through their bookmarks. The respondents of the study mainly used Wikipedia to obtain information and knowledge. The investigator suggested that librarians and educators need to provide guidelines for using Wikipedia rather than prohibiting.

Soylu (2009) conducted a case study on academic views on the uses of Wikipedia as an academic source at Indiana University. The participants in the study were undergraduates and faculty, and they were recruited based on their willingness. The study used a semi-structured interview method for collecting the data. Results show that all participants used Wikipedia to look up definitions and descriptions of concepts. None of the participants knew about the content and the guiding policies on Wikipedia. The investigator suggests that there is a need to develop instructional programs to evaluate the reliability of online content in introductory- level courses in colleges.

Snyder (2010) explored the faculty and students 'viewpoints on the use of Wikipedia as an academic reference. The survey results reveal that the faculty uses Wikipedia for research and pleasure reading more than for academic purposes, due to the lack of trust in the quality of the information on Wikipedia.

Trevino and Hargittai (2011) study analysed college students' awareness of the Wikipedia editing process, and how the site functions. Task observation and interview

methods employed for the collection of primary data from the respondents. The findings report that only a few students have in-depth knowledge of the Wikipedia editing process, and also some respondents lacking awareness of the content on Wikipedia that can be editable by anyone.

Colon-Aguirre and Fleming–May (2012) study aimed to assess students' use of Wikipedia and other free internet sources to support their class work. It was carried out in the spring and fall semesters of 2010. To collect the primary data, the investigator employed a semi-structured interview method, and a semi-structured questionnaire. The finding reveals that “students use Wikipedia as a source of information for their course work”.

Knight and Pryke (2012) conducted a survey on Wikipedia use at Liverpool Hope University in the spring of 2010. By using a commercial surveying tool, the investigators sent emails and invited students and faculty to fill out an online questionnaire. Most of the questions were closed and semi-closed. The response rate to the survey among students was 16% (n=1222) and from faculty 31% (n=133). The study concludes that students use it as an initial information source for acquiring a basic understanding of concepts. They are not used for the content of assessments.

Polk, Johnston, and Evers (2015) examined Wikipedia use by students, teaching staff, and librarians. The study used a survey method and a convenience sampling technique for the selection of the sample. A questionnaire used with open-ended questions for collecting the data from the respondents. The findings depict that students perceived Wikipedia are not a reliable source.

Garrison (2015) study aimed to observe how college students are using Wikipedia for their academics. The participants of the study are first-year undergraduate students at a Liberal Arts College. The results reveal that Wikipedia use is more at the beginning of assignments. The study further found that female students are more likely to avoid using

Wikipedia than male students. 64.9% of respondents use Wikipedia for 'background information'. The study concludes that teachers' influence is a significant factor in the use and rating of Wikipedia.

Selwyn and Gorad (2016) carried out a survey of undergraduate students at a public university in Southeast Australia. The data was collected using a 48- item questionnaire and it was administered using the online survey platform. The study, conducted with an aim of finding out how university students are engaging with Wikipedia during their academic activities. The findings revealed that nearly 90% of students using Wikipedia, however, only a few respondents, rely on Wikipedia as a primary source. The study results describe that Wikipedia was only used as an initial orientation role.

3. OBJECTIVES OF THE STUDY

The main objectives of this study are

- ❖ To determine the use of Wikipedia as a source of information.
- ❖ To identify the reasons to prefer Wikipedia to traditional encyclopaedia

Hypotheses

The null hypotheses of the study

- **H₀** There would be no significant difference between male and female respondents on using Wikipedia as an information source.

Scope and limitations of the study

The study is limited to examine the Wikipedia as a Source of Information to Engineering Students .The target population of the study is confined to 3rd and final year B.Tech students of various courses in the four selected engineering colleges in SPSR Nellore district, Andhra Pradesh.

4. METHODOLOGY

This is an exploratory study and focused on the engineering students search for information from Wikipedia.

Research instrument

The investigator collected data for the study by using both online and offline methods. A structured online questionnaire prepared using survey monkey and send to the students and asked them to share to their classmate whatsapp groups, and also the investigator personally visited some engineering colleges and the questionnaires were distributed to the respondents.

Data Analysis

The collected data were analysed by the investigator using SPSS. Percentages and Chi-square test significant tests of p value are set at 0.05 levels.

Table-4.1 Target population in the selected colleges

S.No.	College Name	Target population
1	N.B.K.R Institute of Science & Technology, Vidyanagar	1237
2	Narayana Engineering College, Nellore	959
3	P.B.R Visvodaya Institute of Technology & Sciences, Kavali	980
4	Audi Sankara College of Engineering & Technology, Gudur	1065
Total		4241

It is clear from above Table that the total target population of all four engineering colleges was 4241. The investigator selected samples from each college by using a sample size formula.

The Population & Sample size

The study population was B.Tech students in the selected engineering colleges in SPSR Nellore district, Andhra Pradesh. Since the population is large to study the investigator chooses a sample of students by using the following sample size formula.

$$\text{Sample size formula} : \frac{\frac{z^2 \times p(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N}\right)} = 853$$

N = Population size = 4241 p = standard of deviation = 0.5
 z = Z score = 1.96 e = Margin of error = 0.03

Based on the above formula, the sample size for the current study was 853, which is 20.11% of the target population. This is the minimum sample size to estimate the true population proportion.

Sample selection

Proportionate stratified simple random sampling method was adopted for the selection of the sample. The below Table clearly depicts the college-wise data about the sample students in the final and third year.

Table- 4.2
Proportionately selected students sample

S.No.	College Name	Final year students	Third year students	Proportionately selected total students sample
1	N.B.K.R Institute of Science & Technology, Vidyanagar	117	132	249
2	Narayana Engineering College, Nellore	87	106	193
3	P.B.R Visvodaya Institute of Technology & Sciences, Kavali.	91	101	197
4	Audi Sankara College of Engineering & Technology, Gudur	112	102	214
Total		407	441	853

5. ANALYSIS OF DATA

Table-5.1

Characteristics	Measurement	n	%
Gender	Male	433	50.76
	Female	420	49.24
Age	18-20	414	48.5
	21-23	410	48.1
	23 above	29	3.4

Note: N=853

Table 3.11 shows the gender-wise distribution of respondents. It is obvious from the above table that out of 853 respondents, 433(50.76 percent) are male and the remaining 420 (49.24 percent) are female respondents. It is clear from the table that majority of the respondents (48.5 percent) are in the 18 to 20 years of age group, followed by 48.1 percent in the 21 to 23 years age group. Only 3.4 percent of respondents are 23 years above the age group. It can be concluded that majority of the respondents (48.5 percent) are in the 18 to 20 year age group.

Fig: 5.1

Use of Wikipedia

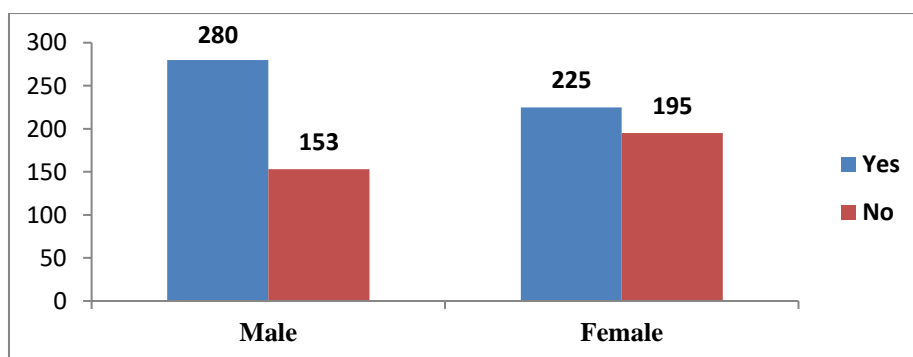


Figure 5.1 reveals the usage of Wikipedia among the respondents. It is clear that nearly two thirds of the respondents 505(59.20 percent) are using Wikipedia, and a notable percentage 348 (40.79 percent) responded negatively. It is also reveals that majority of the

male respondents (64.66 percent) are using Wikipedia, whereas the female respondents' usage is low (53.71 percent).

It may be inferred that respondents are engineering students; normally they get information relating to their subject from textbooks and reference books available in their college library. Another aspect is maybe they are not fully aware of this information source. That's why 40.79 percent of the respondents do not use Wikipedia. It can be concluded that majority of the respondents are using Wikipedia.

Table-5.2

Reasons to prefer Wikipedia to traditional encyclopaedia

Reasons	Gender		
	Male n=280	Female n=225	Frequency N=505
Easy to -use	197(70.35)	146 (64.88)	343(67.9)
Reasonably accurate information	154(55.0)	113(50.22)	267(52.9)
Easy to understand	194(69.28)	155(68.88)	349(69.1)
Up-to-date information	133(47.5)	99(44.0)	232(45.9)

(Note: Figures in parentheses indicate percentage. Multiple responses are allowed)

The study also explored the use of Wikipedia over traditional encyclopaedia. It can be noticed from the table data that majority of the respondents (69.1 percent) opined that 'easy to understand' was the reason for using the Wikipedia, followed by easy to- use (67.9 percent), reasonably accurate information (52.9 percent) and least number for the up- to -date information (45.9 percent). It is also found from the table that majority of the male respondents (70.35 percent) opined that 'easy to use' was the reason for using Wikipedia, followed by easy to understand (69.28 percent).

It may be inferred that respondents are highly conversant with using electronic gadgets, so that they can get information through their mobile phone. This is the reason they prefer to get information through Wikipedia rather than the print encyclopaedia. It may also be inferred that searching for information on Wikipedia is convenient; it dominates the importance of credibility of information. It can be concluded that majority of the respondents expressed that 'easy to understand' was the reason to prefer Wikipedia to the traditional encyclopaedia.

Table 5.3**Use of Wikipedia as a source of information**

Purpose	Opinion	Gender		
		Male n=280	Female n=225	Total N=505
To get background information	Yes	224(80.0)	167(74.22)	391(77.42)
	No	26(9.3)	15(6.7)	41(8.1)
	No idea	30(10.7)	43(19.1)	73(14.5)
For a quick overview	Yes	205(73.2)	171(76.0)	376(74.65)
	No	41(14.6)	33(14.7)	74(14.7)
	No idea	34(12.0)	21(9.2)	55(10.9)
For checking factual information	Yes	180(64.28)	136(60.44)	316(62.57)
	No	37(13.4)	26(11.4)	63(12.5)
	No idea	63(22.5)	63(27.9)	126(24.95)
To get multilingual information	Yes	154(55.0)	113(50.22)	267(52.87)
	No	44(15.7)	39(17.3)	84(16.4)
	No idea	82(29.3)	73(32.4)	155(30.7)

(Note: Figures in parentheses indicate percentage)

Chi-Square Test				
Gender Vs	Chi-Square Value	Degrees of freedom	P value	Level of significance
To get background information	7.677	2	.022	Significant P <0.05
For a quick overview	1.034	2	.596	Not significant P >0.05
For checking factual information	2.082	2	.353	Not significant P >0.05
To get multilingual information	1.143	2	.565	Not significant P >0.05

Table 5.3 presents the data on the usage of Wikipedia as an information source. It is evident from the table that majority of the respondents (77.42 percent) are using Wikipedia to get background information, followed by 'Get a quick overview' (74.65 percent), checking factual information (62.57 percent) and getting multilingual information (52.87 percent).

It is also noticed that one third of the respondents (30.7 percent) have no idea about the availability of multilingual information on Wikipedia. Almost one fourth of the respondents (24.95 percent) have no idea about how to check factual information on Wikipedia.

From the table it is also observed that majority of the male respondents (80.0 percent) use Wikipedia to get background information, whereas the females are quite less (74.22 percent). There is no significant difference between male and female respondents' usage of Wikipedia as an information source. It is also proved from the Chi-square test, where the *P* - value is statistically not significant at 0.05 levels with two degrees of freedom. The results support the hypothesis **H₁**. It can be concluded that there is no significant difference between male and female respondents' usage of Wikipedia as an information source.

Table 5.4
Opinion on the reliability of information on Wikipedia

Response	Gender		
	Male n=280	Female n=225	Total N=505
Yes	224 (80.0)	164 (72.88)	388 (76.83)
No	56 (20.0)	61 (27.11)	117 (23.16)
Total	280 (100)	225 (100)	505 (100)

(Note: Figures in parentheses indicate percentage)

The table explains the respondents' opinion on the reliability of information on Wikipedia. It is clear that majority of the respondents (76.83 percent) opined that they are satisfied with the reliability of information on Wikipedia; however, almost one fourth (23.45 percent) responded negatively.

The table also shows that most of the male respondents (80.0 percent) and female respondents (72.88 percent) are satisfied with the reliability of information on Wikipedia. It can be concluded that most of the respondents (76.83 percent) are satisfied with the reliability of information on Wikipedia.

Findings of the study

- ❖ Almost two thirds of the respondents (59.20 percent) are using Wikipedia.
- ❖ 'Easy to understand' (69.1 percent) was the reason for using Wikipedia.
- ❖ Most of the respondents (77.42 percent) are using Wikipedia to get background information.
- ❖ Most of the respondents (76.63 percent) are satisfied with the reliability of Wikipedia information.

6. CONCLUSION & RECOMMENDATIONS

The rise of using the web by the general public led Wikipedia to emerge as an important online information source. The study findings support that most of the respondents are concerned about using Wikipedia to get background information. A notable aspect of the study's finding was that most of the respondents were satisfied with the reliability of information on Wikipedia.

- It is suggested that the faculty working in engineering colleges need to form as a group in their specific subject domain and have to take initiative to improve the content available on Wikipedia by editing articles with the latest reliable content.
- It is also suggested that the library and information science professionals in the engineering colleges should guide the students and try to enhance their information literacy skills. This is very helpful for them to know the authenticity, reliability and worthiness of information in online sources.

REFERENCES

- Colón-Aguirre, M., & Fleming-May, R. A. (2012). "You Just Type in What You Are Looking For": Undergraduates' Use of Library Resources vs. Wikipedia. *The Journal of Academic Librarianship*. 38: 391–399.
<https://doi.org/10.1016/j.acalib.2012.09.013>
- Garrison, J. C. (2015). Getting a "quick fix": First-year college students' use of Wikipedia. *First Monday*. 20: 1–14. <https://doi.org/10.5210/fm.v20i10.5401>
- Knight, C., & Pryke, S. (2012). Wikipedia and the University, a case study. *Teaching in Higher Education*. 17: 649–659. <https://doi.org/10.1080/13562517.2012.666734>
- Lim, S. (2009). How and why do college students use Wikipedia? *Journal of the American Society for Information Science and Technology*. 60: 2189-2202.
- Menchen-Trevino, E., & Hargittai, E. (2011). Young Adults' Credibility Assessment of Wikipedia. *Information, Communication & Society*. 14: 24–51.
<https://doi.org/10.1080/13691181003695173>
- Polk, T., Johnston, M. P., & Evers, S. (2015). Wikipedia Use in Research: Perceptions in Secondary Schools. *TechTrends*. 59: 92–102. <https://doi.org/10.1007/s11528-015-0858-6>
- Selwyn, N., & Gorard, S. (2016). Students' use of Wikipedia as an academic resource Patterns of use and perceptions of usefulness. *The Internet and Higher Education*. 28: 28–34. <https://doi.org/10.1016/j.iheduc.2015.08.004>
- Snyder, J. (2010). Wikipedia as an Academic Reference: Faculty and Student View points. AMCIS 2010 Proceedings. AMCIS 2010. <https://aisel.aisnet.org/amcis2010/17>
- Soylu, F. (2009). Academic views on and uses of Wikipedia. *GNOVIS Communication, Culture, and Technology*. 9: 1–9.
<http://www.gnovisjournal.org/2009/05/13/academics-views-and-uses-wikipedia/>