INFLUENCE OF DEMOGRAPHIC FACTORS ON CUSTOMER'S PERCEPTION & SATISFACTION - A STUDY ON FITNESS CENTRE CLIENTS IN NORTH COASTAL REGION OF ANDHRA PRADESH

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Abstract

It is apparent that customers are important stakeholders in organizations and their satisfaction is a prior to business. Over the years, there has been a dramatic alteration in consumer attitudes towards diet, health and lifestyle and also the quality of service has become a major aspect of customer satisfaction. Customer satisfaction has been a subject of great interest to organizations and researchers alike. To achieve a spirited edge, organizations have to distinguish themselves in the minds of customers. In recent years, companies are obliged to render more services in addition to their products. The key purpose of the study is therefore to identify diverse needs of customers with respect to the changes in their demographic profile and to adopt strategies which lead to customised services and high degree of Customer Satisfaction at viable fitness centers in North Coastal Region of Andhra Pradesh, India. Data collection is done by administering a questionnaire to a sample of clients in commercial fitness centers. The findings specified that there is a significant degree of variation in the perceptions and satisfaction level of respondents with respect to the assorted categories of their demographic profile. In order to retain customers, it is important for marketers to have an in-depth knowledge of customer wants & requirements and the capability they have to add eternal customer value. Decisively a business that caters to their customers` needs will inevitably gain the loyalty of their customers, thus resulting in reiterative business as well as potential referrals. We therefore advocate that rather than devoting much attention to mere products and services, fitness centers should focus more on their customers.

Key Words: Customer Perception, Customer-Satisfaction, Health& fitness, Demographic factors.

INTRODUCTION

In this article, the research has dealt with both descriptive and statistical analysis of demographic data collected from the respondents availing services in selected Fitness Centres based in North Coastal region of Andhra - Pradesh. Especially, in this section, the researcher has studied the influence of the Demographic factors on Customer Perceptions and Customer Satisfaction in Fitness Industry. The respondents' demographic data such as gender, age, educational background, Occupation, level of income, marital status, type of food intake, Body Mass Index (BMI) etc were taken as independent variables. Further, varied perceptions of customers towards the services provided by Fitness Centres and the level of Customer Satisfaction were taken as dependent variables for the purpose of finding out the influence.

OBJECTIVES OF THE STUDY

The main objective of the study is to identify the explicit needs of customers according to their demographic profile and designate the effective strategies to serve them in a customized way in-order to retain them and make them loyal apostles of their Fitness Organisations. And the sub objectives of the study are:

- To study the impact of demographic factors such as age , gender, Occupation etc on the perceptions and degree of satisfaction level of fitness centre clients.
- To study the impact of health factors such as BMI and Food intake on the perceptions and degree of satisfaction level of fitness centre clients.

- To measure the significant degree of variation in the opinion of respondents towards Customer perception and satisfaction levels with-respect to the strategies being adopted by the Owners/Marketers of fitness centres.

METHODOLOGY OF THE STUDY
With a view to be familiar with the influence of demographic and health factors on Customer Perceptions and Satisfaction, the researcher has analyzed the primary data minutely to find out whether there is any significant variation in the opinion of the respondents. Here the researcher has analyzed the results and derived the significant independent variable (demographic factors) through Multiple Linear Regression. The researcher has analyzed the respective significant independent variable with the help of Z-tests or ANOVA tests to find out the extent (scale) of variation in the opinion of respondents.

Population and Sample
Population included in the study comprised of a convenient sample Customers at commercial fitness centres in North Coastal Region of Andhra Pradesh, India. Data was collected through face-to-face interviews and questionnaires. In most instances the questionnaire was completed by the respondents in the presence of a researcher. Care was taken not to duplicate responses by administering only one questionnaire per client. About 80 fitness centres which have more than 5 years of existence amongst more than 100 outlets were identified throughout the North Coastal Region of Andhra Pradesh, India for the study and data was captured from 320 clients for analysis.

Method of Data Collection
The sample was selected using convenient sampling technique and primary data was collected from the Owners and managers of the 80 fitness centres and 320 clients in North Coastal Region of Andhra Pradesh. The literature was collected through reviewing different articles, books, periodicals, journals, magazines, published reports, and relevant websites.

Statistical tests administered
Multiple Linear Regression analysis was administered to study the influence of demographic factors and health factors such as food intake and Body Mass Index (BMI) on a variety of customer perceptions towards the value of services being generated by Fitness Centres and the level of Customer Satisfaction. The regression equation in the model examines the strength of the independent variable in predicting the dependent variable. It was assumed that there is a linear relationship between the demographic factors extracted below and their probability of association with Customer Perceptions and Satisfaction. A regression analysis was conducted with 2 chief dependent variables (Customer Perception and Customer Satisfaction) and the 9 independent variables (demographic and health factors of respondents).

The multiple regression equation was given below.
$Y = b_0 + b_1 X_1 + b_2 X_2 ...... b_n X_n$
Where Y is the dependent variable and
$X_1, X_2, ... X_n$ are independent variables
$b_1, b_2, ... b_n$ are the slopes or
Constant values of the independent variables $X_1, X_2, ... X_n$
b_0 is the intercept

Further, Z tests & ANOVA tests were conducted on all stimulating factors, Customer Perceptions and Satisfaction and the respondent's demographic and health data (factors) to know the significant difference in the opinion of the respondents. The results derived from the analysis are discussed elaborately and explained with the help of Individual value plots and box plots. The diverse items in the Schedule indicate different scale

dimensions. The different items relating to both the dependent variable and the intervening variables are provided on 5-point scale. The five response categories together with the numerical values assigned to them for computation are

Strongly Agree (2)
Agree (1)
Can't Say (0)
Disagree (-1)
Strongly Disagree (-2)

The values on each of the items together with the values of the items measuring each variable for each respondent are added and the same is taken as the raw score(Average Score) of that particular respondent on that specific variable.

INFLUENCE OF DEMOGRAPHIC FACTORS ON CUSTOMER'S PERCEPTION TOWARDS THE VALUE OF FITNESS CENTRE SERVICES

The researcher has examined the influence of respondent's demographic factors on customer's perception towards the value of fitness centre services by using Multiple Linear Regression Analysis. Upon finding out the respective "significant variable" from the demographic factors, he has applied z-test & ANOVA test on these variables to find out the variation even at minute level in the opinion of the respondents.

Predictor	Coef	SE Coef	T	P
Constant	0.9701	0.2396	4.05	0.000
District	-0.00413	0.03739	-0.11	0.912
Gender	0.07501	0.06556	1.14	0.253
Age	**-0.13948**	**0.04070**	**-3.43**	**0.001**
Educational Background	0.04120	0.03719	1.11	0.269
Occupation	**-0.03774**	**0.01272**	**-2.97**	**0.003**
Monthly Income	0.06158	0.03341	1.84	0.066
Marital Status	0.07365	0.06523	1.13	0.260
BMI	0.01432	0.03988	0.36	0.720
Type of food	0.11696	0.06627	1.76	0.079

R^2 = 11.3%	P-Value 0.000	*Significant*

Since the p-value (0.000) of the R-square (11.3%) is less than 0.05, the level of significance exemplifies that the variation between above mentioned independent variables (gender, age, educational background, Occupation, level of income, marital status, type of food intake, Body Mass Index (BMI)) and dependent variable (customer perception) is statistically significant at -level of 0.05%. Further, demographic factors explain 11.3% of variation on this aspect. From the above table, out of nine independent variables, it is evident that the p-values for the estimated coefficients of *Age* and *Occupation* are less than 0.05 indicating that they are significantly related to customer perception at 5% level. Apparently, the p-values for the remaining independent variables are greater than 0.05, specifying that they are not related to customer perception at -level of 0.05.

Largely this demonstrates a significant influence on the dependent variable "Customer Perception" which reveals the variation in the opinion of the respondents, justified by two independent variables namely age and occupation. This suggests that a model with the above significant independent variables is more appropriate. Further Z and ANOVA tests were administered below (table-I & table-II) on the respective significant independent variables i.e.

age and occupation in order to find out the degree of variation in the opinion of respondents on customer perception.

Table – I: Influence of demographic factors "Age" on "customer's perception" towards the value of fitness centre services

Age	n	Mean	S.D	F-Value	P-value	Decision
Below 15Yrs	3	1.0556	0.0962			
15-25Yrs	162	1.1872	0.4484			
26-35Yrs	116	1.1509	0.4461	2.95	0.020	*Significant*
36-45 Yrs	35	0.8952	0.5318			
Above 45Yrs	4	1.1250	1.1250			

The above table **-I** explains that there is significant difference in the average opinion count of the respondents among diverse age groups on customer's perception' towards the value generated by fitness centre services. The average opinion score of 15-25years age category respondents followed by 26-35yrs and above 45yrs is greater than 1, illustrating the fact that those categories of respondents have above 'agree level' opinion (close to Strongly agree level) on 'customer's perception' towards the value generated by fitness centre services than the remaining age categories. Whereas the average score of 36-45yrs respondents is very pessimistic on the same when compared to other categories.

This affirmative perception is further strengthened by F-value (2.95) and its corresponding p-value (0.020) which is less than 0.05, found to be significant at the 0.05 per cent level, representing the fact that there is no unanimity in the opinion of the various respondents on "customer's perception" towards the value of fitness centre services. The same is mentioned below by the pictographic representation as a box plot (Figure-I), with one and two negative outliers from the age groups 15-25yrs and 26-35yrs respectively. Further, we can conclude that the respondents of 15-25years age category respondents followed by 26-35yrs and above 45yrs opined more optimistically than the respondents of remaining age groups, which is shown in the individual value plot diagram.
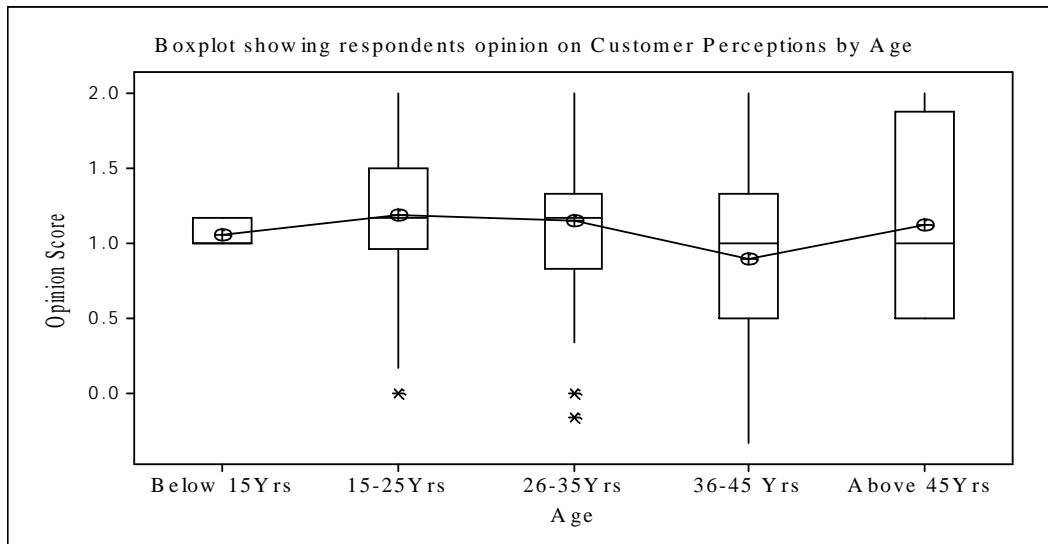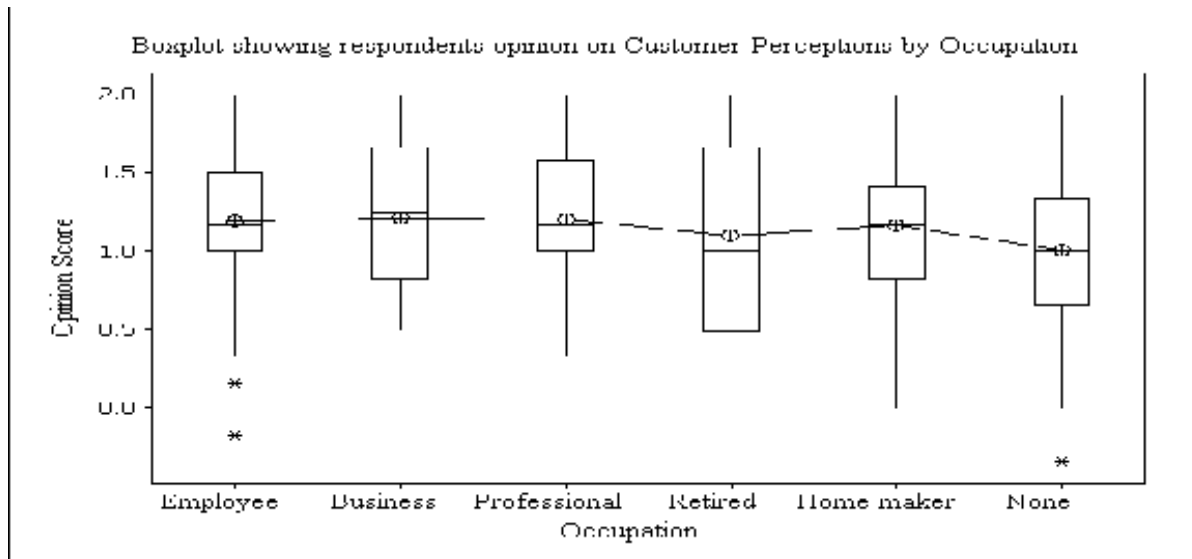

Figure – I : Box plot exhibiting Influence of demographic factor "Age" on "customer's perception towards the value of fitness centre services

Table – II: Influence of demographic factors "Occupation" on "customer's perception" towards the value of fitness centre services

Occupation	n	Mean	S.D	F-Value	P-value	Decision
Employee	130	1.2	0.4458			
Business	34	1.2157	0.4467			
Professional	21	1.2063	0.4407	**2.16**	**0.058**	*Not Significant*
Retired	11	1.1061	0.5285			
Home maker	25	1.1733	0.4474			
None	99	1.0168	0.4853			

The above table -II divulges the perception of the respondents on the dimension "Customer Perception" with respect to their occupation. "From the summary, it is observed that the mean opinion count of all the six categories of respondents exhibited above agreeable level (close to strongly agree level) on "Customer Perception" towards the value generated by fitness centre services. Moreover, it is in line with the findings of the f-value and its corresponding p-value which illustrates that there is no significant (5% level of significance) difference in the respondent's opinion among the different categories of Occupations. In other words, we can conclude that the perception of the respondents of all categories is unanimous. Further, it is observed that the average opinion score of the respondents who are in Business followed by Professional and Employee categories reveal more optimistic opinion. The graphical representation below as a box plot-II clearly shows the same pattern with two and one negative outliers from employee and *none* category respondents respectively.

Figure – II : Box plot exhibiting Influence of demographic factor "Occupation" on "customer's perception towards the value of fitness centre services

Since the calculated p-value (0.058) for corresponding F-Value (2.16) is higher than the 0.05 level of significance, it is inferred that there is no significant difference in the opinion of respondents on the dimension "Customer Perception" towards the value generated by fitness centre services, irrespective of their occupations.

INFLUENCE OF DEMOGRAPHIC FACTORS ON LEVEL OF CUSTOMER SATISFACTION IN FITNESS SERVICES MARKET

The researcher has examined the influence of respondent's demographic factors on Customer Satisfaction by using Multiple Linear Regression Analysis. Upon finding out the respective "significant variable" from the demographic factors, he has further applied z-test and ANOVA test on these variables to find out the variation in the opinion of the respondents.

Predictor	Coef	SE Coef	T	P
Constant	0.8615	0.2130	4.05	0.000
District	**-0.09795**	**0.03323**	**-2.95**	**0.003**
Gender	**0.17612**	**0.05826**	**3.02**	**0.003**
Age	-0.05569	0.03617	-1.54	0.125
Educational Background	0.00147	0.03305	0.04	0.965
Occupation	**-0.02734**	**0.01130**	**-2.42**	**0.016**
Monthly Income	**0.10036**	**0.02969**	**3.38**	**0.001**
Marital Status	-0.02423	0.05797	-0.42	0.676
BMI	0.02518	0.03544	0.71	0.478
Type of food	0.05944	0.05890	1.01	0.314

$R^2 = 16.1\%$	P-Value 0.000	*Significant*

In the above table , the p-value (0.000) shows that the model estimated by the regression procedure is significant at the 0.05 level. The R-square value (16.1%) depicts that there is a 16.1% variation between the independent variables (district, gender, age, educational background, Occupation, level of income, marital status, type of food intake, Body Mass Index (BMI)) and the dependent variable 'level of customer satisfaction', which is found to be very significant This value shows that the model does fit the data very well. The p-values for the estimated coefficients of District, Gender, Occupation and Monthly Income are less than 0.05 indicating that they are significantly associated to the dimension 'level of customer satisfaction'. Further, the p-values for age educational background marital status, type of food intake, Body Mass Index (BMI) are greater than 0.05 specifying the fact that they are not associated to level of customer satisfaction' at -level of 0.05 this demonstrates a significant influence on the dependent variable ' level of customer satisfaction' which reveals the variation in the opinion of the respondents, justified by four independent variables District, Gender, Occupation and Monthly Income.

This suggests that a model with the above significant independent variables is more appropriate. Further Z and ANOVA tests were administered below(table-III table-IV & table-V table- VI) to know the category wise analysis of the respective significant independent variables i.e. District, Gender, Occupation and Monthly Income in order to find out the degree of variation in the opinion of respondents on 'level of customer satisfaction'.

Table – III: Influence of demographic factors "District" on "level of Customer satisfaction" in Fitness Services Market

| District	n	Mean	S.D	F-Value	P-value	Decision
Visakhapatnam	200	1.0858	0.4113			
Vijaya Nagaram	60	0.8941	0.3951	**13.93**	**0.000**	*Significant*
Srikakulam	60	0.7951	0.4144			

Table-III presents the district-wise opinion score of the respondents on the dimension of customer satisfaction. It is noticed from the above table that the average opinion count of the respondents of Visakhapatnam district is significantly higher than the remaining two districts Vijaya Nagaram& Srikakulam. The similar opinion is mentioned graphically below as a box plot with one negative outlier in Vijaya Nagaram district i.e., one respondent with negative opinion on this aspect.

The F-value and its corresponding p-value found in the above table is significant and can be deduced that there is no unanimity in the perceptions of respondents. Further, the results also suggest that the average opinion score of Visakhapatnam respondents is more significantly positive than Vijaya Nagaram and Srikakulam respondents. We can conclude that clients from Visakhapatnam have more positive opinion than clients from Vijaya Nagaram and Srikakulam districts respectively and the same is shown diagrammatically below in the box plot wherein the symbol 'blue circled plus' indicates the average value.

Since the calculated p-value 0.000 is less than the 5% level of significance it is inferred that there is a significant variation in the opinion of respondents on the dimension' level of customer satisfaction 'among the three districts.
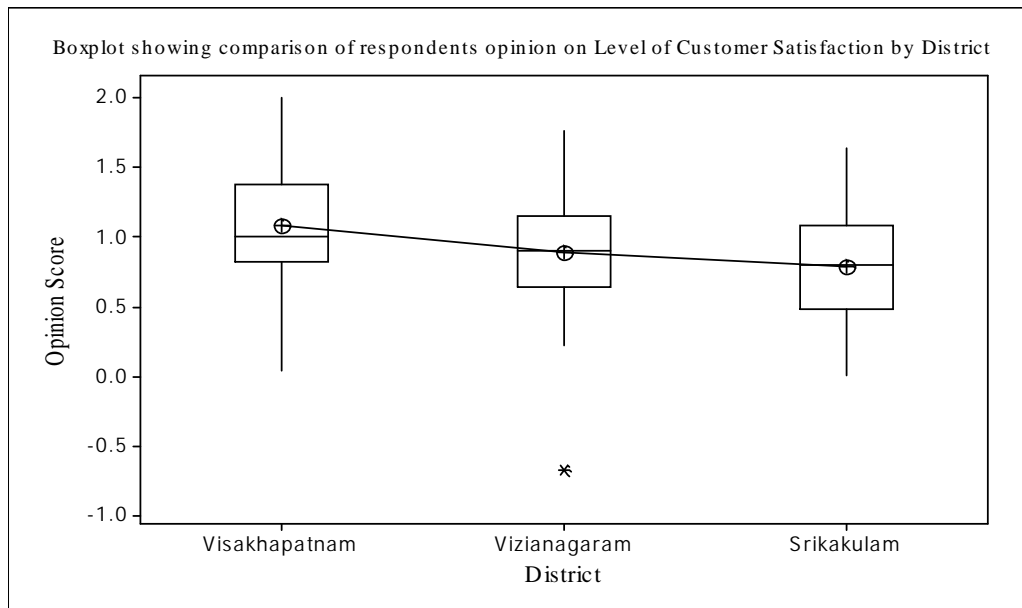
Figure - III: Box plot exhibiting Influence of demographic factors "District" on "level of Customer satisfaction" in Fitness Services Market

Table – IV: Influence of demographic factors "Gender" on "level of Customer satisfaction" in Fitness Services Market

Gender	n	Mean	S.D	Z-Value	P-value	Decision
Male	250	0.752	0.557	-5.17	0.000	Significant
Female	70	1.073	0.429			

Table -IV presents the gender-wise opinion score of the respondents on the dimension ' level of Customer satisfaction '. The summary of the above statistical analysis it is observed that the average opinion score pertaining to the female(1.073) category respondents are significantly greater than that of male(0.752) category respondents at the 5% level of significance on dimension level of Customer satisfaction implying that the gender has a significant impact. Further, the z-value (-5.17) and its corresponding p-value (0.000) found in the above

table explains the significance and can be deduced that there is no unanimity in the perceptions of respondents. From the above, we can clearly understand that the respondents belonging to female category of gender exhibits very optimistic opinion (near to strongly Agree level) on Customer satisfaction compare to male category (which is near to Agree level).

The same is diagrammatically shown below with one single negative outlier for male category. In the individual value plot the symbol 'blue circled plus' indicates the average value and the 'red dots' indicate the average opinion of each and every respondent on the above said dimension. Since the calculated p-value 0.000 is less than the 0.05 level of significance which reflects a significant variation in the respondents' opinion. Hence, it is inferred that there is a significant difference in the opinion of respondents on the dimension Customer satisfaction with respect to their gender.
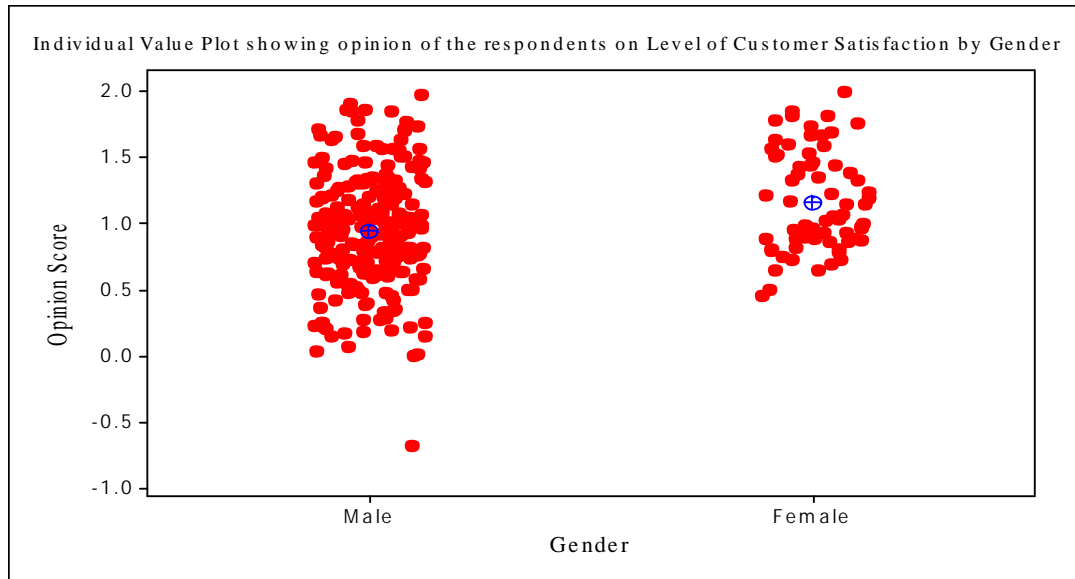
Figure - IV: Box plot exhibiting Influence of demographic factors "Gender" on "level of Customer satisfaction" in Fitness Services Market

Table – V: Influence of demographic factors "Occupation" on "level of Customer satisfaction" in Fitness Services Market

| Occupation	n	Mean	S.D	F-Value	P-value	Decision
Employee	130	1.0479	0.3712			
Business	34	0.9589	0.4574			
Professional	21	0.9551	0.3851	**2.91**	**0.014**	**Significant**
Retired	11	1.0405	0.5466			
Home maker	25	1.1973	0.3723			
None	99	0.8914	0.4646			

Based on the respondents Occupation category analysis, it is observed from the above table V that the average count of the respondents opinion pertaining to all 3 categories of Occupation (home maker, employees and retired persons) are far greater than 1 illustrating the fact that the all categories of respondents have above Agree level opinion (far more greater than Agree level and close to Strongly agree level) on 'level of customer satisfaction'. It is revealed that the dimension of customer satisfaction was compared among diverse respondents (home maker, employees, business people, professionals and retired persons) and they proved to be significantly different. Moreover f- value (2.91) and its corresponding p-value (0.014) in the table indicates that there is a significant

variation in the average opinion of the respondents pertaining to the above 6 categories of Occupation. Through this, we can conclude that the perception of all respondents is not unanimous.

The graphical representation is shown below as a box plot with one each negative outliers for Employee and None category. As the calculated p-value 0.014is less than the 5% level of significance which shows a significant variation in the respondent's opinion. Hence it is inferred that there is a significant difference in the respondent's opinion on "customer satisfaction " based on their Occupation.
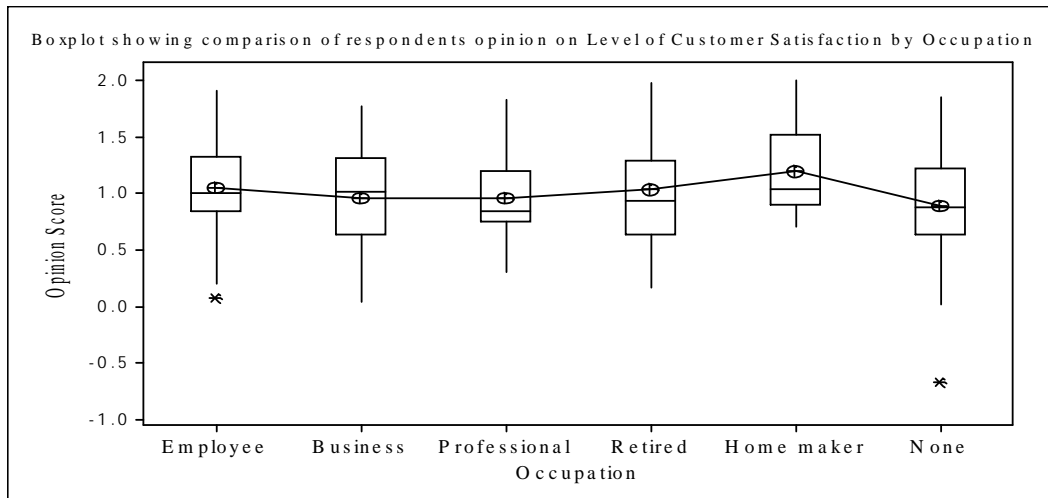
Figure - V: Box plot exhibiting Influence of demographic factors "Occupation" on "level of Customer satisfaction" in Fitness Services Market

Table – VI : Influence of demographic factors "Monthly Income" on "level of Customer satisfaction" in Fitness Services Market

Monthly Income	n	Mean	S.D	F-Value	P-value	Decision
Less than 20,000/-	173	0.9647	0.4245	**9.75**	**0.000**	**Significant**
20,000-40,000/-	105	0.9422	0.4041			
40,000-60,000/-	28	1.1160	0.3501			
Above 60,000/-	14	1.5313	0.3383			

Based on the monthly income category analysis of respondents from the above table - VI, it is observed that The average opinion score the respondents who were getting more than 60,000/- followed by 40,000/- to 60,000/- as monthly income opined more positively than the remaining two categories. The difference in the average opinion score is statistically significant as per the ANOVA test value and its corresponding P-value (0.000) at 5% level of significance. It is in toe with the findings of the f-value and its corresponding p-value which illustrates that there is a significant difference in the opinion between the monthly income groups of the respondents and their mean opinion count on compensation and benefits at the 5% level of significance. The similar opinion is shown below as a box plot pictographically with one negative outlier for the income group below 20,000/- i.e., one respondent from this group opined pessimistically about the level of Customer Satisfaction.

In other words, we can conclude that the perception of all respondents is not unanimous among the income groups they belong to. Since the calculated p-value is less than 0.05 level of significance which shows a

significant variation in the opinion of respondents. Hence, it is inferred that there is a significant difference in the opinion of respondents on "level of Customer Satisfaction "based on their monthly income.
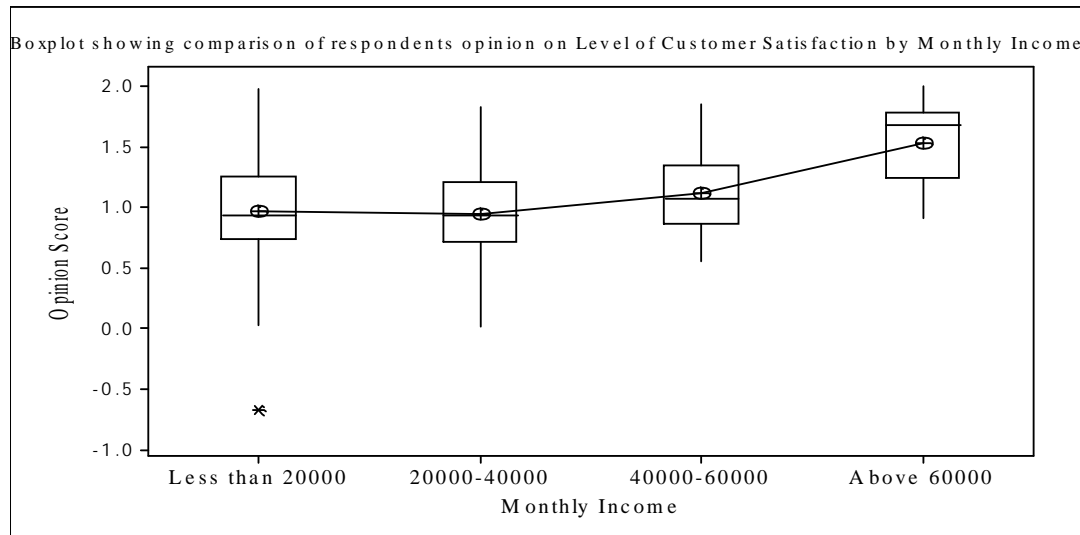
Figure – VI: Box plot exhibiting Influence of demographic factors "Monthly Income" on "level of Customer satisfaction" in Fitness Services Market

CONCLUSION

This study signified the data pertaining to fine analyzed respondents opinion and interpreted into a meaningful & informative explanation. Here, the researcher has pragmatically aimed at studying and analyzing the factors which are stimulating customers to avail fitness services. The researcher has identified the reasons behind customers joining fitness centres by intensely studying their perceptions towards service quality, price, value for money and various social benefits. This study also unraveled about the degree of customer satisfaction towards the services offered by fitness centres.

In this article, the researcher was able to discover the extent of correlation between wide-ranging Customer perceptions with that of other Customer Satisfaction dimensions in Fitness Industry. The results reveal that there is a strong relationship between a mixture of demographic factors and chief dimensions of Customer Satisfaction in the customer's opinion in selected Fitness Centres and it also connoted how the data was analyzed into meaningful informative explanation and interpretation of results using various data analysis techniques such as multiple linear regression analysis, Z test, ANOVA test and Correlation Analysis.

This study will be accommodating & constructive to the promoters and Managers of Fitness Centres located in North Coastal region of AP to attract customers through improving their service quality. As the government is involved in endowing the society with good health and Fitness at a time, and intended towards wiping out health disorders which crop up due to lack of Physical activity and steer exercise in the National interest the research is also exceptionally valuable to any government.

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