An Application of American Customer Satisfaction Index (Acsi) Government Model to Health Services In Sarajevo, Bosnia and Herzegovina

Teoman DUMAN
Faculty of Economics
International Burch University
Bosnia and Herzegovina
tduman@ibu.edu.ba

Elif ÖZTÜRK
Faculty of Economics
International Burch University
Bosnia and Herzegovina
oztrkelf@hotmail.com

Muris MESETOVİC
Faculty of Economics
International Burch University
Bosnia and Herzegovina
Muris.mes@gmail.com

Haris HOJKURİC
Faculty of Economics
International Burch University
Bosnia and Herzegovina
hhojkuri@yahoo.com

Ahmet KANTÜRK
Faculty of Economics
International Burch University
Bosnia and Herzegovina
Akanturk85@yahoo.com

Zafer KONAKLI
Faculty of Economics
International Burch University
Bosnia and Herzegovina
zaferkonakli@yahoo.com

Abstract: The purpose of this research is to test the relationships between expectations, service quality, satisfaction, complaints and citizen trust in the context of public health services in Sarajevo, Bosnia and Herzegovina. American Customer Satisfaction Index (ACSI) government model is used as the research framework in this study. Initially proposed by Fornell, Johnson, Anderson, Cha and Bryant (1996), ACSI model is the most well-known customer satisfaction model in the US and in most parts of the world. As part of the proposed framework, public perceptions of service quality, expectations, satisfaction, complaints and citizen trust were measured for public health services with a self administered questionnaire. 212 completed questionnaires were used in the data analysis. Research results show that service process, service quality and satisfaction peceptions are main indicators of citizen trust for public health services in Sarajevo.

Keywords: American Customer Satisfaction Index, Public Health Services, Bosnia and Herzegovina

Introduction

Bosnia and Herzegovina is a country with 4.6 million population. The country is composed of 10 cantons. The Sarajevo canton, which houses the central government, has around 423,000 population. The Public Institution Medical Centre of the Sarajevo Canton is the largest institution in Bosnia and Herzegovina providing primary health care to locals living in Sarajevo canton. The institution has 9 organizational units comprising the main building and associate localities (family medicine clinics), with the total of 2186 employees, out of which 1761 are medical staff, and 425 administrative-technical staff. According to the official statistics the institution served 3,202,081 patients and provided 8,934,285 primary health care services in 2009. As the effects of devastating war in 1990s is disappearing in all aspects of life, studies are needed to understand people's perceptions of recovery especially in terms of public services. Research studies about public's perceptions of health services in Bosnia and Herzegovina is necessary for future planning but are also very limited in scope. The purpose of this research therefore is to measure the relationships between public's expectations, service quality, satisfaction, complaints and citizen trust perceptions in the context of public health services in Sarajevo, Bosnia and Herzegovina. American Customer Satisfaction Index (ACSI) government model is used as the research framework in this study.

Satisfaction Theory and Measurement

Perceived overall satisfaction is defined as "fulfillment response, the degree to which the level of fulfillment is pleasant or unpleasant" (Oliver, 1997, p.28). Marketing scholars usually agree that consumers compare their product performance perceptions with some standard to reach satisfaction evaluations (Oliver, 1997). The standards used by consumers might be their expectations, values, past experiences or benefits received by other consumers (Fournier ve Mick, 1999). The famous expectancy-disconfirmation theory of consumer satisfaction suggests that disconfirmation results from comparisons of expectations and product performace where positive disconfirmation occurs if product performance evaluations exceeds expectations while negative disconfirmation occurs when product performance evaluations falls short of expectations (Oliver, 1980, p.208). While developing expectations about products, consumers might use ideal standards, same or similar products, market promises and industry norms (Barsky, 1992; Woodruff & Gardial, 1996). Spreng et al. (1996, p.17) suggested that "expectations are beliefs about the likelihood that a product is associated with certain attributes, benefits and outcomes." Expectancy-disconfirmation model of consumer satisfaction represents a cognitive view where consumers are thought to make rational judgments to make their evaluations. Later theories of consumer satisfaction proposed that consumers' affective states are also important parts of satisfaction evaluations. Research showed later that affect was a separate and significant antecedent of satisfaction (Dube-Rioux, 1990; Mano and Oliver, 1993; Oliver, 1994, 1997; Westbrook & Oliver, 1991).

One of the main predictors of consumers' satisfaction evaluations is consumers' quality perceptions. Zeithaml (1988, p.5) defined perceived quality of a product as "the consumer's judgment about the superiority or excellence of a product." Service quality relates to consumers' evaluations of the services and defined as "global judgment or attitude, relating to the superiority of the service" (Parasuraman, Zeithaml and Berry, 1988 p.16). Similar to disconfirmation theory of consumer satisfaction, service quality theory suggests that consumers use their expectations when they make judgments about the quality of products. Researchers argue that consumer satisfaction represents an end result of a consumption experience while service quality serves as a cognitive evaluation of the superioriority of the product against others. To this end, service quality is considered an indicator of consumer satisfaction.

American Customer Satisfaction Index (ACSI) Government Model

One of the well-known models of consumer satisfaction was proposed by Fornell, Johnson, Anderson, Cha and Bryant (1996). In their American Customer Satisfaction Index Model (ACSI), Fornell and his colleagues proposed that overall customer satisfaction is a result of customer expectations, perceived quality and perceived value. In this model, satisfaction acts as a mediator between these constructs and customer complaints and customer loyalty. These researchers proposed that their model of consumer satisfaction was an overall measurement of a firm's

market offering rather than an evaluation of a specific transaction. In this form, the ACSI model was primarily measuring private sector transactions and a modified version was necessary for public agencies. In a later version of the ACSI model, Fornell and his colleagues proposed ACSI government model (ACSI, 2010). This model is shown in Figure 1. As shown in the figure, customer satisfaction for government agencies is influenced by customer expectations and perceived service quality. According to the model, perceived service quality is a function of the service process, information received, customer service and website. Consequences of satisfaction are customer complaints ot citizen trust toward public services.

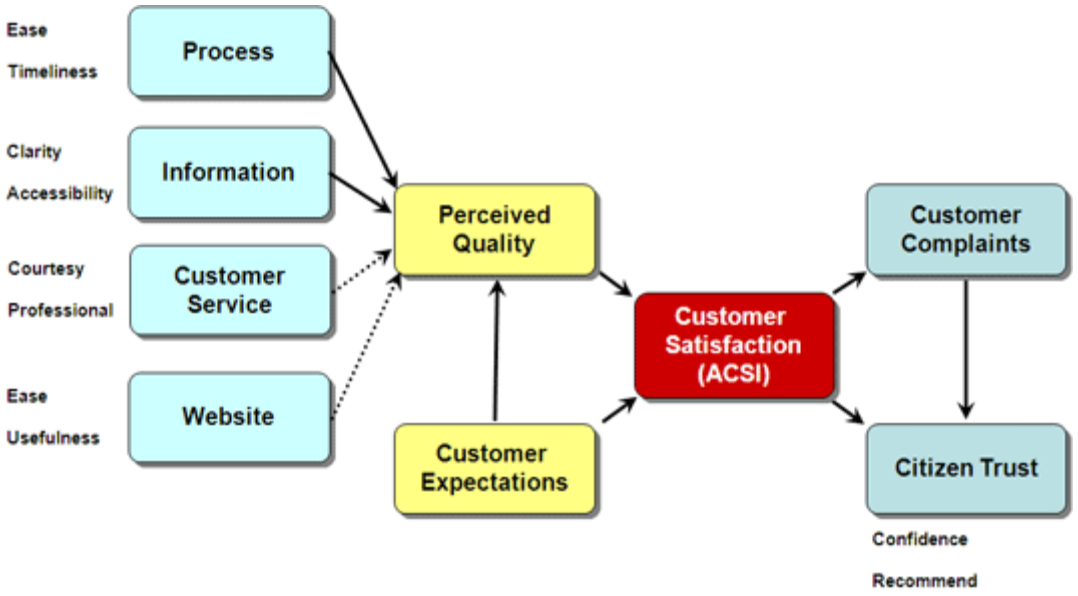

Figure 1: The American Customer Satisfaction Index Government Model

Health Services Research

Customer satisfaction is an indication of success for every business today. Satisfied customers turn to be loyal customers who are main income generators for most businesses. Customer satisfaction is more important for service businesses especially where the nature of the service is highly technical and difficult to understand for service recipients. In such services, higher satisfaction is likely to turn to repeat business. For government agencies, fewer complaints and higher levels of citizen trust are possible with higher satisfaction with these services. Research shows that programs to increase customer satisfaction and decrease consumer complaints have significant effects on hospital financial performance (Howard, 1999). Research also suggest that customers who are encouraged to complain show higher satisfaction with the services if their complaints are resolved well (Nyer, 2000). In a study about health services quality, Shemwell and Yavas measured service quality in hospital services and found that search, credence and experience are main indicators of service quality in health services settings. In another study, Carman (2000) separated hospital services into operational and technical dimensions. Operational dimension represented how the service is offered while technical dimension represented the results of the services. It was found in this study that patients' perceptions about technical dimensions of the service is more important for their perceptions of quality. Considering the complexity and technicality of health services, measurement of satisfaction in this sector is a formidable task. Gill and White (2009) argued that standardization, reliability and validity issues for the measurement of satisfaction of health services still remains an issue in academia. Previous research suggest that service quality and satisfaction are major indicators of consumer loyalty and trust. Strength of these relationships depend in part on the level of consumer complaints as lower levels of compliants result in higher satisfaction and loyalty levels (Duman and Kozak, 2009). Nyer (2000) found that customers who are given chances for expressing their complaints report higher satisfaction levels. In another study, Vukmir (2006) found that timing and amount of

caring are the two main indicators of customer satisfaction for health services. Timely and personalized services can be expected to increase quality, satisfaction and loyalty levels for public services. Current research aims to measure public perceptions of expectations, service quality, satisfaction, complaints and trust and test the relationships between tehse variables in the context of public health services in Sarajevo, Bosnia and Herzegovina.

Research Methodology

Research design

Secondary sources were first explored to develop the research framework. A two-page questionaire with three sections were used to collect data. The first section of the questionnaire included questions about general health services experience. Questions such as type of clinic visited and wait time before treatment were asked in this section. The second part of the questions included questions about the concepts that are included in the research model (Figure 1). In this part 22 questions were asked, 19 of which were attitudinal questions and the rest were yes-no questions. Questions refering to likelihood to recommend public services, overall confidence in relying on health services, official and unofficial complaints, overall satisfaction, overall quality, clarity of information given by hospital and professionalism of hospital staff were included in second section. Yes-no questions were used to identify if the respondents had any official complaint and whether they used the web site to search information about the health services. Questions in the second part were adapted from ACSI government model (ACSI, 2010) and Fornell et al. (1996). Questions in the second section were measures with seven – point numerical scales where one represented total disagreement and seven represented total agreement to the stated question. Finally, the last section was about demographics. Questions such as age group, gender, education, occupation and monthly household income were placed in the last section. The questionnaire was first prepared in English and transtlated into Bosnian language. Translation of the questionnaire was done with experts in busniess who know both languages and respective culture. Pretesting of the questionnarie was administered with 10 respondents chosen conveniently from a diverse cross-section of the population. The purpose of the pretest was to assess the validity of the questionnaire. The questions that were not fully understood were evaluated again and finalized for data collection.

Data collection and sampling

Information was gathered directly from actual users of hospital services in Sarajevo Canton. The sample for this study was selected conviniently from a diverse cross-section of the population in Sarajevo Canton. The sample included adults (18 years and older). Ten researchers from a marketing class distributed questionnaires personally to the general public in different parts of Sarajevo between April 1 and April 17 2010. A total of 250 questionnaires were distributed and 211 usable questionnaires were received during this time period, resulting in response rate of 84,4 percent. Respondents' anonymity was ensured by asking them not to identify themselves in any way. Gender was represented by 55 percent males and 45 percent females. The age of the respondents is skewed in favor of the younger population (64 percent in 18-35 age group). In the education category 67,2 percent of population had high school or college degree. Finally 54,8 percent of population were employed and 31,9 of population had income between 500 and 999 KMs.

Analysis

Frequency analysis was used to analyze demographic and visitation variables. The attitudinal variables were analyzed with descriptive analysis was done sample t-tests. In one sample t-tests, means were compared with 4 (mid-point of the scale). The research model was analyzed with multiple regression analysis. In this analysis, three regression models were run. In the first model, service quality was used as the dependent variable while process, information and customer service was used as independent variables. Web site was not used as an independent variable because response rate on this variable was too low. In the second model, customer satisfaction is used as a dependent variable and expectation and service quality were used as the independent variables. Finally, in the third model, citizen trust is used as the dependent variable and customer satisfaction and customer complaints were used as the independent variables.

Results

Table 1 presents the demographic and visitation characteristics of the patients. 64 % of patients were in 18-35 age range. Males constituted 55 % and females constituted 45 % of the sample. 64 % had college or graduate education and 54,8 % were employed and 60 % had an income level between 500 – 1499 KM. 52 % of people waited until they have received medical treatment between 1- 20 in minute. 64,2 % of patients were given clear information by the hospital employees.

Demographic Variables	**N**	**%**	**Demographic and Visitation Variables**	**N**	**%**
Age Group			**Income Level**		
18-25	68	32,2	0-499 KM	36	17,6
26-35	67	31,8	500-999 KM	65	31,9
36-45	32	15,2	1000-1499 KM	57	27,9
46-55	23	10,9	1500 KM or more	46	22,5
56 or over	21	10	*Total*	204	100
Total	211	100			
Gender			**Clarity of information given**		
Male	115	55	Yes	124	64,2
Female	94	45	No	13	6,7
Total	209	100	Partially	56	29
			Total	193	100
Education Status			**Wait time before treatment**		
High School	57	27,5	**(in minutes)**		
Vocational School-	17	8,3	1-10	38	22,8
Technical school			11-20	49	29,3
College	81	39,7	20-30	30	18
Graduate	49	24	31-60	29	17,4
Total	204	100	61 or over	21	12,6
			Total	167	100
Occupation			**Visited Polyclinic**		
Employed	114	54,8	Internal medicine	48	23,3
Retired	23	11,1	Gynecology	20	9,7
Unemployed	21	10,1	Pediatry	25	12,1
Student	50	24	Orthopedy	17	8,3
			Neurology	10	4,9
Total	208	100	Ear nose and throat	18	8,7
			Dermatology	12	5,8
			Other	56	27,2
			Total	206	100

Table 1: Demographic and Visitation Characteristics of Patients

Table 2 presents the results of descriptive analysis and one sample t-tests. The significance of the results in one sample t-tests is measured by the comparison of 4 (nuetral attitude) with the mean values with a pobability level of .05. As seen in the table, respondents have positive feelings toward recommending the services they received (mean= 4,33; p=.01) and feeling confident in relying on these services (mean= 4,28; p=.02). However, respondents find making a formal compliant difficult (mean= 3,33; p=.00) and their complaints were not handled well by the officials (mean= 3,44; p=.00). Also, respondents feel that health services they recieved fell short of their expectations (mean= 3,76; p=.03). Similarly, they feel negative about the quality of services they received (means= 3,72, 3,70, 3,56; p=.01, p=,01, p=,00 respectively) and they find service process as inconvenient as indicated by the mean value of 3,52 (p=.00). Finally, respondents have neutral feelings in terms of expectations, information, customer service and web site (p>.05).

Constructs and Items	N	Mean	Standard Deviation	t-value	p-value
Citizen Trust					
Likelihood to recommend	212	4,33	1,82	2,60	**0.01**
Confidence in relying on the health services	211	4,28	1,71	2,41	**0.02**
Complaints					
Difficulty or ease of making a complaint	84	3,33	1,90	-3,22	**0.00**
Complaint handling by the officials	118	3,44	1,90	-3,20	**0.00**
Satisfaction					
Overall satisfaction	208	3,85	1,74	-1,24	0.22
Expectation confirmation	213	3,76	1,63	-2,18	**0.03**
Service Quality					
Overall Quality	211	3,72	1,52	-2,67	**0.01**
Quality in terms of fit to personal requirements	210	3,70	1,58	-2,75	**0.01**
Quality in terms of how often things have gone wrong	208	3,56	1,48	-4,31	**0.00**
Expectations					
Expectations of the overall quality	212	3,86	1,58	-1,26	0.21
Expectations in terms of how well the services fit to personal requirements	208	3,87	1,47	-1,32	0.19
Process					
Convenience	209	3,52	1,62	-4,30	**0.00**
Timeliness	210	3,82	1,71	-1,49	0.14
Information					
Clarity of information	210	4,13	1,72	1,09	0.28
Accessibility of information	209	3,93	1,71	-0,56	0.57
Customer service					
Courtesy of health care staff	209	3,94	1,78	-0,51	0.61
Professionalism of the health care staff	210	4,12	1,66	1,08	0.28
Web-site					
Finding information through web-site easily	49	3,94	1,90	-0,23	0.82
Usefulness of information	52	4,23	1,78	0,94	0.35

Table 2: One sample t-test for measured variables (test value=4)

Model Tests

The relationships in the model were tested with three regression models. Before the model tests, correlations between variables were analyzed and presented in Tables 3 and 5. As seen in the tables, variables show moderate to high correlations in the range of .56 - .86 except for web site variable. Web site variable has low correlations with other variables possibly due to low response rate on this variable. For this reason, web site variable is removed from further tests of regressions. The other correlations in the table are significant at .05 probability level.

		Service quality	Process	Information	Customer service
Process	Pearson corr.	.785(**)			
	Sig. (2-tailed)	,000			
	N	211			
Information	Pearson corr.	,788(**)	,755(**)		
	Sig. (2-tailed)	,000	,000		
	N	211	211		
Customer service	Pearson corr.	,782(**)	,756(**)	,815(**)	
	Sig. (2-tailed)	,000	,000	,000	
	N	211	211	211	
Website	Pearson corr.	,203	,153	,337(*)	,396(**)
	Sig. (2-tailed)	,154	,283	,016	,004
	N	51	51	51	51

** Correlation is significant at the 0,01 level (2-tailed). * Correlation is significant at the 0,05 level (2-tailed).

Table 3: Correlations (Model 1)

Table 4 shows the results of first regression analysis. Independent variables explain 73% of variance in the dependent variable and all the independent variables have high correlations with the dependent variable (p=.00). Among the independent variables, service process has the strongest relationship with service quality followed by information and customer service (t=5,96; 4,47 and 3,96 respectively).

Dependent Variable : Service Quality				
Independent Variables	**Standardized Beta**	**t- value**	**p- value**	**VIF**
Process	0,36	5,96	0.00	2,69
Information	0,30	4,47	0.00	3,44
Customer Service	0,27	3,96	0.00	3,46

Note: R^2 =0,73; VIF: Variance Inflation Factor

Table 4: Regression Analysis (Model 1)

		Customer Complaints	Expectations	Service Quality	Satisfaction
Expectation	Pearson Corr.	,706(**)			
	Sig. (2-tailed)	,000			
	N	119			
Service Quality	Pearson Corr.	,698(**)	,750(**)		
	Sig. (2-tailed)	,000	,000		
	N	119	211		
Satisfaction	Pearson Corr.	,641(**)	,748(**)	,858(**)	
	Sig. (2-tailed)	,000	,000	,000	
	N	119	213	211	
Citizen Trust	Pearson Corr.	,555(**)	,601(**)	,667(**)	,641(**)
	Sig. (2-tailed)	,000	,000	,000	,000
	N	119	213	211	213

** Correlation is significant at the 0.01 level (2-tailed).

Table 5: Correlations (Models 2 and 3)

Table 6 and 7 show the results of second and third regression analyses. Independent variables in these models explain 77% and 38% of variance in the dependent variables respectively. All the independent variables in the models have high correlations with the dependent variables (p=.00). Among the independent variables in the second model, service quality has the strongest relationship with customer satisfaction (t=13,09 and 5,10 respectively). In the final model, customer satisfaction has a stronger relationship with citizen trust compared to customer complaints as indicated by t-values of 3,73. These findings are congruent with previous research on service

quality and satisfaction where service quality is the most important indicator of satisfaction perceptions as satisfaction is the most important indicator of recommending and trust perceptions (Cronin et al. 2000).

Dependent Variable: Customer Satisfaction				
Independent Variables	**Standardized Beta**	**t- value**	**p-value**	**VIF**
Expectation	0,26	5,10	0.00	2,29
Service Quality	0,66	13,09	0.00	2,29

Note: R^2 =0,77; VIF: Variance Inflation Factor

Table 6: Regression Analysis (Model 2)

Dependent Variable: Citizen Trust				
Independent Variables	**Standardized Beta**	**t- value**	**p-value**	**VIF**
Customer Complaints	0,32	3,44	0.00	1,70
Customer Satisfaction	0,36	3,73	0.00	1,70

Note: R^2 = 0,38; VIF: Variance Inflation Factor

Table 7: Regression Analysis (Model 3)

Discussion

This researched analyzed antecedents and consequences of customer satisfaction for public health services in Sarajevo. Research results reveal insightful results for theory and managers of these services. In terms of the model test, the results show that proposed three indicators of service quality, process, information and customer service have positive and significant relationships with this variable. In other words, ease and timeliness of services process, clarity and accessibility of information and courtesy and professionalism of health care staff are important signs of quality service for public health services in Sarajevo. The features realted to web sites of the institutions may not have a significant impact on service quality because of limited use of these sites by the public. Results further suggest that expectations and service quality are significant indicators of customer satisfaction as satisfaction and complaint handling are important indicators for citizen trust. Higher service quality and satisfaction perceptions result in greater citizen trust perceptions.

Although research participants indicate that they trust the services they get from public institutions, they feel negative about complaint handling, quality of service and convenience of service process. One reason for this result might be related to the physical conditions of the facilities as the recovery process is stil continuing from the recent war. Although not statistically significant, participants seem positive about professionalism of the health care staff but they think that the service process is not as convenient as they desire. This may be related to the fact that process of making an appointment is usualy slow in these instituions and patients have to wait from one to two weeks to be on the appointment list. Once they are on the list, process of getting treatment is relatively good and fast. Despite a general negative evaluations about service quality, participants show mix feelings about specific service quality features. This might be a sign that they feel improvements in services and they are positive about future expectations. Positive feelings of trust might indicate that participants are relying on their governmental services but they don't see current situation as adequate for their expectations.

The results found in this study are coming from a limited sample and these results must be validated with future studies in this area. Higher sample sizes can give better ideas of public perceptions about health services in Sarajevo. Also, management of the health facilities should consider reasons of limited usage of their websites for appointments and complaint reporting. The use of web sites can easily improve public perceptions about these services. Also, detailed studies are needed to measure perceptions of public because there might be significant differences between different demographic groups. For example, one generation lived through a devastating war while another (younger) generation doesn't even remember these events. The management of public health services in Sarajevo should consider using citizenship and nationalistic themes in promoting their services. Apperantly public feels positive about their institutions and expect more in the future.

References

Barsky, J. D. (1992). Customer satisfaction in the hotel industry: meaning and measurement. Hospitality Research Journal, 16(1), 51-73.

Carman, J. M. (2000) Patient Perceptions of Service Quality: Combining the Dimensions, The Journal of Services Marketing, 14 (4), 337-352.

Cronin, J. J., Brady M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value and customer satisfaction on consumer behavioral intentions in service environments. Journal of Retailing, 76(2), 193-218.

Dube-Rioux, L. (1990). The power of affective reports in predicting satisfaction judgments. Advances in Consumer Research, 17, 571-576.

Duman, T. and Kozak M. (2009). Service Failure, Tourist Complaints and Service Recovery, In Handbook of Tourist Behaviour: Theory & Practice. Routledge

Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: Nature, purpose and findings. Journal of Marketing, 60(October), 7-18.

Fournier, S. and Mick, D. G. (1999). Rediscovering Satisfaction. Journal of Marketing, 63, October, 5-23.
Gill , L. and White, L. (2009). Acritical review of patient satisfaction. Leadership in Health Services, 22(1), 8-19.

Howard, J. (1999) Hospital Customer Service in a Changing Healthcare World: Does It Matter? Journal of Healthcare Management, 44 (4), 312-325.

Mano, H., & Oliver, R. L. (1993). Assessing the dimensionality and structure of consumption experience: Evaluation, feeling and satisfaction. Journal of Consumer Research, 20(December), 451-466.

Nyer, U. P. (2000). An investigation into whether complaining can cause increased consumer satisfaction. Journal of Consumer Marketing, 17(1), 9-19.

Jones, T. and Sasser, W. E. (1995). Why Satisfied Customers Defect. Harvard Business Review, November-December, 88-98.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. Journal of Marketing Research, 17, 460-469.

Oliver, R. L. (1994). Conceptual issues in the structural analysis of consumption emotion, satisfaction, and quality. Advances in Consumer Research, 21, 16-22.

Oliver, R L. (1997). Satisfaction: A behavioral perspective on the consumer. Boston, MA: Irwin, McGraw-Hill.

Parasuraman, A., Zeithaml, V., & Berry, L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64(Spring), 12-40.

Spreng, R. A., Mackoy, R. D. (1996). An Emprical Examination of a Model of Perceived Service Quality and Satisfaction. Journal of Retailing, 72(2), 201-214.

Spreng, R. A., MacKennzie, S. B. and Olshavsky, R. W. (1996). A Reexamination of the Determinants of Consumer Satisfaction. Journal of Marketing, 60, 15-32.

Taylor, S. A., Baker, T. L.(1994). An Assesment of the Relationship Between Service Quality and Customer Satisfaction in the Formation of Consumers' Purchase Intentions. Journal of Retailing, 70(2), 163-178.

Vukmir, R. B. (2006). Customer Satisfaction. International Journal of Health Care Quality Assurance, 19 (1), 8-31.

Westbrook, R. A., & Oliver, R. L. (1991). The dimensionality of consumption emotion patterns and consumer satisfaction. Journal of Consumer Research, 18(June), 84-91.

Woodruff, R. B., & Gardial, S. F. (1996). Know your customer: New approaches to understanding customer value and satisfaction. Cambridge, MA: Blackwell Publishers.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality and value: A means-end model and synthesis of evidence. Journal of Marketing, 52(July), 2-22.