Shivaji University, Kolhapur

Department of Statistics

A

Project Report

On

"Study of Hostel Life"

Submitted

By

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MSc.I (ASI)

Under the Guidance of

Dr. S.B.Mahadik

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ACKNOWLEDGEMENT

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We would like to thank Dr. D. N. Kashid, Head of Department, for providing us necessary facilities, their support, suggestions and guidance for this project.

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2. Data collection methodology
3. Objectives
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INTRODUCTION

Now a day's many students complete their education living in the hostel. We know the environment of hostel plays important role in education of student.

In this project we study feedback on hostel facilities and general feedback of hostel students about university. We observe here are the students are satisfied with the hostel facilities and how they look at their university atmosphere. Because student's satisfaction helps in attracting retaining high achievers who in turn increase reputation & standing of the university.

Maintaining & improving students' satisfaction has been considered as an important goal of education & university with the assumption that student satisfaction is indicative of institutional effectiveness.

Accessing student satisfaction provides a way that university can focus directly on issues of quality development in order to ensure that educational students are high.

By considering all these things, we decided to do this project to measure the satisfaction level of the students towards facilities given in hostels of Shivaji University, Kolhapur. To achieve our aim, it is important to collect the response of the students from all six hostels of university. We collected the data from students who living in hostels of this University.

Data Collection Methodology:

The data was collected by conducting a student satisfaction survey among all hostels of Shivaji University, Kolhapur. The questionnaire contains total thirty questions.

To collect the information using prepared questionnaire firstly we listed all the rooms in six hostels and total male and female of those hostels is collected from each hostel of this University.

Total rooms are 609 in which 312 for male and 297 for female. Using 30% criteria for sampling the sample of size 184 is selected. To select the desired sample by using systematic sampling scheme. To collect the data from this sample we visited selected hostel room and took the responses by arbitrarily choosing students which are present in the room at that time.

Pilot Study:

We have done pilot study to check the reliability of questionnaire. Reliability of questionnaire is measured using Cronbach's alpha. Also to check the significance of each question we use Spearman's rank correlation coefficient. From this analysis we see that all questions are reliable and significantly contributing. Same analysis is carried out for whole data which is given below.

Objectives:

1. To measure overall students' satisfaction level about Shivaji University hostels.
2. To identify the facility in which improvement is required.
3. To give ranking to the hostel based on students' satisfaction.
4. To measure gender wise satisfaction of students.
5. To measure satisfaction of students towards mess of the hostel.

Software used:

- MS-Excel
- R-Software
- SPSS
- XLSTAT
- Mini tab

Cronbach's Alpha

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability.

We conduct pilot survey to check reliability of questionnaire. In questionnaire there were 30 Likert scale questions. Using SPSS Cronbach's alpha for reliability analysis of questionnaire based on collected data is 0.935. This is quite large this means that all the questions are reliable.

Case Processing Summary

		N	%
Cases	Valid	49	100.0
	Excluded[a]	0	.0
	Total	49	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.935	30

We were trying to measure students' satisfaction towards facilities given in University hostels, a Likert scale is one of the most popular and reliable ways to do so. Likert scale is an ordinal scale and Spearman's rank correlation coefficient is appropriate measure which measures the strength of association between two ranked variables, therefore we used spearman's rank correlation coefficient to determine the efficient items (questions).

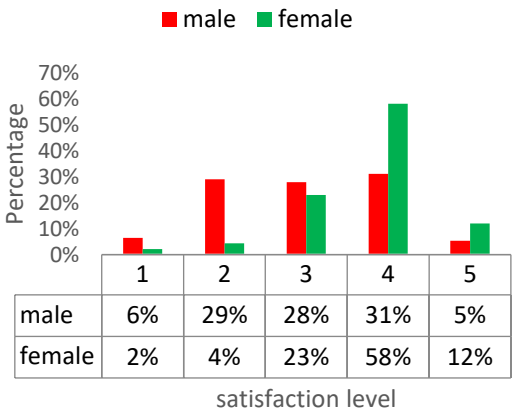
To identify the efficient item sets, we calculate correlation between score given to the individual item and total sum of score of all items excluding that item. Spearman's rank correlation coefficient and corresponding p-value for 30 items are given in table below,

Que. No.	Spearman rho	P-value
Q1	0.639874	7.42E-07
Q2	0.415199	0.003011573
Q3	0.442678	0.001447163
Q4	0.357676	0.01162975
Q5	0.457254	0.000956487
Q6	0.468067	0.000695125
Q7	0.353019	0.01284575
Q8	0.546083	4.94E-05
Q9	0.331594	0.01993784
Q10	0.563174	2.52E-05
Q11	0.437625	0.00166354
Q12	0.387956	0.005880483
Q13	0.60468	4.20E-06
Q14	0.583569	1.08E-05
Q15	0.60173	4.81E-06
Q16	0.596259	6.16E-06
Q17	0.572938	1.69E-05
Q18	0.696339	2.76E-08
Q19	0.578621	1.33E-05
Q20	0.677956	8.73E-08
Q21	0.541723	5.82E-05
Q22	0.661091	2.34E-07
Q23	0.339443	0.01702911
Q24	0.682079	6.79E-08
Q25	0.331552	0.01995448
Q26	0.727833	3.12E-09
Q27	0.645516	5.50E-07
Q28	0.417529	0.002836735
Q29	0.474164	0.000577935
Q30	0.474164	0.000577935

From the above table, we conclude that all the items are significantly contributing to measure the satisfaction level of the students. That's why we considered all the items for further analysis.

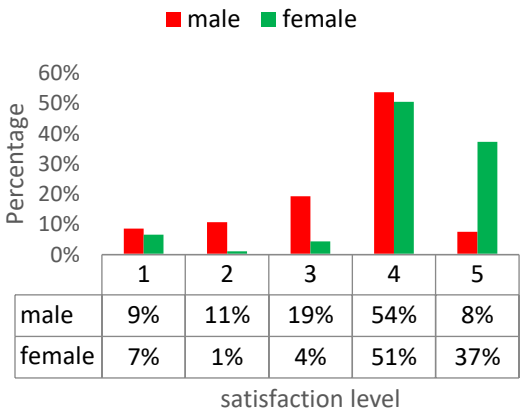
GRAPHICAL REPRESENTATION

1.Rule & Regulations



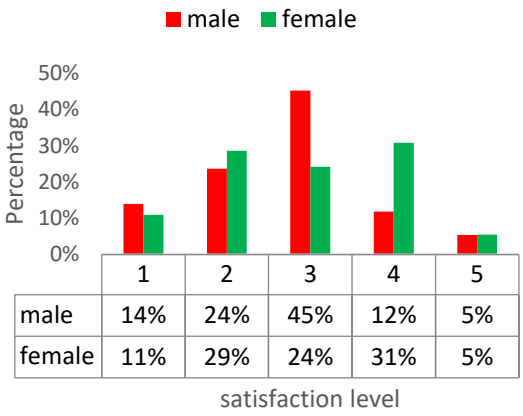
	1	2	3	4	5
male	6%	29%	28%	31%	5%
female	2%	4%	23%	58%	12%

2.Security Systems



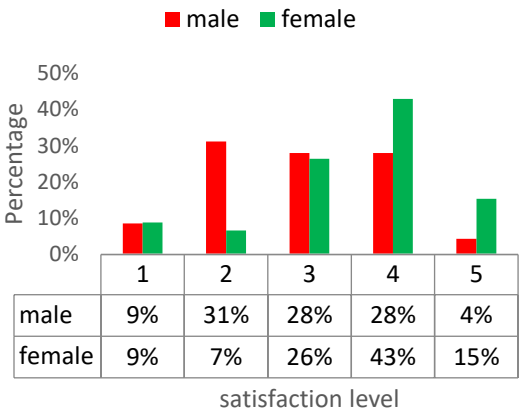
	1	2	3	4	5
male	9%	11%	19%	54%	8%
female	7%	1%	4%	51%	37%

3.Repair & Maintenance



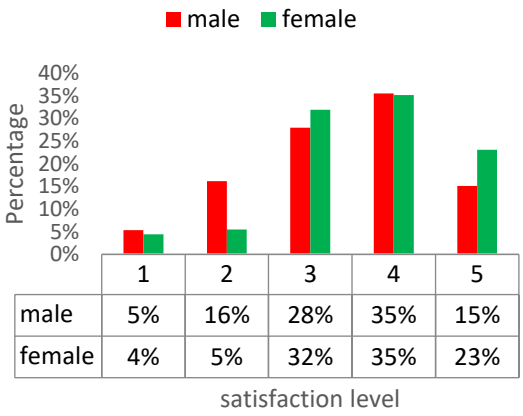
	1	2	3	4	5
male	14%	24%	45%	12%	5%
female	11%	29%	24%	31%	5%

4.Behavior Of Warden



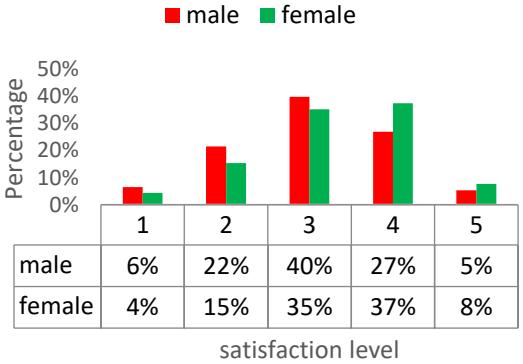
	1	2	3	4	5
male	9%	31%	28%	28%	4%
female	9%	7%	26%	43%	15%

5.Behavior Of Rector



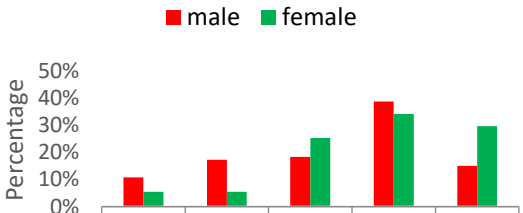
	1	2	3	4	5
male	5%	16%	28%	35%	15%
female	4%	5%	32%	35%	23%

6.Satisfaction about Management



	1	2	3	4	5
male	6%	22%	40%	27%	5%
female	4%	15%	35%	37%	8%

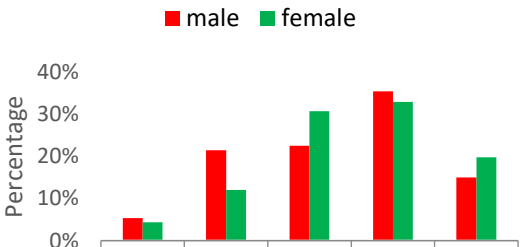
7.Calm & Peaceful Environment



	1	2	3	4	5
male	11%	17%	18%	39%	15%
female	5%	5%	25%	34%	30%

satisfaction level

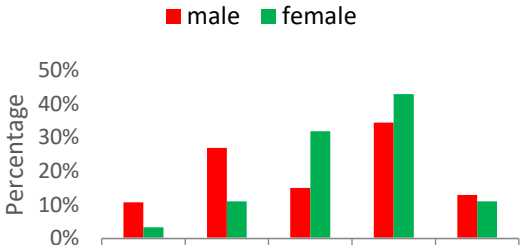
8.Clean Area



	1	2	3	4	5
male	5%	22%	23%	35%	15%
female	4%	12%	31%	33%	20%

satisfaction level

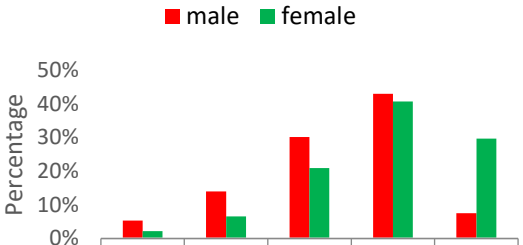
9.Parking Lot



	1	2	3	4	5
male	11%	27%	15%	34%	13%
female	3%	11%	32%	43%	11%

satisfaction level

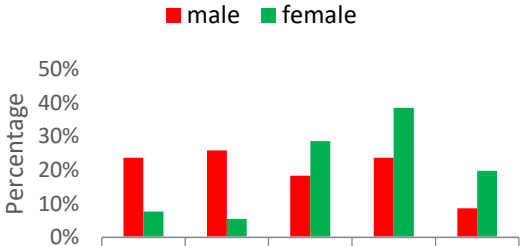
10.Study Room



	1	2	3	4	5
male	5%	14%	30%	43%	8%
female	2%	7%	21%	41%	30%

satisfaction level

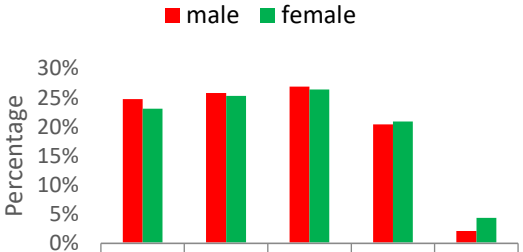
11.Hostel Library



	1	2	3	4	5
male	24%	26%	18%	24%	9%
female	8%	5%	29%	38%	20%

satisfaction level

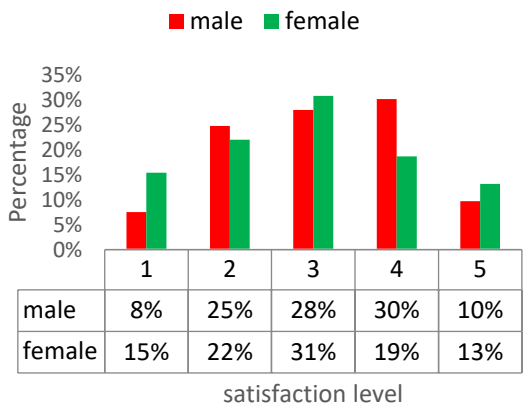
12.Bathroom And Toilet



	1	2	3	4	5
male	25%	26%	27%	20%	2%
female	23%	25%	26%	21%	4%

satisfaction level

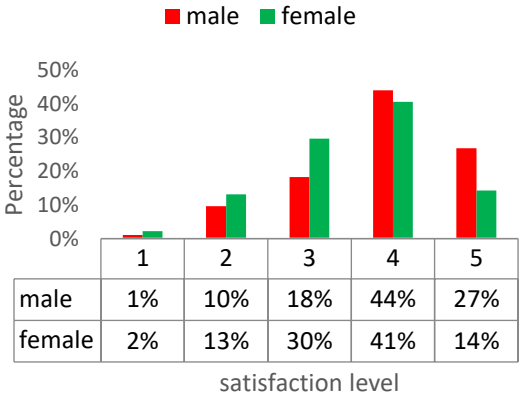
13.Entertainment Facility



	1	2	3	4	5
male	8%	25%	28%	30%	10%
female	15%	22%	31%	19%	13%

satisfaction level

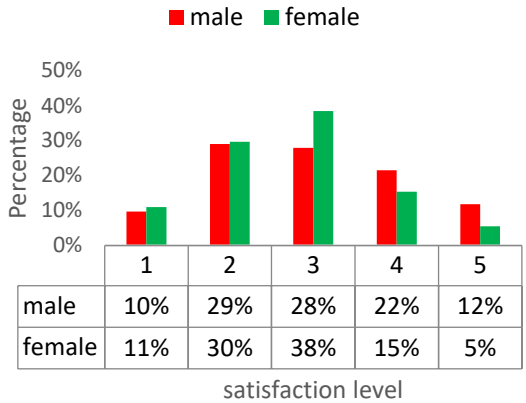
14.Freedom



	1	2	3	4	5
male	1%	10%	18%	44%	27%
female	2%	13%	30%	41%	14%

satisfaction level

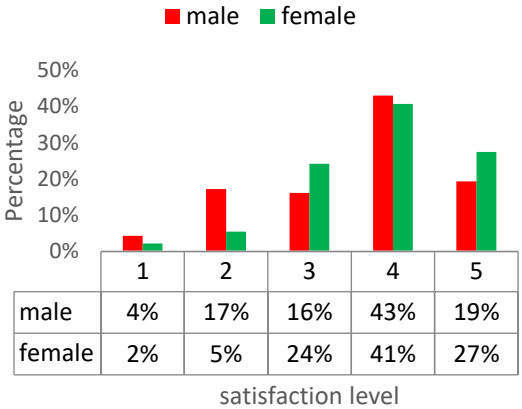
15.Fine & Extra Charges



	1	2	3	4	5
male	10%	29%	28%	22%	12%
female	11%	30%	38%	15%	5%

satisfaction level

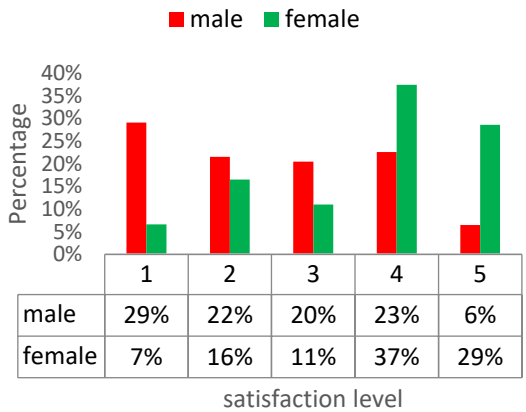
16. 24 Hrs Electricity



	1	2	3	4	5
male	4%	17%	16%	43%	19%
female	2%	5%	24%	41%	27%

satisfaction level

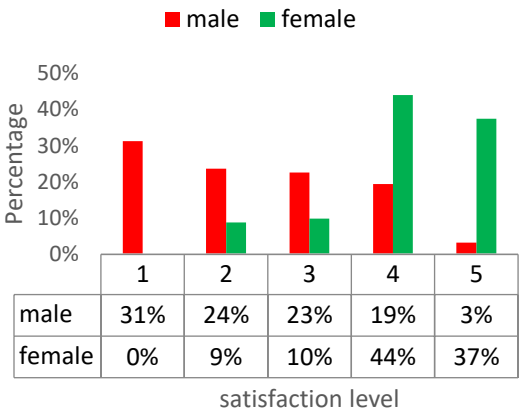
17. High Speed Wi-Fi Facility



	1	2	3	4	5
male	29%	22%	20%	23%	6%
female	7%	16%	11%	37%	29%

satisfaction level

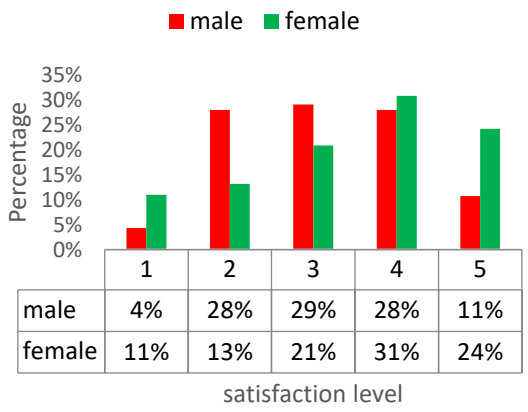
18. Annual Functions



	1	2	3	4	5
male	31%	24%	23%	19%	3%
female	0%	9%	10%	44%	37%

satisfaction level

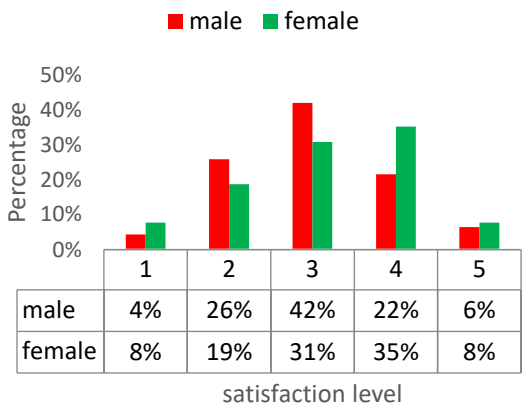
19. Quantity Of Food



	1	2	3	4	5
male	4%	28%	29%	28%	11%
female	11%	13%	21%	31%	24%

satisfaction level

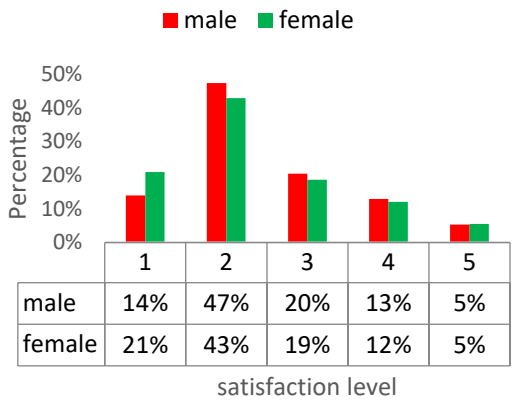
20. Meals Menu



	1	2	3	4	5
male	4%	26%	42%	22%	6%
female	8%	19%	31%	35%	8%

satisfaction level

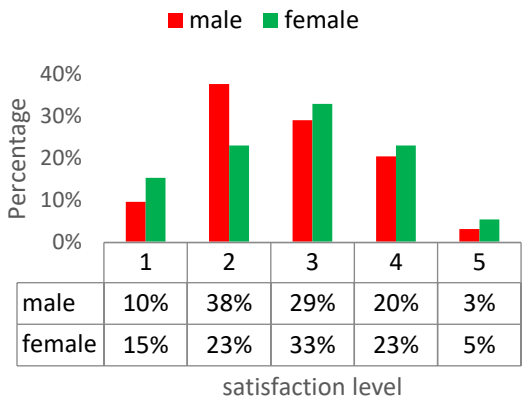
21. Quality Of Food



	1	2	3	4	5
male	14%	47%	20%	13%	5%
female	21%	43%	19%	12%	5%

satisfaction level

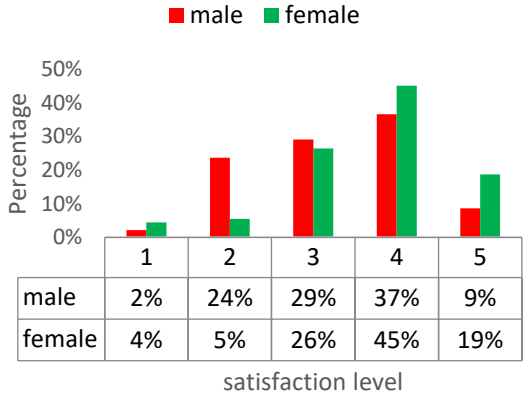
22. Washroom



	1	2	3	4	5
male	10%	38%	29%	20%	3%
female	15%	23%	33%	23%	5%

satisfaction level

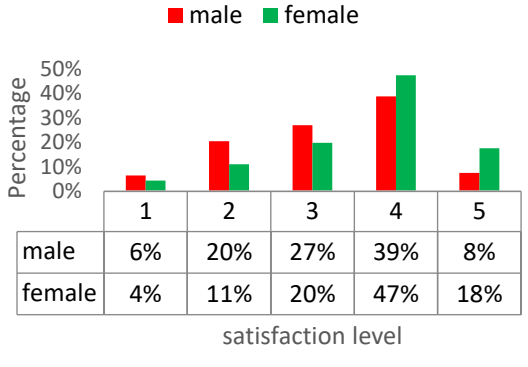
23. Cleanness Of Mess



	1	2	3	4	5
male	2%	24%	29%	37%	9%
female	4%	5%	26%	45%	19%

satisfaction level

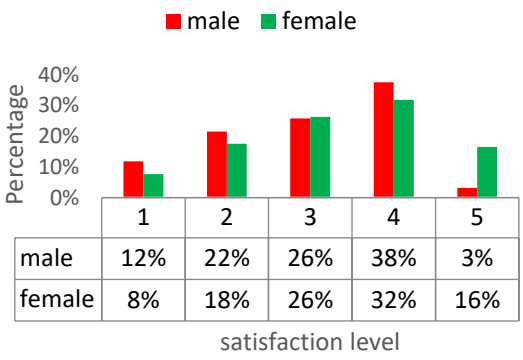
24. Management System Of Mess



	1	2	3	4	5
male	6%	20%	27%	39%	8%
female	4%	11%	20%	47%	18%

satisfaction level

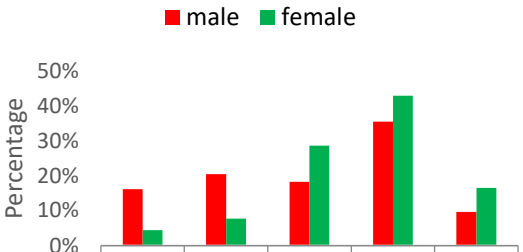
25. Comfortable And Well Furnished Room



	1	2	3	4	5
male	12%	22%	26%	38%	3%
female	8%	18%	26%	32%	16%

satisfaction level

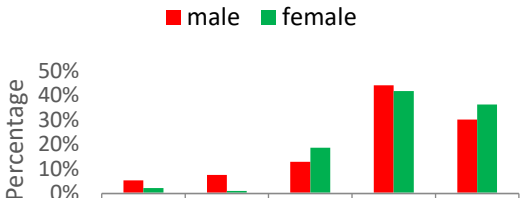
26. Comfortable Beds



	1	2	3	4	5
male	16%	20%	18%	35%	10%
female	4%	8%	29%	43%	16%

satisfaction level

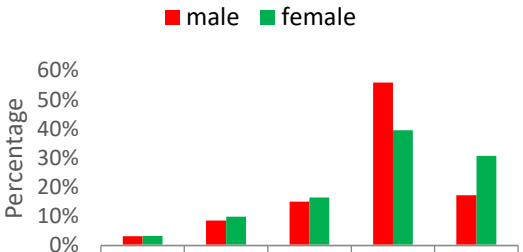
27. Purity Of Drinking Water



	1	2	3	4	5
male	5%	8%	13%	44%	30%
female	2%	1%	19%	42%	36%

satisfaction level

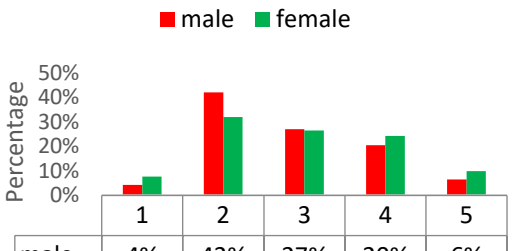
28. Availability Of Water



	1	2	3	4	5
male	3%	9%	15%	56%	17%
female	3%	10%	16%	40%	31%

satisfaction level

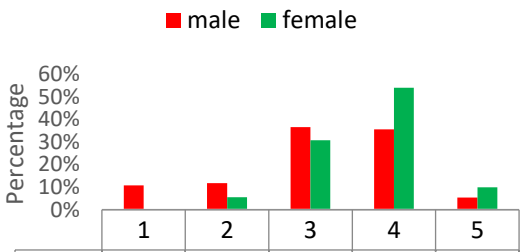
29. Overall Satisfaction About Mess



	1	2	3	4	5
male	4%	42%	27%	20%	6%
female	8%	32%	26%	24%	10%

satisfaction level

30. Overall Satisfaction About Hostel



	1	2	3	4	5
male	11%	12%	37%	35%	5%
female	0%	5%	31%	54%	10%

satisfaction level

Conclusions:

- Only 36% boys are satisfied and 70% girls are satisfied with Rule & Regulations of hostels.

- More than 60% both boys and girls are satisfied about Security Systems provided by hostel; mostly girls are very satisfied about security system.

- More than 50% students are dissatisfied about Repair & Maintenance of hostel also 45% boys and 32% girls are satisfied about management system of hostels.

- Near about 60% students are satisfied about Calm & Peaceful Environment also clean area of hostels. Overall 51% students are satisfied about parking lot.

- 71% girls are satisfied about study room and hostel library, but 33% boys are satisfied about hostel library and 50% boys are dissatisfied about hostel library and study room.

- Only 24% students are satisfied about bathroom and toilet, so improvement in bathroom and toilet is needed.

- More than 40% to 50% students are satisfied about entertainment facility and freedom provided by hostel management system.

- 33% students are neutral about fine and extra charges also 27% students are satisfied about fine.

- Near about 60% boys and girls are satisfied about 24 hr. Electricity, also 30% to 40% girls are very satisfied about Wi-Fi facility and annual function but only 5% to 10% boys are very satisfied about Wi-Fi and annual functions.

- 50% to 60% students are satisfied about quantity of food provided in mess but more 60% students are dissatisfied about quality of food in mess.

- Near about 40% students are satisfied about cleanness of mess but dissatisfied about washrooms. 39% boys and 47% girls satisfied to management system of mess.

- 38% boys and 32% girls are satisfied about comfortable and well furnished rooms but only 3% boys are very satisfied about rooms.50% to 60 % students are satisfied with comfortable beds.

- More than 50% boys and girls are satisfied about Purity of Drinking Water and Availability of water.

- 40% to 60% boys and girls are dissatisfied about mess. Only 5% to 10% boys and girls are very satisfied about mess.

Also we have taken overall satisfaction level of the students about Hostel. From these responses we have seen that,

1. 5% boys and 10% girls are very satisfied.
2. 35% boys and 54% girls are satisfied.
3. 37% boys and 31% girls are neutral.
4. 12% boys and 5% girls are dissatisfied and only 11% boys are very dissatisfied.

From this we conclude that most of the students give the response as a satisfied. That’s why to identify their true satisfaction level towards the hostels.

Proportion Test For Male And Female Student Satisfaction:

Hypothesis:

H_0: Proportion of satisfied boys is same Proportion of satisfied girls

$P_1=P_2$

H_1: Proportion of satisfied boys is less than Proportion of satisfied girls.

$P_1 < P_2$

Test statistics is,

$$\boldsymbol{Z = \frac{P_1 - P_2}{\sqrt{p(1-p)\left(\frac{1}{n_1}+\frac{1}{n2}\right)}}}$$

$|Z_{cal}| = 3.105$

At 5% level of significance

$Z_\alpha = 1.96$

$$|Z_{cal}| > Z_\alpha$$

Hence reject H_0 at 5% level of significant

Conclusion: Proportion of satisfied boys is less than proportion of satisfied girls.

Mann-Whitney U Test For Satisfaction Of Boys And Girls

- Hypothesis:-

H_0: There is no difference between satisfaction of boys and girls.

V/s

H_1: There is significant difference between satisfaction of boys and girls.

Median of boys	Median of girls	Mann-Whitney U test statistics	P-value
3	4	7374.5	0.0003

Hence we reject null hypothesis at 5% level of significance.

Conclusion: There is significant difference between satisfaction of boys and girls. Also satisfaction level of girls is greater than satisfaction level of boys.

Kruskal-Wallis Test For Boys Hostel

- Hypothesis:-

H_0: There is no difference between satisfactions of three boy's hostels.

V/s

H_1: There is significant difference between satisfactions of three boys hostels.

Hostel	N	Median	Z	P-value
1	31	4	3.88	0.0015
2	31	2	-4.45	
3	31	3	0.47	
Overall	93			

Here, p-value is less than 0.05

Hence we reject null hypothesis at 5% level of significance.

Conclusion: There is significant difference between satisfactions of three boy's hostels. i.e. satisfaction of boys in three hostels are different.

Kruskal-Wallis Test For Girls Hostel

- Hypothesis:-

H_0: There is no difference between satisfactions of three girl's hostels.

V/s

H_1: There is significant difference between satisfactions of three girl's hostels.

Hostel	N	Median	Z	P-value
1	30	2	-5.80	0.0004
2	31	3	2.35	
3	30	4	3.43	
Overall	91			

Here, p-value is less than 0.05

Hence we reject null hypothesis at 5% level of significance.

Conclusion: There is significant difference between satisfactions of three girl's hostels. i.e. satisfaction of girls in three hostels is different.

Summary Statistics Of Hostels

	Hostel	Median	Range	Inter Quartile Range	Rank
Boys	1	4	3	1	1
	2	2	3	2	3
	3	3	3	0	2
Girls	1	2	3	1	3
	2	3	3	1	2
	3	4	3	1	1

Conclusion: Median of boy's hostel No.1 is 4, which indicates that most of boys in hostel No.1 are satisfied. Inter quartile range is 1.This indication of low variability in satisfactions of boys about hostel.

From median, Rank of boy's hostel No. 1, 2, and 3 is 1, 3 and 2 respectively.

Median of girl's hostel No. 3 is 4, which indicates that most of girls in hostel No.3 are satisfied. Inter quartile range is 1.This indication of low variability in satisfactions of girls about hostel.

From median, Rank of girl's hostel No. 1, 2, and 3 is 3, 2 and 1 respectively.

Major Findings:

- Developed questionnaire is reliable which carries questions regarding all types of facilities given to the student by hostels and takes minimum time to fill it. Therefore it can be efficiently use to measure the satisfaction level of the student.

- Most of the students are dissatisfied about bathroom and toilet facility. So this facility need to improvement.

- Boys are dissatisfied about annual functions, but most of girls are satisfied about annual functions.

- Most of student of satisfied about quantity of food provided by mess, but dissatisfied about quality of food.

- In overall satisfaction, girls are more satisfied than boys.

- Proportion of satisfied girls is greater than proportion of satisfied boys.

- Also satisfaction level of girls is greater than satisfaction level of boys.

- From above conclusions, girls are more satisfied about hostel.

- Satisfaction levels of boys and girls are significantly different.

- Satisfaction levels about boy's hostel as well as girl's hostel are significantly different.

- From median score, satisfaction level of boy's hostel No. 1 is high.

- From median score, satisfaction level of girl's hostel No. 3 is high.

Study of Hostel Life

Department Of Statistics

Questionnaire

- **Gender:** Male ☐ Female ☐
- **Hostel No.** ☐ **Room No.** ☐

1) Very dissatisfied 2) Dissatisfied 3) Neutral
4) Satisfied 5) Very satisfied

Que. No.	Questionnaire Items	1	2	3	4	5
1.	Rule & Regulations					
2.	Security Systems					
3.	Repair & Maintenance					
4.	Behavior Of Warden					
5.	Behavior Of Rector					
6.	Satisfaction Of Management					
7.	Calm & Peaceful Environment					
8.	Clean Area					
9.	Parking Lot					
10.	Study Room					
11.	Hostel Library					
12.	Bathroom And Toilet					
13.	Entertainment Facility					
14.	Freedom					
15.	Fine & Extra Charges					
16.	24 Hrs. Electricity					
17.	High Speed Wi-Fi Facility					
18.	Annual Functions					
19.	Quantity Of Food					
20.	Meals Menu					
21.	Quality Of Food					
22.	Washroom					
23.	Cleanness Of Mess					
24.	Management System Of Mess					
25.	Comfortable And Well Furnished Room					

26.	Comfortable Beds					
27.	Purity Of Drinking Water					
28.	Availability Of Water					
29.	Overall Satisfaction About Mess					
30.	Overall Satisfaction About Hostel					