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Factors affecting on customer satisfaction level in private gyms in Rajkot city

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Abstract
The current study deals with the customer satisfaction level in private gyms. The study has been conducted in Rajkot city. The attempt has been made to find out the factors affecting on customer satisfaction level in private gyms. The result of this research will helpful to private gyms organization, in order to introduce better strategy so that they can give more satisfaction to their customer. The result shows 51 percent customers are highly satisfied in private gyms. Hence private gyms are more preferred by customers.

Keywords: Private Gym, Customer Satisfaction, Exercise, Ordinal Logistic Regression

1. Introduction
The business of gym has been increasing continuously as we can notice that the change in gym equipment and Experienced gym trainer. Day to day the number of gym increases. To stay in gym business the customer satisfaction is very important. The Customer satisfaction measures how well the expectations of a customer concerning a service provided by gym have been met. It is depend upon various factors such as Gender, Gym Time, Gym Member etc. Rossome (2003) [4] developed the integrated model of customer satisfaction measurement specific to a business-to-business context. Seyed *et al.* (2012) [3] compared customer satisfaction between private gyms and public gyms. His study showed that the customer satisfaction in the private gyms was higher than public gyms. Mavridou *et al*. (2013) [2] investigated the customer satisfaction and the service quality at public and private gums in Kozani. His result showed that total satisfaction of exercisers at the private gyms was much higher than that in public gyms. Alexandris K *et al.* (1999) [1] compared the customer satisfaction between public and private sport and fitness clubs in Greece. This study compares satisfaction level of three private gyms of Rajkot city and also investigating the factors affecting on customer satisfaction level.

2. Material and Method
The primary data were collected by survey questionnaires, distributed to population of customer of the three private gyms located in Rajkot city. We have collected data of 300 exerciser from three private gyms. Data collection took place January to February 2016. Out of 300 exercisers, 288 were men and 12 women. The Statistical technique ordinal logistic regression used to find out factors affecting on customer satisfaction level of gym. The Statistical analysis has been done in SPSS software.

3. Statistical Analysis
Satisfaction level of respondents is dependent variable.We have given eight questions to Respondents to calculate Satisfaction level. Each Question of about Satisfaction is coded Highly Dissatisfied (1), Dissatisfied (2), Neutral (3), Satisfied (4), Highly Satisfied (5).
We have summarized score of eight questions about GYM. This summarised score lies between 8 to 40 and it is divided in five category as Highly Dissatisfied (8 to 14.4), Dissatisfied (14.5 to 20.8), Neutral (20.9 to 27.2), Satisfied (27.3 to 33.6) and Highly Satisfied (33.7 to 40).

3.1 Descriptive Statistics of gender and marital status
The table 3.1.1 gives the frequency distribution of gender and marital status in each category of Satisfaction level. Out of 300 respondents 288 were male and 12 female. Out of 288 male respondents, 0 (0.0%) male has Highly Dissatisfied level, 4 (1.4%) male has Dissatisfied level, 12(4.2%) male has Neutral level, 124 (43.1%) male has Satisfied level, and 148 (51.4%) male has highly satisfied level. Out of 12 female respondents, 0 (0.0%) female has Highly Dissatisfied level, 0 (0.0%) female has Dissatisfied level, 2(16.7%) female has Neutral level, 5 (41.7%) female has Satisfied level, 5 (41.7%) female has highly satisfied level. Out of 300 respondents 168 are unmarried respondents, 68 are married respondent and 64 are married and they have child. Out of 168 unmarried respondents, 0 (0.0%) respondents has Highly Dissatisfied level, 1 (0.6%) respondents has Dissatisfied level, 7 (4.2%) respondents has Neutral level, 72 (42.9%) respondents has Satisfied level, and 88 (52.4%) respondents has highly satisfied level. Out of 68 married respondents, 0 (0.0%) respondents has Highly Dissatisfied level, 1 (1.5%) respondents has Dissatisfied level, 2 (2.9%) respondents has Neutral level, 30 (44.1%) respondents has Satisfied level, and 35 (51.5%) respondents has highly satisfied level. Out of 64 married and they have child respondents, 0 (0.0%) respondents has Highly Dissatisfied level, 2 (3.1%) respondents has Dissatisfied level, 5 (7.8%) respondents has Neutral level, 27 (42.2%) respondents has Satisfied level, and 30 (46.9%) respondents has highly satisfied level.

Table 3.1.1: Descriptive statistics of gender and marital status

Variables		Satisfaction level									
		Highly Dissatisfied (0)		Dissatisfied (4)		Neutral (14)		Satisfied (129)		Highly Satisfied (153)	
		N	Row%	N	Row%	N	Row%	N	Row%	N	Row%
Gender	Male	0	0.0%	4	1.4%	12	4.2%	124	43.1%	148	51.4%
	Female	0	0.0%	0	0.0%	2	16.7%	5	41.7%	5	41.7%
Marital Status	Unmarried	0	0.0%	1	0.6%	7	4.2%	72	42.9%	88	52.4%
	Married	0	0.0%	1	1.5%	2	2.9%	30	44.1%	35	51.5%
	With child	0	0.0%	2	3.1%	5	7.8%	27	42.2%	30	46.9%

3.2 Ordinal Logistic Regression

We are investigating the factors affecting on Satisfaction level by using ordinal logistic regression.

Link Function

The link function is a transformation of the cumulative probabilities that allows estimation of the model. Five link functions are available, namely, Logit, Complementary log-log, Negative log-log, (inverse Probit and Cauchit Cauchy). To identify link function, we examine the distribution of value for the outcome variable Satisfaction level by using bar chart.

The figure 3.2.1, shows distribution for the Satisfaction level categories. The bulk of cases are in the higher categories, especially, categories 5 (Highly satisfied) and 4 (Satisfied).The higher categories are also where most of the "action" is, since the most important distinction from a Satisfaction level perspective are between categories 3, 4 and 5. For this reason, you will begin with the complementary log-log link function, since that function focuses on the higher outcome categories.

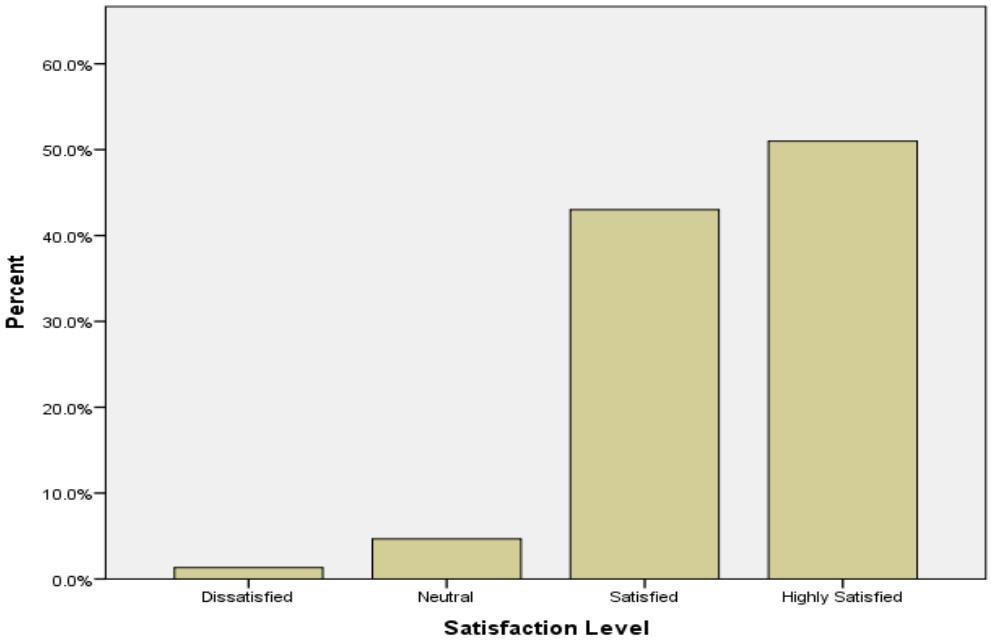

Fig 3.2.1.

The response variable contains five categories, namely, Highly Dissatisfied, Dissatisfied, Neutral, Satisfied and Highly Satisfied. But table 3.2.1, does not show Highly Dissatisfied categories, because in this study there is no respondent who are Highly Dissatisfied with their Gym. Out of 300 respondent, 4 respondents are Dissatisfied with their Gym, 14 respondents are Neutral with their Gym, 129 respondents are satisfied with their Gym, 153 respondents are highly satisfied with their Gym.

Table 3.2.1: Case Processing summary

		N	Marginal Percentage
Satisfaction Level	Dissatisfied	4	1.3%
	Neutral	14	4.7%
	Satisfied	129	43.0%
	Highly Satisfied	153	51.0%
Gender	Male	288	96.0%
	Female	12	4.0%
Marital Status	Unmarried	168	56.0%
	Married	68	22.7%

	With Child	64	21.3%
Consider Yourself as a	Body Builder	46	15.3%
	Casual Exerciser	75	25.0%
Consider Yourself as a	Regular Exerciser	161	53.7%
	Couch Potato	18	6.0%
How often do you come to the gym	1 time a week	15	5.0%
	2 time in a week	33	11.0%
	3 time in a week	44	14.7%
	4 time in a week	80	26.7%
	5 or more time in a week	128	42.7%
Gym Member	Month Wise	128	42.7%
	1 to 3 month	70	23.3%
	4 to 6 month	59	19.7%
	Yearly member	43	14.3%
Gym Time in a day	6 am to 8 am	111	37.0%
	8 am to 10 am	80	26.7%
	6 pm to 8 pm	51	17.0%
	8 pm to 10 pm	58	19.3%
When do you come to the gym	Before Work	189	63.0%
	After Work	111	37.0%
Gym Distance From Home	Within 2 km	118	39.3%
	Within 2 to 5 km	153	51.0%
	More than 5 km	29	9.7%
How do you get to the gym	Walk	52	17.3%
	Cycle	20	6.7%
	Scooter / Bike	178	59.3%
	Car / Taxi	47	15.7%
	Bus	3	1.0%
What was your goal when you join gym	Cardio maintenance	15	5.0%
	Lose Weight	69	23.0%
	Weight Gain	65	21.7%
	Body Tone	75	25.0%
	General Fitness	71	23.7%
	Medical Reason	5	1.7%
Have you reach the goal	Yes	218	72.7%
	No	82	27.3%
Are you doing exercise with gym Schedule	Yes	274	91.3%
	No	26	8.7%
Gym Name	Urban Fitness	100	33.3%
	Work And Fit	100	33.3%
	Beast	100	33.3%
	Valid	300	100.0%
	Missing	0	
	Total	300	

The Model-Fitting Information table 3.2.2 gives the -2 log-likelihood values for the intercept only (baseline) model and the final model (with the predictors). The chi-square reported in the table 3.2.2 is the difference between -2 times the log-likelihood for the intercept-only model and that for the final model. The significant chi-square statistic (p-value <0.05) indicates that the model gives a significant improvement over the baseline intercept-only model. This basically tells you that the model gives better predictions than if you just guessed based on the marginal probabilities for the outcome categories.

Table 3.2.2: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	544.140			
Final	480.818	63.322	33	.001

Link function: Complementary Log-log.

Goodness-of-Fit Table 3.2.3 gives Pearson's chi-square statistic for the model and chi-square statistic based on the deviance. These statistics are intended to test whether the observed data are consistent with the fitted model (i. e. Fit is good). The result suggests that, P-value is greater than 0.05 in both Pearson's and Deviance Chi-square statistic. Hence we can conclude that the model fit the data well. (i.e. fit is good).

Table 3.2.3: Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	811.751	864	.897
Deviance	480.818	864	1.000

Link function: Complementary Log-log.

In table 3.2.4, there are three Pseudo R-Square values, namely, Cox and Snell's, Nagelkerke's & McFadden's. Note that Ordinal logistic regression does not have an equivalent to the R- squared that is found in OLS regression.

Table 3.2.4: Pseudo R-Square

Cox and Snell	.190
Nagelkerke	.227
McFadden	.116

Link function: Complementary Log-log

In table 3.2.5, *Threshold* represents the response variable in the ordinal logistic regression. The threshold estimate for [satisfaction level = 2] is the cut off value between Dissatisfied and Neutral satisfaction level, threshold estimate for [satisfaction level = 3] is the cut off value between Neutral and Satisfied satisfaction level and threshold estimate for [satisfaction level = 4] is the cut off value between Satisfied and Highly Satisfied satisfaction level.

Table 3.2.5: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[satisfaction level = 2]	.251	1.606	.024	1	.876	-2.897	3.398
	[satisfaction level= 3]	1.807	1.545	1.367	1	.242	-1.222	4.836
	[satisfaction level = 4]	4.406	1.548	8.100	1	.004	1.372	7.441
Location	Age	-.031	.016	3.833	1	.050	-.062	3.323E-005
	[Gender=0]	.912	.502	3.303	1	.069	-.072	1.896
	[Gender=1]	0[a]	.	.	0	.	.	.
	[Marital Status =1]	-.488	.353	1.912	1	.167	-1.179	.204
	[Marital Status =2]	-.278	.319	.759	1	.384	-.904	.348
	[Marital Status=3]	0[a]	.	.	0	.	.	.
	[Consider Yourself As=1]	.583	.432	1.823	1	.177	-.263	1.428
	[Consider Yourself As=2]	1.156	.436	7.033	1	.008	.302	2.011
	[Consider Yourself As=3]	.791	.373	4.506	1	.034	.061	1.521
	[Consider Yourself As=4]	0[a]	.	.	0	.	.	.
	[Come To Gym Per Weak=1]	.117	.481	.060	1	.807	-.825	1.060
	[Come To Gym Per Weak=2]	-.761	.410	3.445	1	.063	-1.565	.043
	[Come To Gym Per Weak=3]	-.157	.383	.168	1	.682	-.908	.594
	[Come To Gym Per Weak=4]	-.002	.249	.000	1	.995	-.490	.486
	[Come To Gym Per Weak=5]	0[a]	.	.	0	.	.	.
	[Gym member=1]	.611	.281	4.715	1	.030	.059	1.162
	[Gym member=2]	.701	.321	4.767	1	.029	.072	1.330
	[Gym member=3]	.292	.309	.893	1	.345	-.314	.898
	[Gym member=4]	0[a]	.	.	0	.	.	.
	[Gym time=1]	-1.037	.564	3.383	1	.066	-2.142	.068
	[Gym time=2]	-1.145	.572	4.004	1	.045	-2.267	-.023
	[Gym time=3]	-.047	.282	.028	1	.868	-.599	.506
	[Gym time=4]	0[a]	.	.	0	.	.	.
	[Gym Work=0]	1.558	.542	8.261	1	.004	.496	2.620
	[Gym Work=1]	0[a]	.	.	0	.	.	.
	[Gym Distance=1]	.064	.377	.029	1	.865	-.675	.803
	[Gym Distance=2]	-.046	.322	.020	1	.887	-.676	.584
	[Gym Distance=3]	0[a]	.	.	0	.	.	.
	[Vehicle Gym=1]	1.413	.861	2.694	1	.101	-.274	3.100
	[Vehicle Gym=2]	1.847	.889	4.320	1	.038	.105	3.589
	[Vehicle Gym=3]	2.007	.820	5.983	1	.014	.399	3.615
	[Vehicle Gym=4]	2.303	.850	7.334	1	.007	.636	3.969
	[Vehicle Gym=5]	0	.	.	0	.	.	.
	[Goal of gym=1]	1.012[a]	.734	1.902	1	.168	-.426[a]	2.450
	[Goal of gym=2]	.973	.687	2.009	1	.156	-.373	2.320
	[Goal of gym=3]	1.202	.704	2.917	1	.088	-.177	2.581
	[Goal of gym=4]	1.190[a]	.718	2.745	1	.098	-.218[a]	2.597
	[Goal of gym=5]	.728	.665	1.199	1	.274	-.576	2.032
	[Goal of gym=6]	0	.	.	0	.	.	.
	[Reach goal=0]	.349	.229	2.335	1	.126	-.099	.797
	[Reach goal=1]	0[a]	.	.	0	.	.	.
	[Excer with Gym Sche=0]	.039	.335	.013	1	.908	-.618	.695
	[Excer with Gym Sche=1]	0	.	.	0	.	.	.
	[Gym name=1]	.822	.246	11.140	1	.001	.339	1.305
	[Gym name=2]	.736	.236	9.770	1	.002	.275	1.198
	[Gym name=3]	0[a]	.	.	0	.	.	.

The parameter estimates in table 3.2.5 summarizes the effect of each predictor. The signs of the coefficients for covariates and relative values of the coefficients for factor levels can give important insights into the effects of the predictors in the

model. Covariates with positive coefficients indicate positive relationships between predictors and outcome and Covariates with negative coefficients indicate inverse relationships between predictors and outcome. An increasing value of a covariate with a positive coefficient corresponds to an increasing probability of being in one of the *higher* cumulative outcome categories. Factor level with a *greater coefficient* indicates a *greater probability* of being in one of the *higher* cumulative outcome categories.

We can make some interpretations based on the parameter estimates shown in table 3.2.5.

1. The p-value of predictor *Age* is 0.050. It is equal to 0.05. Hence we reject the null hypothesis and conclude that the regression coefficient for *Age* has been found statistically different from zero in estimating satisfaction level given remaining predictors are in the model. The coefficient (-0.031) of *Age* is negative, as Age in years of respondent increases, so does the probability of being in one of the lower categories satisfaction level.
2. *Consider Yourself As* seem to contribute to the model, there is one category of *Consider Yourself* (Casual Exerciser) is significant (P-value is less than 0.05). The coefficient (0.583) of *Consider Yourself As* (Body Builder) is positive. Thus, Respondent whose are consider yourself as Body Builder is more likely to be in the higher outcome categories of satisfaction level than those respondents whose are consider yourself as Couch Potato. The coefficient (1.156) of *Consider Yourself As* (Casual Exerciser) is positive. Thus, Respondent whose are consider yourself as Casual Exerciser is more likely to be in the higher outcome categories of satisfaction level than those respondents whose are consider yourself as Couch Potato. The coefficient (0.791) of *Consider Yourself As* (Regular Exerciser) is positive. Thus, Respondent whose are consider yourself as Regular Exerciser is more likely to be in the higher outcome categories of satisfaction level than those respondents whose are consider yourself as Couch Potato.
3. *Gym member* seem to contribute to the model, there is two category of *Gym member* (Month Wise and 1 to 3 month) is significant (P-value is less than 0.05). The coefficient (0.611) of *Gym member* (Month Wise) is positive. Thus, Respondent whose are monthly member of Gym is more likely to be in the higher outcome categories of satisfaction level than those respondents whose are yearly member of Gym. The coefficient (0.701) of *Gym member* (1-3 Month Wise) is positive. Thus, Respondent whose are 1-3 monthly member of Gym is more likely to be in the higher outcome categories of satisfaction level than those respondents whose are yearly member of Gym. The coefficient (0.292) of *Gym member* (4-6 Month Wise) is positive. Thus, Respondent whose are 4-6 monthly member of Gym is more likely to be in the higher outcome categories of satisfaction level than those respondents whose are yearly member of Gym.
4. *Gym time* seem to contribute to the model, there is one category of Gym time (8 am to 10 am) is significant (P-value is less than 0.05). The coefficient (-1.037) of *Gym time* (6 am to 8 am) is negative. Thus, Respondents whose Gym time is 6 am to 8 am are more likely to be in the lower outcome categories of satisfaction level than those respondents whose Gym time is 8 pm to 10 pm. The coefficient (-1.145) of *Gym time* (8 am to 10 am) is negative. Thus, Respondents whose Gym time is 8 am to 10 am are more likely to be in the lower outcome categories of satisfaction level than those respondents whose Gym time is 8 pm to 10 pm. The coefficient (-0.047) of *Gym time* (6 pm to 8 pm) is negative. Thus, Respondents whose Gym time is 6 pm to 8 pm are more likely to be in the lower outcome categories of satisfaction level than those respondents whose Gym time is 8 pm to 10 pm.
5. *Gym Work* is significant predictor, because p-value is 0.004. It is less than 0.05. The coefficient (1.558) of *Gym Work* is positive. Thus, respondents come to Gym before work is more likely to be in higher outcome categories of satisfaction level than respondents come to Gym after work.
6. *Vehicle Gym* seem to contribute to the model, there is two category of *Vehicle Gym* (Scooter / Bike and Car / Taxi) is significant (P-value is less than 0.05). The coefficient (1.413) of *Vehicle Gym* (Walk) is Positive. Thus, Respondents who come to Gym by walk are more likely to be in the higher outcome categories of satisfaction level than those respondents who come to Gym by Bus. The coefficient (1.847) of *Vehicle Gym* (Cycle) is Positive. Thus, Respondents who come to Gym by cycle are more likely to be in the higher outcome categories of satisfaction level than those respondents who come to Gym by Bus. The coefficient (2.007) of *Vehicle Gym* (Scooter / Bike) is Positive. Thus, Respondents who come to Gym by Scooter / Bike are more likely to be in the higher outcome categories of satisfaction level than those respondents who come to Gym by Bus. The coefficient (2.303) of *Vehicle Gym* (Car / Taxi) is Positive. Thus, Respondents who come to Gym by Car / Taxi are more likely to be in the higher outcome categories of satisfaction level than those respondents who come to Gym by Bus.
7. *Gym name* seem to contribute to the model, there is two category of *Gym name* (Urban Fitness and Work and Fit) is significant (P-value is less than 0.05). The coefficient (0.822) of *Gym name* (Urban Fitness) is Positive. Thus, Respondents who are going to Urban Fitness are more likely to be in the higher outcome categories of satisfaction level than those respondents who are going to Beast Gym. The coefficient (0.736) of *Gym name* (Work and Fit) is Positive. Thus, Respondents who are going to Work and Fit are more likely to be in the higher outcome categories of satisfaction level than those respondents who are going to Beast Gym.
8. The factors *Gender, Marital Status, Come To Gym Per Weak, Gym Distance, Goal of gym, Reach goal and Excer with Gym Sch* are (Insignificant, P-value is greater than 0.05) doesn't seem to contribute to the model.

Table 3.2.6: Test of Parallel Lines

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Null Hypothesis	480.818			
General	404.831	75.987	66	0.188

The null hypothesis states that the location parameters (slope coefficients) are the same across response categories

a. Link function: Complementary Log-log.

Chi-square value in table 3.2.6 is 75.987 with 66 degree of freedom. P-value of Chi-square test is 0.188. P-vale is greater than 0.05. Hence we accept the null hypothesis of Chi-square test. Thus we can conclude that there is no difference in the coefficients between models. i.e We have not violated the proportional odds assumption.

4. Conclusion

The results of the study are used to improve the customer's satisfaction in order to stay competitive to competitors, retain current customers and get new customers. According to the result, the 51 percent respondents are highly satisfied in private gyms. Satisfaction level is dependent upon age, as age of respondent's increases satisfaction level decreases. The respondents who consider yourself as Couch Potato has lower satisfaction level as compare to the respondent who consider yourself as Body Builder, Casual Exerciser and Regular Exerciser. Yearly gym member respondent have low satisfaction level than Month Wise, 1-3 Month Wise and 4-6 Month Wise member respondent. Those respondents whose gym time is 8-10 pm has higher satisfaction level as compared to respondents whose gym time is 6-8 am, 8 -10 am and 6 -8 pm. Respondents come to gym before work has higher satisfaction level as compared to respondents come to gym after work. Respondents who come to gym by Bus have lower satisfaction level as compared to respondents who come to gym by walk, cycle, Scooter / Bike and Car / Taxi. Beast Gym respondents have lower satisfaction level as compared to Urban Fitness and Work and Fit gym respondents.

5. References

1. Alexandris K, Papadopoulos P, Palialia E, Vasiliadis T. Customer Satisfaction: A Comparison between Public and Private Sport and fitness Clubs in Greece. European Journal for Sport Management. 1999; 6(1):40-50.
2. Mavridou Foteini, Tsalikioti Eirini, Alexandris Konstantinos, Komsis Stergios, Gissis Loannis. "Customer Satisfaction and service Quality at Public and Private Gyms. International Journal of Applied Research. 2013; 3(10). ISSN – 2249-555X.
3. Seyed Abbas Afsanepurak, Rasool Norouzi Seyed Hossini, Masoumeh Kalateh Sayfari. A Comparision of Customer's Satisfaction with Aerobics and Bodybuilding in Public and Private Gyms. International Journal of Academic Research in Business and Social Science. 2012; 2(1). ISSN 2222-6990, 522-528.
4. Rossome Jeanne. Customer satisfaction measurement in a business to business context: a conceptual framework. Journal of business / Industrial Marketing. 2003; 18(2):179-196.