



A Statistical Analysis For Facility Provided By Hostel Management System

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Abstract: The college aims to offer the best possible environment and learning experience to encourage students to perform to their full potential for academic achievement. The main factors in the development of college are students, teachers, parents and alumni which help to evaluate how its service policies and make changes as per stakeholders' requirements. Our aims to certain the adequacy of the hostels and other general facilities provided to the students and investigate the level of satisfaction of the students to the available facilities. Hostel is becoming a necessity with increasing number of students coming from peripheral areas. Hostel life is not without problems, limitations and challenges. To show student satisfaction with hostel facilities and look into the issues of hostel life, we systematic preferred questionnaires were used in data collection from hostel students taken as the sample for the study. The collected information is analyzed using several statistical tools and techniques.

Index Terms - Hostel Life, Facilities

Introduction

Human personality is shaped by the experiences of life. When a child is born the family provides a protective environment for the child, at the beginning the interactions are limited latter social interactions increase, and the process of socialization starts. Education plays an important role in our life. For the economical and social development education is a must requirement, with the higher education sector becoming an increasingly competitive market, college student satisfaction has become an important component of quality assurance. Hostels are providing residential opportunities for the students to continue the process of education. Living away from family for a specific period of time leaves some enduring experiences in the life of the students. In this new life style student learns to live independently, and learn how to compromise with the other students and roommates. Hostel environment gives an opportunity for socialization among students. The purpose of providing feedback to the students is to help teachers and students to identify their strengths and weaknesses. Feedback is an essential component in the learning and explains the gaps in knowledge and understanding, providing for reflection and development. A survey on hostel life gives view of students and shows the various positive and negative effects of hostel life.

A hostel is like a family of students with the warden as the head. Students develop a sense of friendship and fellow feeling. Students learn the value of discipline. A studied Analysis of Students' Satisfaction with Hostel Facilities and Their results indicated that there is strong evidence of significance relationship between the results of the parameters (Food Quality, Cleanliness, Water supply and First aid) services.

We studied certain the adequacy of the hostels and other general facilities provided to the students and investigate the level of satisfaction of the students to the available facilities. Systematic preferred

questionnaires were used in data collection from hostel students taken as the sample for the study. The collected information are analysed using several statistical tools and techniques.

The study revealed that respondents were dissatisfied with the adequacy and functionality of some facilities such as purity of drinking water, lankness of mess facility, health center facilities and internet facility provided in college campus. We study feedback on hostel facilities and mess facilities of different hostels. We observe here are the students are satisfied with the hostel facilities and how they look at their college atmosphere. Because of students satisfaction helps in attracting retaining high achievers who in turn increase reputation and standing of the college. Maintaining and improving students' satisfaction has been considered as an important goal of education and college with the assumption that student satisfaction is indicative of institutional effectiveness. Accessing student satisfaction provides a way that college can focus directly on issues of quality development in order to ensure that educational standards are high. In the beginning the hostel was considered as a placement for living purpose for the students at cheaper rate. But now that concept has changed and it is more than that.

By considering all these things we decided to study in this article through feedback measure the satisfaction level of the students towards hostel and general facilities provided by

Patel Kayna Chhatralay, Atmiya Girls Hostel, Field Marshal Girls Hostel, Samras Boys Hostel Atmiya Boys Hostel, Paradise Boys Hostels. To achieve our aim, it is important to collect the response of the students from this hostel. We directly take the data from feedback form in the form of primary data and it analyzed through several statistical tools and techniques. In this study we focus on student feedback regarding on hostel and general facilities provided by the college.

I. OBJECTIVES

- To study the independence between area and gender.
- To study the independence between area and qualification.
- To study facility of newspaper in girls and boys hostel.
- To study the facility of solar system in girls and boys hostel.
- To study the independence between area and internet facility.
- To study the difference between male and female hostel.
- To study the permission of participation in social work.
- To analysis the mess facility in different hostels.
- To find out which factors affected on hostel facilities.
- To analysis the Living facility in different hostels.

II. SIMPLE SIZE

- To estimate the sample size we conducted a pilot survey of 30 people and according to our objective the data is as follows.

Facility		
Inconvenient(No)	Convenient(Yes)	Total
16	14	30

Therefore

$$p=16/30=0.533$$

$$q=14/30=0.466$$

$$\alpha=5\% \text{ margin of error } =5\%$$

$$Z_{\alpha/2} = Z_{0.025} = 1.96$$

$$N = (p*q*Z^2_{\alpha/2})/\epsilon^2$$

$$N = (0.533*0.466*(1.96)^2(0.05)^2)$$

$$N = 382.45$$

$$N \approx 382$$

III. METHOD OF DATA COLLECTION:

- For this study, we have collected primary data from 200 students from 6 different girls' and boys' hostels from Rajkot District.
- The data was collected on the basis of the questionnaire which was answered by different students of hostel Rajkot.
- To collect this data, I visited in different hostel. I have collected data of 200 students from six hostels each of 3 girls & 3 Boys hostel.
- Sufficient time has given to the respondents for fill the information in questionnaires with Google form

IV. METHODOLOGY:

Both the qualitative and quantitative methods are used for data collection. Primary data was collected with the help of survey technique through questionnaire. Two stage sampling procedure was used. In first stage 6 hostels of girls and boys were selected randomly from Rajkot district. In second stage from 6 hostels, we collected 200 samples for our project. Then questionnaires were filled out by 200 students. Personal observation and questionnaire technique was used. Questionnaire was carried out to collect the information about hostels.

V. STATISTICAL TOOLS:

- Graphical Tools: Bar diagram, Multiple Bar diagram, Pie chart
- Test: Chi-Square Test

VI. GRAPHICAL REPRESENTATION

(1) Distribution of student according to area and gender

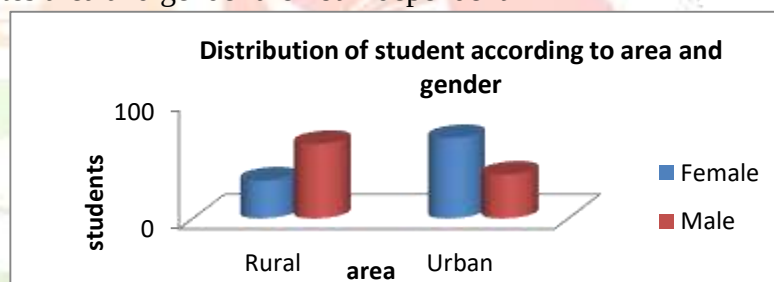
Chi-square test for independence of attributes area and Gender

Null Hypothesis (H_0) : The attributes area and gender are independent

Alternative Hypothesis (H_1) : The attributes area and gender are not independent

Gender	Rural	Urban	Total
Female	32	68	100
Male	63	37	100
Grand Total	95	105	200

Interpretation: From the graph we observed that most of student's urban area belonging in hostel survey.



X^2	19.26817
df	1
p-value	0.00000114
chi-square test	0.00000114

Conclusions: Here our P-value 0.00000114 which is smaller than $\alpha=0.05$, There is accepted alternative hypothesis

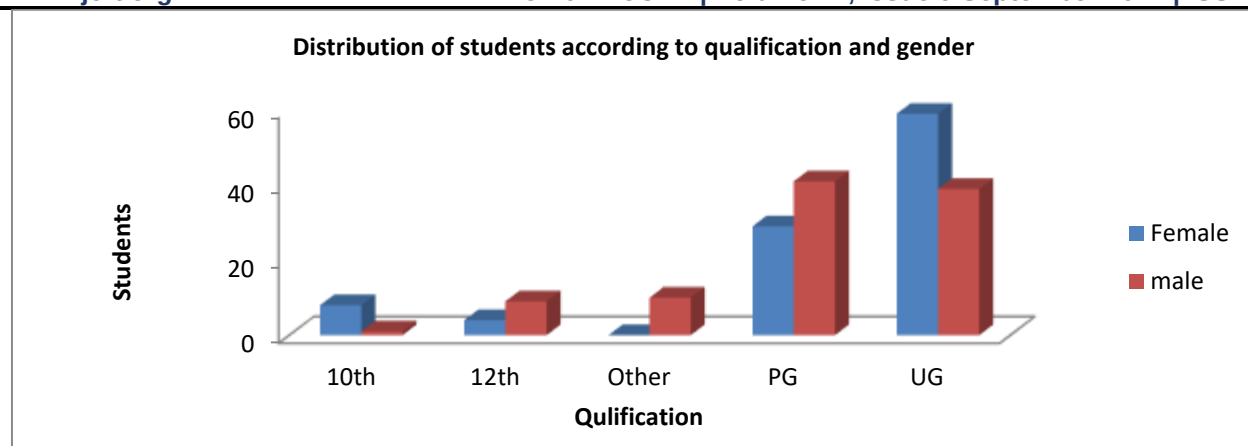
(2) Distribution of students according to qualification and gender

Chi-square test for independence of attributes Qualification and Gender

Null Hypothesis (H_0) : There is independent between Qualification and gender

Alternative Hypothesis (H_1) : There is dependent between Qualification and gender

Count of Gender	Qualification					
Row Labels	10th	12th	Other	PG	UG	Grand Total
Female	8	4	0	29	59	100
Male	1	9	10	41	39	100
Grand Total	9	13	10	70	98	200



Interpretation: From the graph we observed that most of student's study UG Qualification

X ²	23.5063
Df	4
p-value	0.0001
chi-square test	0.0001

Conclusion: Here our P-value is 0.0001 which is smaller than our $\alpha = 0.05$ so we reject our hypothesis and we can say that area is dependent is gender.

(3) Student reoposes about hostel environment

Chi-square test for independence of attributes environment and Gender

Null Hypothesis (H₀) : There is independent between environment and gender

Alternative Hypothesis (H₁) : There is dependent between environment and gender

Gender	calm & peaceful environment				
Row Labels	Average	Below Average	Excellent	Good	Grand Total
Female	3	0	77	20	100
Male	10	2	45	43	100
Grand Total	13	2	122	63	200

X ²	22.5595
df	3
p-value	4.99E-05
chi-square test	8.06E-05

Conclusion: Here our P-value is 4.99 which is larger than our $\alpha = 0.05$ so we don't reject our hypothesis and we can say that environment is independent is gender.

(4) Students responses about newspaper

Chi-square test for independence of attributes newspaper and gender

Null Hypothesis (H₀) : There is independent between newspaper and gender

Alternative Hypothesis (H₁) : There is dependent between newspaper and gender

gender	newspaper				
Row Labels	Average	Excellent	Good	Poor	Grand Total
Female	3	73	22	2	100
Male	1	56	40	3	100
Grand Total	4	129	62	5	200

X ²	8.666116529
df	3
p-value	0.034075753
chi-square test	0.034075753

Conclusion: Here our P-value is 0.0340 which is smaller than our $\alpha = 0.05$ so we don't accepted our hypothesis and we can say that newspaper is dependent is gender

(5) Students responses about Having library

Chi square test for independent of attributes having library and gender

Null Hypothesis (H₀) : There is independent between having library and gender

Alternative Hypothesis (H₁) : There is dependent between having library and gender

Observed(O)			
Row Labels	Female	Male	Grand Total
No	1	2	3
Yes	99	98	197
Grand Total	100	100	200

X ²	0.338409475
df	1
p-value	0.560748745
chi-square test	0.560748745

Conclusion: Here our P-value is 0.56074 which is large than our $\alpha=0.05$ so we do not reject our hypothesis and we can say that having library is independent is gender

(6) Students responses about internet facilities

Chi-square test for independence of attributes internet and Gender

Null Hypothesis (H_0) : There is independent between internet facilities and gender

Alternative Hypothesis (H_1) : There is dependent between internet facilities and gender

Count of Gender	internet	Below Average	Excellent	Good	Poor	Grand Total
Row Labels	Average	Average	Excellent	Good	Poor	Total
Female	10	3	68	10	9	100
Male	13	2	45	26	14	100
Grand Total	23	5	113	36	23	200

χ^2	13.47078791
df	4
p-value	0.009190476
chi-square test	0.009190476

Conclusion: Here our P-value is 0.00919 which is smaller than our $\alpha = 0.05$ so we don't accept our hypothesis and we can say that internet is dependent is gender.

Response rating on the prevailing condition of students (Girls & Boys) hostels facilities

Facilities	Average	Below Average	Excellent	Good	Poor	Total	Decision
Calm & peaceful environment	13 (6.5%)	2 (1.0%)	122 (61.0%)	63 (31.5%)	0 (0.0%)	200 (100%)	Excellent
Internet Facilities	23 (11.5%)	5 (2.5%)	113 (56.5%)	36 (18.0%)	23 (11.5%)	200 (100%)	Excellent
Solar Facilities	13 (6.5%)	3 (1.5%)	104 (52.0%)	66 (33.0%)	14 (7.0%)	200 (100%)	Excellent
Mess Facilities	16 (8.0%)	9 (4.5%)	97 (48.5%)	72 (36.0%)	6 (3.0%)	200 (100%)	Excellent
Living Facilities	2 (1.0%)	6 (3.0%)	116 (58.0%)	73 (36.5%)	3 (1.5%)	200 (100%)	Excellent
Wardrobe	19 (9.5%)	3 (1.5%)	69 (34.5%)	96 (48.0%)	13 (6.5%)	200 (100%)	Good
Common room /TV	18 (9.0%)	6 (3.0%)	56 (28.0%)	100 (50.0%)	20 (10.0%)	200 (100%)	Good
Water supply	15 (7.5%)	5 (2.5%)	99 (49.5%)	79 (39.5%)	2 (1.0%)	200 (100%)	Excellent
Power supply	10 (5.0%)	1 (0.5%)	124 (62.0%)	64 (32.0%)	1 (0.5%)	200 (100%)	Excellent
Toilet Facilities	59 (29.5%)	7 (3.5%)	40 (20.0%)	83 (41.5%)	11 (5.5%)	200 (100%)	Good
Bathrooms	43 (21.5%)	6 (3.0%)	44 (22.0%)	99 (49.5%)	8 (4.0%)	200 (100%)	Good
Cafeteria	35 (17.5%)	9 (4.5%)	73 (36.5%)	67 (33.5%)	16 (8.0%)	200 (100%)	Excellent

- Above table contains of the respondents with regard to the prevailing conditions of the students' hostels a facility study has been done in the hostel.
- Consequently, six hostel Facility dimension were assessed using ordinal scale ratings.
- Using the modal frequency to interpret the findings, it goes to show that out of the Twelve Dimension loaded, only eight Facilities were rated as being 'Excellent'(these include: Calm peaceful environment, Internet Facilities, Solar Facilities, Mess Facilities, Living Facilities, Water supply, Power supply and Cafeteria)
- While the other Four facilities including Wardrobe, Common room/TV, Toilet Facilities and Bathrooms were rated as being in a 'Good' condition.

Respondents' ratings on the prevailing conditions of students hostels facilities in atmiya girl's hostel

Facilities	Average	Below Average	Excellent	Good	Poor	Total	Decision
Calm& peaceful environment	0 (0.0%)	0 (0.0%)	19 (82.61%)	4 (17.40%)	0 (0.0%)	23 (100%)	Excellent
Internet Facilities	0 (0.0%)	0 (0.0%)	21 (91.31%)	1 (4.35%)	1 (4.35%)	23 (100%)	Excellent
Solar Facilities	1 (4.35%)	0 (0.0%)	13 (56.52%)	9 (39.13%)	0 (0.0%)	23 (100%)	Excellent
Mess Facilities	1 (4.35%)	0 (0.0%)	17 (73.92%)	5 (21.74%)	0 (0.0%)	23 (100%)	Excellent
Living Facilities	0 (0.0%)	0 (0.0%)	21 (91.30%)	2 (8.70%)	0 (0.0%)	23 (100%)	Excellent
Wardrobe	1 (4.35%)	0 (0.0%)	14 (60.86%)	8 (34.78%)	0 (0.0%)	23 (100%)	Excellent
Common room /TV	2 (8.70%)	1 (4.35%)	10 (43.48%)	9 (39.13%)	1 (4.35%)	23 (100%)	Excellent
Water supply	0 (0.0%)	0 (0.0%)	14 (60.87%)	9 (39.13%)	0 (0.0%)	23 (100%)	Excellent
Power supply	0 (0.0%)	0 (0.0%)	21 (91.30%)	20 (86.95%)	0 (0.0%)	23 (100%)	Good
Toilet Facilities	5 (21.74%)	0 (0.0%)	12 (52.17%)	6 (26.08%)	0 (0.0%)	23 (100%)	Excellent
Bathrooms	3 (13.04%)	0 (0.0%)	11 (47.83%)	9 (39.13%)	0 (0.0%)	23 (100%)	Excellent
Cafeteria	4 (17.40%)	0 (0.0%)	14 (60.86%)	5 (21.74%)	0 (0.0%)	23 (100%)	Excellent
Waste Disposal system	5 (21.74%)	2 (8.70%)	12 (52.17%)	4 (17.40%)	0 (0.0%)	23 (100%)	Excellent

- All the facilities that come into giving in the atmiya girls hostel is Excellent.

VII. CONCLUSION

- From the above investigated study, it is concluded that, Most of the students in urban areas live in hostels.
- Hostel hosts a large number of degree students. There is strong significance relationship between the results of the parameters (Calm peaceful environment, Solar Facilities, Mess Facilities, Living Facilities, Water supply, Power supply.)
- Most students in boys' hostel are dissatisfied with internet Facilities and it was observe that the hostel has not good Cafeteria.
- Maximum number of students would like to have participation in social work. As well as students are fully satisfied with Living facility provided in hostel campus.

- Most of the hostel students say that hostel climate is healthy. I observed no sanitary disposal machine in most of girl's hostel. As well as most of girls are not fully satisfied with facility provide at healthy centre.
- Hostel management provides newspaper, study room and library to the hostel students. Hostel management need to deliver quality service and offer better hostel facilities in order to improve student's services.
- It is Possible to tell from above the entire hostel, all hostels should have management like that atmiya Girls hostel.
- Hostel management provides newspaper, study room and library to the hostel students. Hostel management need to deliver quality service and offer better hostel facilities in order to improve student's services.
- Student expected the hostel to provide best facilities and services once they are in hostel but these are not well managed in hostel.
- Living and learning in hostel obviously impact in the learning of students but it adds financial burden to parents, perpetuates social inequalities, increase insecurity of children and violation of child rights.
- Government hostels provide more than facilities than private hostels and theirs fees are also less so we should take admission in government hostels. but facilities in government hostels should be improved.

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