

WIRELESS NETWORK USE AND AWARENESS OF SURANA COLLEGE STUDENTS: A STUDY**Gururaj F. D. *** **Arun Kumar H. S.**** **Lokesha M.*****

***Librarian,**
Surana College,
Bengaluru,
Karnataka,
India.

****Asst. Librarian,**
Surana College,
Bengaluru,
Karnataka,
India.

*****Asst.**
Librarian(Guest),
Mangalore University,
Mangalore,
Karnataka,
India.

QR Code



ABSTRACT: - *Technology is making rapid progress and is making many things easier. As the innovative thinking of persons is increasing day-by-day, new methods for wireless networking has been evolved of which our present topic Wi-Fi is the most accepted technology. Wi-Fi, an acronym for Wireless-Fidelity which is the wireless way to handle networking. The main aim of this paper is wireless networking achieved by Wi-Fi. This paper introduces Wi-Fi technology and states the history of this technology in brief. We then deal with the different ways of wireless networking, connecting Wi-Fi and with Wi-Fi security. This paper concludes with the pros and cons of this technology and its future. The parameter for the research was ICT literacy, Wi-Fi awareness, connectivity problem, us age, gadget preference. The outcomes of the finding suggest that although the calls for radical transformations in educational approaches may be legitimate it would be misleading to ground the arguments for such change solely in students' opinion and that the infrastructure indeed shows a great deal of benefit to the student in the way they connect online. The finding also identified the problem in Wi-Fi hotspots and the coverage.*

INTRODUCTION: Wi-Fi, an acronym for "Wireless Fidelity", is a set of product compatibility standards for Wireless Local Area Networks (WLAN) based on the IEEE 802.11 specifications. Wi-Fi was intended to be used for mobile devices and LANs, but is now often used for Internet access. It enables a person with a wireless-enabled computer or personal digital

assistant (PDA) to connect to the Internet when in proximity of an access point. Wireless Fidelity is the wireless way to handle networking. It is also known as 802.11 networking and wireless networking. Using this technology we can connect computers anywhere in a home or office without the need of any wires. The computers connect to

the network using radio signals, and they can be up to 100 feet or so apart.

Wi-Fi allows to connect to the internet from virtually anywhere at speeds of up to 54Mbps. The computers and handsets enabled with this technology use radio technologies based on the IEEE 802.11 standard to send and receive data anywhere within the range of a base station. Wi-Fi goes beyond wirelessly connecting computers, it also connects people.

WIRELESS LAN?

A wireless LAN (WLAN) is a data transmission system designed to provide location-independent network access between computing devices by using radio waves rather than a cable infrastructure. In the corporate enterprise, wireless LANs are usually implemented as the final link between the existing wired network and a group of client computers, giving these users wireless access to the full resources and services of the corporate network across a building or campus setting. WLANs are on the verge of becoming a mainstream connectivity solution for a broad range of business customers. The wireless market is expanding rapidly as businesses discover the productivity benefits of going wire-free. According to Frost and Sullivan, the wireless LAN industry exceeded \$300 million in 1998 and is projected to grow \$1.6 billion in 2005. To date, wireless LANs have been primarily implemented in vertical applications such as manufacturing facilities, warehouses, and retail stores. The

majority of future wireless LAN growth is expected in healthcare facilities, educational institutions, and corporate enterprise office spaces. In the corporation, conference rooms, public areas, and branch offices are likely venues for WLANs. The widespread acceptance of WLANs depends on industry standardization to ensure product compatibility and reliability among the various manufacturers. The Institute of Electrical and electronics Engineers (IEEE) rectified the original 802.11 specification in 1997 as the standard for wireless LANs. That version of 802.11 provides for 1 Mbps and 2 Mbps data rates and a set of fundamental signalling methods and other services.

ABOUT SURANA COLLEGE:

Surana College established by GDA foundation in 1995, is one of the premier institutions in the fast growing city of Bangalore offering quality education at an affordable cost at PU, UG and PG levels in all streams of Arts, Science, IT, Commerce & Management. The college is located at near Southend Circle in Bangalore City, Karnataka State in India. The College also has a centre of post graduate studies which offers courses such as MBA, MCA, M.Sc(Psy) and M.Com located at Kengeri Satellite Town. The College affiliated to Bangalore University, has been recently accredited by NAAC at 'A' grade. It caters to the educational needs of all sections of the society. The institution has many case studies of inducting average students only to raise them to achieve distinctions or ranks. True to its mission

statement, Surana College constantly identifies and introduces value additions to enrich University Curriculum & design balanced inputs of Curricular, Co-curricular and Extra-Curricular components into practice. The Institution prepares students into self-reliant, independent thinking, globally competent, skilled and socially useful citizens of the nation with values to contribute their own might to the society. In the last few years, the College has produced 27 rank holders at University level and several national and international sports persons. The college has excelled in cultural activities too. A large number of campus placements happen every year. The College leaves no stone unturned to convert students' mirrors of imagination into windows of reality.

OBJECTIVES

1. To trace out the preferred place for access of Wi-Fi facility by the Surana college students.
2. To know the satisfaction level of use of Wi-Fi service by the Surana college students
3. To know the frequency and time spent in usage of Wi-Fi facility in the college campus.
4. To identify the purpose of use Wi-Fi services.
5. To find out the problems faced by the students in using Wi-Fi connection facility.

METHODOLOGY OF THE STUDY:

The data was collected using a paper-based questionnaire. The aim of the questionnaire was to examine the extent of Wi-Fi technology

use amongst this target group. The paper questionnaire was handed out at the end of a selected number students present at the Surana College campus.

Questionnaires were given randomly, based on student residing in the college campus. The survey was available for 2 weeks and 120 members (N=120) out of 350 students in the surana college Responded to the invitation by completing the survey. All responses were anonymous and no personal details such as email or IP addresses were collected thereby ensuring privacy. The survey comprised of closed ended questionnaire organized around four topics. These were:

- (1) Educational background
- (2) Facilities of Wi-Fi
- (3) Purpose of usage, and
- (4) ICT literacy.

For purposes of clarity, the discussion and results will be presented organized around these four topics with the results.

DATA INTERPRETATION AND ANALYSIS

Survey Goals and Rationale

The survey for this study was designed with the primary goal of better understanding the Factors that motivates students to access Wi-Fi network in the university. It was also hoped that the survey responses would illuminate and highlights the problem associated in accessing wireless university network at a broader level. Specifically, the questionnaire explores whether students are aware of the Wi-Fi existence and the in-depth behaviours and purpose of the residential

student using Wi-Fi network. The study is primary targeted at the students residing within the campus and having access to the connectivity.

Gender ratio of the population:

The demographics of survey participants varied in terms of age, education levels and the subject, but were otherwise homogeneous. Of the 100 survey respondents who identified their gender, all but three were male. Just five people reported their ages as between 20 and 28 years-old, as the study field concentrated only on the student's environment. Male responded maximum with 63% and Female 36% their information needs are diverse and therefore a further study is required on their perception on Wi-Fi Technology.

Table 1: - Gender of the respondents

Gender	No. of Responses	Percentage
Male	76	63.30%
Female	44	36.70%
Total	120	100.0%

Table 1 shows the use of Wi-Fi Internet network by gender. A total of 120 respondents noted the questionnaire. Out of 76 (63.30%) of them were male and 44(36.70%) were female.

Table 2: - Department wise questioner distribution

Department	No. Responses	of Percentage
MBA	34	28.30%
MCA	32	26.60%
M.Sc(Psy)	25	20.90%
M.Com	29	24.20%

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Table 2 reveals the department wise circulation of the users using Wi-Fi service. It is clear from the above table that, out of 120 respondents, 34 (28.30%) of respondents belongs to MBA department. About 32 (26.60%) respondents are from MCA Department, it is followed by Department of M. Sc (Psy) 25(20.90%) and M Com indicating 29 (24.20%) respondents.

Table 3: Awareness about Wi-Fi technology

Awareness	No. Responses	of Percentage
Yes	113	94.20%
No	7	5.80%
Total	120	100.00%

The awareness of Wi-Fi is to be taken in to account when using the Wi-Fi. The survey responses for this, out of 120 respondents, majority number of respondents 113(94.20%) are agreed that they are aware of Wi-Fi network usage and very less number of respondents are not agreed.

Table 4: Wi-Fi access points

Sl No	Access points	Yes	No	Total
1	Library	87 (72.50%)	33 (27.50%)	120 (100 %)
2	Department	31 (25.80%)	89 (74.20%)	120 (100 %)
3	Hostel	4 (3.30%)	116 (96.70%)	120 (100 %)
4	Anywhere in campus	95 (79.20%)	25 (20.80%)	120 (100 %)

From the above table, maximum number of users agreed that Wi-Fi network connection can be access anywhere in campus. Library is another access point for the Wi-Fi network as concerned by the 87 (72.50%) users. Followed by 31(25.80%) are expect Wi-Fi connection in their department. Majority of users 116 (96.70%) are not agree for the Wi-Fi connection at hostel.

Table 5: - Wi-Fi frequency usage

Sl No.	Frequency of Use Wi-Fi	No. of Responses	Percentage
1	Daily	32	26.70%
2	Twice in a week	10	8.20%
3	Once in a week	11	9.20%
4	As and when required	67	55.90%
	Total	120	100.0%

The above table represents Frequency of Use of Wi-Fi service by the user. 32 (26.70%) of responses replied for the use of Wi-Fi in 'Daily' basis. Whereas, 10 (8.20%) users use 'twice in a week' and 11 (9.20%) users use Wi-Fi 'once in a

week', about 67(55.90%) users use 'as and when they required'.

Table 5: - Device

SL No	Devices	Yes	No	Total
1	Laptop computer	59 (49.20%)	61 (50.80%)	120 (100%)
2	Smartphone	86 (71.70%)	34 (28.30%)	120 (100%)
3	Mobile media player	4 (3.30%)	116 (96.70%)	120 (100%)
4	EReader	7 (5.80%)	113 (94.20%)	120 (100%)
5	Tablet computer	10 (8.30%)	110 (91.70%)	120 (100%)

The above table shows type of devices used to be able to access Wi-Fi network. Out of 120 respondents, 59 (49.20%) respondents are replied that the Laptop computers can access Wi-Fi network. Followed by 86 (71.70%) users said that Wi-Fi network is run by Smartphone devices too. As per the table, 116 (96.70%) users are not agreed for the access of Wi-Fi network in Mobile media player, followed by 113 (94.20%) and 110 (91.70%) users are not agreed for the access of Wi-Fi network in E-Reader and Tablet computer respectively.

Table 6: - Duration of Wi-Fi Usage

Sl No.	Duration of Time	Frequency	Percentage
1	1-2 Hours	43	35.80%
2	3-4 Hours	3	2.50%
3	4-5 Hours	8	6.70%
4	Whenever I want	66	55.00%
	Total	120	100.00%

The table shows the time spend to use Wi-Fi facility by the user. 43 (35.80%) of responses replied that they use Wi-Fi facility 1-2 hours and only 3 (2.50%) users use Wi-Fi service 3-4 hours per day. Additional, 8 (6.70%) respondents said that they spend 4-5 hours and 66 (55.00%) users use Wi-Fi facility 'whenever they want'.

Table 7: - Opinion of users on satisfaction of Wi-Fi service

Sl No.	Network Status	No. of Respondents	Percentage
1	Excellent	31	25.80%
2	Very good	19	15.80%
3	Good	53	44.20%
4	Poor	14	11.70%
5	Very poor	3	2.50%
	Total	120	100.00%

Contents of the above table shows Wi-Fi Network status. Out of 120 respondents 31 (25.80%) of respondents states that Wi-Fi has Excellent network connection, followed by 53 (44.20%) responses turned for good Wi-Fi network. Only 3 (2.50%) of the responses replied that Wi-Fi has Very poor network status.

Table 8: - Purpose of Wi-Fi usage

Sl No.	Purpose	Yes	No	Total
1	To search information relating to subjects	111 (92.50%)	9 (7.50%)	120 (100.00%)
2	To discuss with teachers and friends	24 (20.00%)	96 (80.00%)	120 (100.00%)
3	To search tutorials and	50 (41.70%)	70 (58.30%)	120 (100.00%)

	power point presentations	(%)	(%)	(%)
4	To search e-reference sources (like, online dictionaries, encyclopaedias & Yearbook etc.)	66 (55.00%)	54 (45.00%)	120 (100.00%)
5	To search E-books and E-journals	45 (37.50%)	75 (62.50%)	120 (100.00%)
6	To search E-theses and Dissertations	29 (24.20%)	91 (75.80%)	120 (100.00%)
7	To search information relating to Jobs	95 (79.20%)	25 (20.80%)	120 (100.00%)
8	For entertainment purpose	99 (82.50%)	21 (17.50%)	120 (100.00%)
9	For communication (E-mail) purpose	102 (85.00%)	18 (15.00%)	120 (100.00%)
10	To use social network sites (like Facebook, Google+, Orkut, YouTube, Blog, LinkedIn and etc.)	89 (74.20%)	31 (25.80%)	120 (100.00%)

The table highlighted purpose of wireless network usage , 111 (92.50%) of users have use Wi-Fi for the purpose To search information relating to subjects, 66 (55.00%) of respondents accessed To discuss with teachers and friends. About 50 (41.70%) students are using for to search tutorials and power point presentations, 66

(55.00%) students are accepted To search e-reference sources (like, online dictionaries, encyclopedias & Yearbook etc.) The purposes like, To search E-books and E-journals, To search E-theses and Dissertations, To search information relating to Jobs and For entertainment purpose are concerned with 45 (37.50%), 29 (24.20%), 95 (79.20%) and 99 (82.50%), followed by 102 (85.00%) user agreed for communication (E-mail) purpose and 89 (74.20%) students are agreed To use social network sites (like Facebook, Google+, Orkut, YouTube, Blog, LinkedIn and *etc.*) respectively.

Table 9 : - Opinion of users on satisfaction of Wi-Fi service

Users satisfaction	No. of Respondents	Percentage
Yes	78	65.00%
No	42	35.00%
Total	120	100.00%

The above table says user satisfaction about Wi-Fi network 78 (65.00%) students are satisfied and 42 (35.00%) students are not satisfied with wireless network.

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

Sl No.	Level of satisfaction	No. of Respondents	Percentage
1	Fully satisfied	17	14.20%
2	Satisfied	30	25.00%
3	Partially satisfied	22	18.30%
4	Satisfied to a little extent	24	20.00%
5	Not satisfied	27	22.50%
	Total	120	100.00%

The above table shows level of satisfaction with present Wi-Fi connection, 17 (14.20%) students are fully satisfied with Wi-Fi facility, 30 (25.00%) users satisfied, 22 (18.30%) students are partially satisfied, 24 (20.00%) students are satisfied to a little extent, 27 (22.50%) students are not satisfied with Wi-Fi connection.

Table 11:- Problems faced by the users while using Wi-Fi connection

Sl No.	Problems	Yes	No	Total
1	Lack of internet access speed	58 (48.30%)	62 (51.70%)	120 (100.00%)
2	Frequent disconnection	34 (28.30%)	86 (71.70%)	120 (100.00%)
3	Limited connectivity	43 (35.80%)	77 (64.20%)	120 (100.00%)
4	Less renewal period	6 (5.00%)	114 (95.00%)	120 (100.00%)
5	Site restriction	104 (86.70%)	16 (13.30%)	120 (100.00%)
6	Others	17 (14.20%)	103 (85.80%)	120 (100.00%)

The above table mention problems facing by the students while accessing wireless network 58 (48.30%) students are said that there is lack of internet access speed, 34 (28.30%) are coated frequent disconnection, 43 (35.80%) students are express the problem of limited connectivity, very less respondents 6 (5.00%) are agreed less renewal period, majority of the table 104 (86.70%) students are facing problems from site restriction, 17 (14.20%) students are agreed from other problems.

CONCLUSION

The findings of the study suggest that there is a high level of ICT awareness among student and that the demographics of survey participants varied in terms of age, education levels and the subject. From a sample population of 120 respondents, seventy six (76) were male and forty four (44) were female with an ages ranging between 20 and 28 years-old. Out of 120 respondents, 34 (28.30%) of respondents belongs to MBA department. About 32 (26.60%) respondents are from MCA Department, it is followed by Department of M. Sc (Psy) 25(20.90%) and M Com indicating 29 (24.20%) respondents. Computer literacy among student of Surana College looks pretty good with 99% of the students stating that they have either use or are using computer.

As Wi-Fi is now shipped in millions of products and deployed in millions of homes, business and hotspots worldwide, the technology has moved beyond the realm of a computer feature. Wi-Fi has fast become a cultural phenomenon.

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