

*Full Length Research*

## Perception and Usage of Wi-Fi Infrastructure among Students Community

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The advent of wireless technologies have permitted learners to converse universally anywhere and anytime and made it possible for learners to obtain and share information through wireless hand held devices such as Smartphone's, laptops and tablets. The purpose of present study is to find out the awareness and use of Wi-Fi infrastructure among students community of Mangalore University for different academic purposes. The study used well structured questionnaire for data collection and distributed to the PG student community of the Mangalore University. In a total, 180 questionnaires were distributed to students of various departments, out of which, 152 filled questionnaires were received back. The result of the study shows that majority of students are aware of the existence Wi-Fi facility, and they are satisfied with present Wi-Fi facility. The research study suggested that University Library should arrange different user awareness programme /orientation and training programs to educate the learners how to use the new technologies to achieve their educational goals.

**Keywords:** Wi-Fi, Use, PG Students, Mangalore University, Smartphone

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### INTRODUCTION

Wireless local area networks has grown dramatically over the last few years because it fills a real user need at a cost the user can afford (Burness and others , 2003).The word "Wi-Fi" is used in general English as a synonym for WLAN. Wi-Fi is short for "wireless fidelity is the name of a popular wireless networking technology that uses radio waves to provide wireless high-speed Internet and network connections (Webopedia, 2015). The Wi-Fi Alliance defines Wi-Fi as any wireless local area network (WLAN) product based on the Institute of Electrical and Electronics Engineers' (IEEE) 802.11 standards. Wi-Fi is technology that facilitate the exchange of information or

that allows computers and other devices to communicate over a distance without the use of wires, using microwaves in the 2.4GHz and 5GHz bands (Wikipedia, 2015).

Wireless technology have introduced a innovative era in communication for the education community, and emergence of wireless technology use may be playing a key role on student learning (Middleton and Chambers, 2010) and it is evident in many ways: as an essential delivery format for remote access to campus learning resources and services(Mathews,2005).The wireless technology may be used to make available Internet

access to devices that are inside the wireless network that is linked to the Internet. Now a day's Wi-Fi technology is considered as part of campus experience both from an educational point of view as well as from a social point of view (Schaffhauser, 2008). With a wireless network advantage, learners can now have access to a large variety of information from some given *hotspots*—the refectory, library or a remote hostels. With this benefit universities can profit from installing a WLAN system, which supplies a powerful amalgamation of wired network throughput, mobile access, and configuration elasticity.

## REVIEW OF LITERATURE

Kumar and Naik (2015) carried out a study for the purpose of the usage of Wi-Fi technology at Bangalore Medical College and Research Institute Library, Bangalore. The study was used survey method data collection through questionnaire. The results of the study showed that 50 % of the respondents opined that the facility has slow speed, following 35 % respondents faced the problem of frequent disconnectivity .the study also recommended that college library immediate need to improve the connectivity and increase the number of desktop terminals.

Selvaraja et al., (2014) conducted a study to find out the awareness and use of Wi-Fi service by the research scholars of University of Mysore For the purpose of collection of data the investigators used structured questionnaire and distributed to 150 research scholars of 35 different departments. The finding of the study was reveals that majority of the respondents 79.82% stated that they use the Wi-Fi service most frequently for purpose to search information related to their field of research'. Followed by, 68 (59.65%) of the researchers use 'to search E-theses and Dissertations majority (96; 84.2%) of the respondents opinioned that they are satisfied with present Wi-Fi services. It is also found from study 73%of respondents faced main problem while accessing Wi-Fi connection was less internet access speed .The investigator finally recommended that by increasing speed of Internet and creating awareness about use and terms and conditions of Wi-Fi service.

A study conducted by Singson and Rajesh (2012) highlights that 69% of respondents using computer for the purpose of entertainment, majority of respondents 79% aware of the presence of Wi-Fi and 85% of the respondents' satisfied using Wi-Fi facility. The results of the study shows that 77% of the respondent were not happy with the speed and have come across technical snag and errors followed by (72%) feels that orientation on the use or assistance is required for better usage of Wi-Fi within the campus.

Baidwan (2011) made an attempt to analyze the usage of Wi-Fi services among users at Dr. Tulsi Das Library of

Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh. It was found from the study 64% of respondents visited the library daily, followed by 9% once in week. Majority of respondents 70% preferred to access the Internet through Wi-Fi facility, 75% of respondents used Wi-Fi facility for the purpose of searching articles/research papers. The study concluded that Wi-Fi service in Dr Tulsi Das Library, PGIMER, has undoubtedly a beneficial impact on the research work and study of faculty, research scholars, and students.

Barak, Lipson et al.,(2006) made a study to examine the perceptions and usage of wireless laptops for promoting active learning in lecture halls the study also examined students' behavior in class room. The results of the study highlights that students have highly positive awareness about the use of wireless laptops, but less positive perceptions about being active in class. Findings show that the use of wireless laptops in a large classroom setting has many educational advantages, and it can facilitate students' active learning through solving problems, exploring phenomena, and sharing ideas. The wireless laptops enable instructors and students to enjoy the advantages of using computers as cognitive tools, free of concerns related to classroom settings and the number of students enrolled.

## About Mangalore University

Mangalore University was set up on September 10, 1980. University Campus, Mangalagangothri, is located on a picturesque hillock, spread over 350 acres of land, 20 kms away from Mangalore city, enjoying the bounties of nature providing an ideal atmosphere for higher education. It has more than 25 postgraduate departments in the campus offering higher education in various disciplines. Provide Excellent Academic, Physical, Administrative, infrastructural and Moral ambience. Promote Quality and Excellence in Teaching Learning and Research.

## OBJECTIVES OF THE STUDY

The existence of Wi-Fi within the campus is a fortunate thing to the university learner in right to use electronic resources for educational purpose. An objective of the present study is;

- To find out the student community awareness on availability of Wi-Fi connectivity.
- To know the frequency and time spent in usage of Wi-Fi facility in the university campus.
- To identify the purpose of use of Wi-Fi services by the students for different information requirement.

- To find out the satisfaction level of use of Wi-Fi service by students.
- To identified the problems faced by the students in using Wi-Fi facility.

## METHODOLOGY

To fulfil the above objectives of the study, a survey method was conducted using a well structured questionnaire. In a total 180 questionnaires were distributed to students of 14 different science departments. Out of which, 152 filled questionnaires were received back. The collected data were classified, analyzed and tabulated by using statistical methods. The present study is limited to the awareness and usage of Wi-Fi service among students of Mangalore University main campus. Further, this study has concentrated only Post Graduate students of Mangalore University.

## Data Analysis and Interpretation

The table 1 demonstrates the gender wise respondents, it is seen from the table that 72(47.37%) were male, 80(52.63%) were female.

The table 2 indicates that 58(38.15%) of respondents are from Arts discipline, followed by 57(35.52%) from Science, 32(21.05%) from Commerce, and 08(05.28%) of respondents from Management.

Table 3 shows the respondent were asked on their awareness on the existence of University Wi-Fi facility, and it was found that 145(95.40%) of respondents were aware of the existence and 07(04.60%) of the respondents responded as not being aware of the facilities.

The table 4 explains respondents were stated the place where they are usually surf the internet. 64(42.10%) of the respondents responded to accessing Wi-Fi in anywhere in the campus whereas 56(36.84%) of the respondents did access in the department, 32(21.06%) of respondents responded to using Wi-Fi in the residential hostel.

The table 5 explains that 72 (47.36%) of the respondents use of Wi-Fi service as and when they required while 38(25.00%) twice in a week, 22(14.47%) weekly, and 20(13.17%) of the respondents use of Wi-Fi service daily.

The table 6 indicates that majority 117(73.68%) of respondents prefers Smartphone as the favorite medium of accessing Wi-Fi, followed by 24(15.78%) mobile media player and 16(10.54%) Laptop computer.

From the table 7 depicts the time spend to use Wi-Fi service by the students, the researcher can observe that, most 93(61.19%) of respondents replied that they use

Wi-Fi service 'whenever they want', followed by, about 51(33.55%) of respondents stated that they spend nearly 1-2 hours to use Wi-Fi services daily. Further, 05(03.29%) of respondents spend 3-4 hours, and only 03(01.97%) of respondents use Wi-Fi service 4-5 hours per day.

Speed of Internet is significant to increase the usage .From the table 8 illustration, it was found that 14(09.23%) of the respondents felt that the Wi-Fi connection speed is in an excellent speed were as 54(35.52%) felt very good, 72(47.36%) felt good and only 12(07.89%) felt that it was poor.

From the table 9 shows that most of the students 93(61.20%) use Wi-Fi Service for the purpose to search information relating to subjects, followed by 31(20.39%) to use social network sites (like Whatsapp, Facebook, YouTube, etc), 12(07.89%) to search information relating to Jobs and only 07(04.60%) of respondents use Wi-Fi Service for the purpose to search e-resources.

It is observed from the above table 10 that majority 98(64.47%) of the respondents stated that they are satisfied with present Wi-Fi facility, while 23(15.14%) fully satisfied, 28(18.42%) partially satisfied and only 01(0.65%) of the respondents responded that they are not satisfied with present Wi-Fi facility.

From the table 11 shows the problems faced by the students while using Wi-Fi connection. About 61(40.13%) of respondents replied that lack of internet access speed is a major problem they face while accessing Wi-Fi connection. Whereas 32(21.07%) of respondents stated that frequent disconnection, 24(15.78%) limited connectivity, and 22(14.47%) less renewal period is another obstacle for using Wi-Fi connection.

## FINDINGS

The findings of the study are as follows;

- Out of 152 users 72 (47.37%) were male, 80(52.63%) were female.
- Majority 145(95.40%) of respondents were aware of the existence and 07(04.60%) of the respondents responded as not being aware of the facilities.
- About 64(42.10%) of the respondents responded to accessing Wi-Fi in anywhere in the campus whereas 32(21.06%) of respondents responded to using Wi-Fi in the residential hostel.
- It was found from the study 72 (47.36%) of the respondents use of Wi-Fi service as and when they required and 20(13.17%) of the respondents use of Wi-Fi service daily.
- Majority 117(73.68%) of respondents prefers Smartphone as the favorite medium of accessing Wi-Fi and 16(10.54%) Laptop computer.

**Table 1:** Gender wise distribution of respondents

Gender	No. of Respondents	Percent
Male	72	47.37%
Female	80	52.63%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 2:** Discipline wise distribution of respondents

Discipline	No. of Respondents	Percent
Arts	54	35.52%
Science	58	38.15%
Commerce	32	21.05%
Management	08	05.28%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 3:** Awareness of Wi-Fi facility in campus

Awareness	No. of Respondents	Percent
Yes	145	95.40%
No	07	04.60%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 4:** Prefer place of accessing Wi-Fi facility

Place	No. of Respondents	Percent
Department	56	36.84%
Hostel	32	21.06%
Anywhere in the campus	64	42.10%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 5:** Frequency to use of Wi-Fi service

Frequency	No. of Respondents	Percent
Daily	20	13.17%
Twice in a week	38	25.00%
Once in a week	22	14.47%
As and when I required	72	47.36%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 6:** Most prefer medium to used by accessing Wireless internet in the campus

Medium	No. of Respondents	Percent
Laptop computer	16	10.54%
Smartphone	112	73.68%
Mobile media player	24	15.78%
Others	00	00.00%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 7:** Time spend to use Wi-Fi Service in a day

<b>Time</b>	<b>No. of Respondents</b>	<b>Percent</b>
1-2 hours	51	33.55%
3-4 hours	05	03.29%
4-5 hours	03	01.97%
Whenever I want	93	61.19%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 8:** Wi-Fi connection speed in the campus

<b>Wi-Fi connection speed</b>	<b>No. of Respondents</b>	<b>Percent</b>
Excellent	14	09.23%
Very good	54	35.52%
Good	72	47.36%
Poor	12	07.89%
Very poor	00	00.00%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 9:** Purpose of using of Wi-Fi Service

<b>Purpose</b>	<b>No. of Respondents</b>	<b>Percent</b>
To search information relating to subjects	93	61.20%
To search e-resources	07	04.60%
To search information relating to Jobs	12	07.89%
For entertainment purpose	09	05.92%
To use social network sites (like Whatsapp, Facebook, YouTube, etc).	31	20.39%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 10:** Level of satisfaction with present Wi-Fi connection

<b>Level of satisfaction</b>	<b>No. of Respondents</b>	<b>Percent</b>
Fully satisfied	23	15.14%
Satisfied	98	64.47%
Partially satisfied	28	18.42%
Satisfied to a little extent	02	01.32%
Not satisfied	01	0.65%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

**Table 11:** Problems encountered while using Wi-Fi service

<b>Problems</b>	<b>No. of Respondents</b>	<b>Percent</b>
Lack of internet access speed	61	40.13%
Frequent disconnection	32	21.07%
Limited connectivity	24	15.78%
Less renewal period	22	14.47%
Any other	13	08.55%
<b>Total</b>	<b>152</b>	<b>100.00%</b>

- Most 93(61.19%) of respondents replied that they use Wi-Fi service whenever they want and only 03(01.97%) of respondents use Wi-Fi service 4-5 hours per day.
- About 54(35.52%) of the respondents felt that the Wi-Fi connection speed is in an very good speed and only 12(07.89%) felt that it was poor.
- It was found from the study 93(61.20%) of respondents use Wi-Fi Service for the purpose to search information relating to subjects and only 07(04.60%) of respondents use Wi-Fi Service for the purpose to search e-resources.
- Majority 98(64.47%) of the respondents stated that they are satisfied with present Wi-Fi facility and only 01(0.65%) of the respondents responded that they are not satisfied with present Wi-Fi facility.
- While coming to address problems faced by the respondents for accessing E-resources it was found that 61(40.13%) of respondents replied that lack of internet access speed is a major problem they face while accessing Wi-Fi connection. Whereas 32(21.07%) of respondents stated that frequent disconnection.

## CONCLUSION AND RECOMMENDATIONS

The advent of wireless technologies have permitted users to converse universally anywhere and anytime and made it possible for learners to obtain and share information through wireless hand held devices such as Smartphone's, laptops and tablets. With a wireless network advantage, learners can now have access to a large variety of information from some given *hotspots*—the refectory, library or a remote hostels. With this benefit universities can profit from installing a WLAN system, which supplies a powerful amalgamation of wired network throughput, mobile access, and configuration elasticity. The result of the study shows that majority of students are aware of the existence Wi-Fi facility, and they are satisfied with present Wi-Fi facility. Based on the findings of the study the following suggestions are made the University Library should arrange different user awareness programme/orientation and training programs to educate the learners how to use the new technologies to achieve their educational goals. Enlarge the amount of hotspot must be optimistic and improved equipments for superior signal should be installed. Towering bandwidth should be supplied so as to facilitate the learners in

downloading electronic resources.

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