

The Role of Customer Service In Determining Customer Satisfaction

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Most consumer satisfaction/dissatisfaction research is focussed either on identifying product classes and personal/usage characteristics associated with dissatisfaction, or is focussed on modelling the psychological processes underlying the phenomenon. Most retailers, on the other hand, focus only on handling customer complaints. This paper focuses on retailer controllable sources of customer dissatisfaction. Findings from a large scale Canadian survey of 982 cases of recent automobile buyers show that while there are some differences in the determinants of consumer satisfaction among four different car models, it is the dealer-related factors that exert the greatest effects. Specific implications are highlighted for the retailer's attention and possible retail responses are discussed.

Robinson 1983). The second area of research, and in recent years the most popular, is that which attempts to model or conceptualize the construct known as consumer satisfaction/dissatisfaction (Bearden and Teel 1983; Churchill and Surprenant 1982; Day 1977, 1982; Jacoby and Jaccard 1981; Latour and Peat 1979; Maddox 1982; Oliver 1977, 1979, 1980a, 1980b, 1981; Prakash 1984; Prakash and Lounsbury 1984; Swan 1977, 1981a, 1981b; Swan and Combs 1976; Swan and Trawick 1979; Woodruff, Cadotte and Jenkins 1983). Although no one would argue that these research streams are not useful in advancing our understanding of this behavioural phenomenon, retailers will find little in the results of these studies of immediate practical use. The aim of this paper is to examine and discuss some factors related to dissatisfaction with a durable product which can fall within the practical realm of the retailer.

INTRODUCTION

Research in consumer satisfaction has taken two routes. One route is primarily descriptive in nature. Studies such as those done by Andreasen and Best (1977), Day and Bodur (1979), and Ash (1978) identified product/service areas with a high incidence of consumer dissatisfaction, while studies such as those by Mason and Himes (1973), Hughes (1977) and Andreasen (1984) identified personal characteristics related to high levels of consumer dissatisfaction. More recent work has attempted to link the descriptive studies on high dissatisfaction product/service areas to the field of industrial organizational economics (Fornell and

FOCUSSING ON THE RETAILER

Before discussing the research, several key questions must be addressed. First, should retailers be concerned with customer complaints or customer satisfaction? Since many retailers systematically monitor complaints, but do not systematically assess dissatisfaction through regular customer surveys, many retailers, by default, focus only on complaining customers and not on dissatisfied customers. Both researchers (Day et al. 1981; Bernhardt 1981) and retailers (Ettel and Silverman 1981) recognize, however, that noncomplainers may be as much dissatisfied as complainers are, and perhaps more so. They may damage the firm by taking their business elsewhere and by communicating their dissatisfaction to other potential customers (Richins 1983). Retail executives surveyed by Ettel and Silverman felt that only about 50% of all instances of dissatisfaction were

expressed as complaints. The evidence clearly suggests that retailers should take a broader view of the issue — that is, they should set customer dissatisfaction as their focus rather than complaints.

The second question that must be addressed is: What are the possible sources of dissatisfaction over which retailers, as opposed to manufacturers or national advertisers, have the most direct control? And closely related to this: Which of these possible sources of dissatisfaction contribute most to dissatisfaction and are the easiest to change from a retailer's point of view? Westbrook (1981) has identified three broad dimensions of retail satisfaction. The first is shopping system satisfaction, which includes satisfaction with both the availability of products and the types of retail outlets in a given market area. The second is buying system satisfaction, which consists of all aspects of selecting and purchasing products and services. The third is consuming satisfaction, which occurs after the use or consumption of a product or service. Dissatisfaction in any of these dimensions can lead to loss of customer loyalty, a

decrease in sales, and erosion of market share for retailers. The first dimension, shopping system satisfaction, is more of a macro or strategic one. The second and third dimensions are of a more tactical day-to-day nature. Etzel and Silverman (1981) report that the retail executives they surveyed estimated that almost two-thirds of all complaints focus on postpurchase events, or what Westbrook (1981) calls "consuming satisfaction." If these complaints are only the proverbial "tip of the iceberg" as far as retail dissatisfaction is concerned, postpurchase retail events ought to be carefully examined. Etzel and Silverman add that research concentrating particularly in these areas may find a receptive audience within the retailing community. Judging by the few studies published on organizational response to complaints regarding after-sales customer problems (Fornell and Westbrook 1984; Gilly and Gelb 1982; Kendall and Russ 1975; Resnik, Gnauk, and Aldrich 1977; Resnik and Harmon 1983) most firms are currently not particularly successful at responding to complaints. In fact, most firms are currently not dealing with customer dissatisfaction in any systematic way. (Business Week 1984).

TABLE 1
Initial List of Variables Selected for Study

CONSTRUCT	VARIABLE DESCRIPTION	SCALE
	Overall Satisfaction with New Automobiles (dependent variable)	7-Point Likert Scale
DEALER-RELATED VARIABLES	Total Number of Options Extended Warranty Plan Out-of-Pocket Financial Loss Number of Trips for Warranty Service Time since Last Warranty Service Trip	Standard Measures
INFORMATION SEARCH	Impersonal Advocate Variety (TV, Radio, Newspapers, Magazines, Dealer Brochures)	0 to 5
	Impersonal Independent Variety (Consumer, Technical Reports, Better Business Bureau)	0 to 3
	Personal Advocate Variety (Friends & Relatives, Household members, Mechanics/Others)	0 to 3
	Personal Independent Variety (Automobile makes and Dealers visited)	0 to 11
	Impersonal Advocate Depth Impersonal Independent Depth Personal Advocate Depth Personal Independent Depth	These scales take into account the number of sources used in each of the variety set.
PREVIOUS EXPERIENCE	Number of New Cars Previously Owned Number of Used Cars Previously Owned Satisfaction with New Cars Previously Owned Satisfaction with Used Cars Previously Owned	Standard Measures 5-Point Likert Scale, summated over # of cars.
INDIVIDUAL DIFFERENCES	Perceived Risk (Two Items) Specific Self-Confidence (Two Items) Generalized Market Beliefs (16 Items)	1 to 4, summated 1 to 4, summated 1 to 6, averaged
USAGE PATTERN	Estimated Annual Miles Highway Miles Proportion of Total Mileage Principal Driver Miles Proportion of Total Mileage	Standard Measures
HOUSEHOLD DIFFERENCES	Number of Other Drivers of New Car Number of Other Cars in Household Household Size Males Aged 16 to 25 Females Aged 16 to 25 1979 Household Income Last Grade of Schooling Completed	Standard Measures

THE STUDY

The purpose of this study was to ascertain empirically the relative importance of various retailer-controllable aspects of the durable product consumption process on consumer satisfaction/dissatisfaction and to discuss options available to retailers for dealing with dissatisfaction. A review of the literature shows that various variables have previously been reported to be related to consumer satisfaction/dissatisfaction. The works of Day (1977) and Kennedy and Thirkell (1982) were particularly helpful in generating the list of variables used in this study. However, as shown in Table 1, in addition to the more general variables, such as information search, previous experience, individual differences, usage pattern, and household differences, selected dealer or retailer-related variables were included.

Consumer satisfaction research and conventional complaint statistics both have identified automobiles and major household appliances as products which appear to be associated with a relatively high frequency of post-purchase problems. Automobile owners are also required to interact on a regular basis with automobile dealers after purchase for scheduled maintenance. Thus, the product selected for this study was automobiles, and a questionnaire was mailed to 3,000 Canadian residents who had purchased a new General Motors passenger car within the previous 18 months, and who still owned the car. A multi-stage area sampling plan was employed so that respondents would be drawn from the various regions of Canada (specifically British Columbia,

Manitoba, Ontario, and Nova Scotia) and would represent purchasers of four types of car models - a full-size model (Impala), an intermediate-size model (Malibu), a sports model (Camaro) and a compact model (Chevette). Time since car purchase was distributed from zero to 18 months, and an urban/rural split within each geographical region was ensured. Of the 3,000 questionnaires mailed, 982 (or approximately one-third) were returned. The breakdown of the number of cases was: 320 cases for the compact model, 215 cases for the intermediate-size model, 210 cases for the full-size model and 240 cases for the sports model. Non-response bias was tested in a telephone survey in southwestern Ontario and was found to be not significant.

ANALYSES AND RESULTS

Preliminary Analyses

Since all the variables were measured at least on interval scales, multiple regression was selected as the appropriate analytical technique. Before submitting the data to multiple regression, however, some diagnostic analyses were carried out to determine whether there was any redundancy in the data and whether all of the 30 independent variables (see Table 1) were necessary. The objective of the research, of course, was to derive parsimonious models with both strong predictive and explanatory powers.

Factor analysis (R-factoring with principal component analysis) was used to determine whether the variables

TABLE 2
List of Variables Used in Regression Analysis

VARIABLE	CONSTRUCT	DESCRIPTION	SCALE
OPTS SERCON FINTOT NTRIPS TSERV	DEALER-RELATED VARIABLES	Total Number of Options Extended Warranty Plan Out-of-Pocket Financial Loss Number of Trips for Warranty Service Time Since Last Warranty Service Trip	Standard Measures
IMPAD IMPIN PERAD PERIN	INFORMATION SEARCH	See Table 1 for detailed descriptions. These scales are expressed as the <u>average</u> number of sources of information used in each variety set.	Ratios
NEWSAT	PREVIOUS EXPERIENCE	Satisfaction with new cars previously owned	1 to 5, averaged
BELIEF	INDIVIDUAL DIFFERENCES	Generalized Market Beliefs	1 to 6, averaged
AMILES PMILES DRIVER	USAGE PATTERN	Estimated Annual Miles Principal Driver Miles Proportion of Total Number of Other Drivers of New Car	Standard Measures
HCARS HSIZE INCOME EDUCAT	HOUSEHOLD DIFFERENCES	Number of Other Cars in Household Household Size 1979 Household Income Last Grade of Schooling Completed	Standard Measures

as classified truly belong to the same construct or domain. Using Cattell's scree test (which suggests a minimum of four factors), and eigenvalues greater than one (which suggests a maximum of 10 factors), six factors were extracted. All the independent variables as shown in Table 1 were loaded on the appropriate construct (factor) as classified, with the exception of the two variables relating to the number of used cars owned and the related levels of satisfaction with them. Since our primary interest was the purchase and ownership of new cars, it was decided to delete these two variables, leaving only two variables for the measurement of previous experience.

Visual inspection of the correlation matrix showed that although the majority of independent variables were not highly correlated (Pearson's *r* of less than 0.3), there was some suggestion of possible multicollinearity problems among some of the variables within each factor. While multicollinearity poses no serious problems if we are only interested in prediction (and hence only interested in the model that gives the highest *R*²), it does impose a threat when we are interested in using the model for explanatory purposes because it renders the model unstable. In order to overcome problems with multicollinearity, variables

that were identified as causes of multicollinearity (those whose diagonal elements in the inverse correlation matrix were substantially greater than 1) were deleted (Pedhazur 1982, p. 246). This operation reduced the number of independent variables to 18. When dealing with multicollinearity in this manner, one must always be mindful of introducing specification errors. The risk of this in the present research was minimal because the factor analysis had shown that variables loaded on the construct or factor as expected, thereby constituting multiple measures of the construct in question. Eliminating one or two of the measures still left the construct of interest measured (see Tables 1 and 2).

Multiple Regression

The regression procedure used was stepwise regression in which each variable in the model is tested as a new variable enters. The summarised results of the stepwise regressions on the overall model and each of the four car models are shown in Table 3. The regression results on the overall model and each car type show considerable stability in that none of the previously entered variables

TABLE 3
Summary Table of Stepwise Regression

STEP	VARIABLE ENTERED	REMOVED	T TO ENTER OR REMOVE	SIGNIFICANCE	R ²	ADJ. R ²	R ² CHANGE	SIGNIFICANCE	OVERALL F	SIGNIFICANCE
OVERALL MODEL (ALL CAR MODELS)										
1	NTRIPS	—	-12.928	0.000	0.1486	0.1477	0.1486	0.000	167.12	0.000
2	BELIEF	—	-7.057	0.000	0.1908	0.1891	0.0421	0.000	112.72	0.000
3	FINTOT	—	-6.950	0.000	0.2297	0.2273	0.0389	0.000	94.96	0.000
4	OPTS	—	2.257	0.024	0.2338	0.2306	0.0040	0.024	72.80	0.000
5	TSERV	—	2.003	0.045	0.2370	0.2330	0.0032	0.045	59.22	0.000
6	PERIN	—	2.000	0.045	0.2402	0.2354	0.0031	0.045	50.17	0.000
CHEVETTE (COMPACT MODEL)										
1	NTRIPS	—	-7.051	0.000	0.1378	0.1350	0.1378	0.000	49.71	0.000
2	FINTOT	—	-4.399	0.000	0.1884	0.1832	0.0506	0.000	35.99	0.000
3	BELIEF	—	-4.179	0.000	0.2318	0.2244	0.0434	0.000	31.09	0.000
4	TSERV	—	2.164	0.031	0.2433	0.2335	0.0115	0.031	24.76	0.000
MALIBU (INTERMEDIATE MODEL)										
1	NTRIPS	—	-5.511	0.000	0.1285	0.1242	0.1285	0.000	30.37	0.000
2	FINTOT	—	-4.075	0.000	0.1938	0.1859	0.0653	0.000	24.64	0.000
3	BELIEF	—	-3.662	0.000	0.2435	0.2324	0.0497	0.000	21.89	0.000
4	AMILES	—	2.587	0.010	0.2676	0.2532	0.0241	0.010	18.55	0.000
IMPALA (FULL SIZE MODEL)										
1	NTRIPS	—	-6.221	0.000	0.1601	0.1559	0.1601	0.000	38.69	0.000
2	FINTOT	—	-5.016	0.000	0.2531	0.2457	0.0930	0.000	34.22	0.000
3	HCARS	—	-2.362	0.019	0.2732	0.2624	0.0201	0.018	25.19	0.000
4	BELIEF	—	-2.238	0.026	0.2910	0.2768	0.0177	0.026	20.52	0.000
5	PERIN	—	2.285	0.023	0.3091	0.2918	0.0181	0.023	17.81	0.000
CAMARO (SPORTS MODEL)										
1	NTRIPS	—	-7.203	0.000	0.1834	0.1798	0.1834	0.000	51.88	0.000
2	BELIEF	—	-4.374	0.000	0.2461	0.2395	0.0627	0.000	37.54	0.000
3	FINTOT	—	-2.955	0.003	0.2738	0.2642	0.0276	0.003	28.78	0.000
4	INCOME	—	2.534	0.011	0.2937	0.2813	0.0199	0.011	23.70	0.000
5	PMILES	—	2.355	0.019	0.3105	0.2953	0.0168	0.019	20.44	0.000

were removed from any of the equations as a result of adding one more variable. This also suggests that there is little multicollinearity problem, and hence the explanatory power of each of the models is greatly improved.

All the models show relatively high predictive powers in that the adjusted R² ranges from 0.23 to 0.29. It is also worthwhile to note that three variables - the number of trips made for warranty service (NTRIPS), the generalized market beliefs (BELIEF) and the amount of out-of-pocket financial losses incurred (FINTOT) - appear consistently in all the models.

Table 4 shows the results of the best-fit regression equations on each of the car models and the overall

model. For the overall model (all four car models included), 6 variables account for an adjusted R² of 0.235 in the overall level of satisfaction. In essence, the model suggests that the overall level of satisfaction is negatively related to the number of trips made for warranty service (NTRIPS), the amount of out-of-pocket financial loss incurred (FINTOT), and the generalized market beliefs (BELIEF); and positively related to the time since last warranty service (TSERV), the total number of options (OPTS) selected for the car, and the amount of personal independent information search (PERIN). Overall, the significant F and T values lend much credence to the explanatory power of the model.

It is interesting to note that the first three variables

TABLE 4
Regression Equations of Overall Model and Each Car Model

VARIABLE	B	SE B	BETA	T	SIG. T	ADJ. R ²	F	SIG. F
OVERALL MODEL								
NTRIPS	-0.2654	0.0238	-0.3439	-11.11	0.0000	0.235	50.17	0.0000
BELIEF	-0.4470	0.0650	-0.1978	-6.87	0.0000			
FINTOT	-0.0029	0.0004	-0.2059	-7.15	0.0000			
OPTS	0.0444	0.0205	0.0616	2.16	0.0305			
TSERV	0.0649	0.0313	0.0622	2.06	0.0388			
PERIN	0.0542	0.0271	0.0570	2.00	0.0458			
CONSTANT	7.5957	0.2584		29.39	0.0000			
CHEVETTE (COMPACT MODEL)								
NTRIPS	-0.2570	0.0414	-0.3451	-6.20	0.0000	0.233	24.76	0.0000
FINTOT	-0.0042	0.0008	-0.2431	-4.83	0.0000			
BELIEF	-0.4599	0.1120	-0.2067	-4.10	0.0001			
TSERV	0.1124	0.0519	0.1174	2.16	0.0312			
CONSTANT	7.6945	0.4211		18.27	0.0000			
MALIBU (INTERMEDIATE MODEL)								
NTRIPS	-0.2603	0.0510	-0.3188	-5.09	0.0000	0.253	18.55	0.0000
FINTOT	-0.0044	0.0010	-0.2617	-4.23	0.0000			
BELIEF	-0.4535	0.1295	-0.2114	-3.50	0.0006			
AMILES	0.0299	0.0115	0.1589	2.58	0.0104			
CONSTANT	7.6197	0.5151		14.79	0.0000			
IMPALA (FULL-SIZE MODEL)								
NTRIPS	-0.2766	0.0477	-0.3500	-5.79	0.0000	0.291	17.81	0.0000
FINTOT	-0.0086	0.0018	-0.2788	-4.55	0.0000			
HCARS	-0.2289	0.0894	-0.1561	-2.56	0.0112			
BELIEF	-0.3429	0.1297	-0.1605	-2.64	0.0089			
PERIN	0.1258	0.0550	0.1380	2.28	0.0233			
CONSTANT	7.5911	0.4667		16.26	0.0000			
CAMARO (SPORTS MODEL)								
NTRIPS	-0.2271	0.0460	-0.2916	-4.93	0.0000	0.295	20.44	0.0000
BELIEF	-0.5341	0.1456	-0.2115	-3.66	0.0003			
FINTOT	-0.0018	0.0005	-0.1803	-3.17	0.0017			
INCOME	0.1685	0.0601	0.1596	2.80	0.0055			
PMILES	0.0047	0.0020	0.1327	2.35	0.0194			
CONSTANT	7.1144	0.7045		10.09	0.0000			

NOTE: Checks for normality were carried out by inspecting the residual plots of each of the regression equations. In general, the normality assumption was not violated.

which have much greater effects (as indicated by the standardized regression coefficients or the Beta values) on the level of consumer satisfaction are all in the negative direction and account for an explained variance of more than 0.22 (see Tables 3 and 4). In particular, the effects of the number of trips that the consumer has to make for warranty service has a very adverse effect on the level of satisfaction (Beta value of -0.34). It is also interesting to note that of the six variables affecting the level of consumer satisfaction, four are at least related to the dealer.

For the compact model (Chevette), four variables account for an adjusted R² of 0.233 on the overall level of satisfaction. These variables are, in order of magnitude of effects, NTRIPS, FINTOT, BELIEF and TSERV. Except for the last variable, the other variables show negative effects on the overall level of satisfaction. Both F and T values are significant, suggesting the stability the model. Again, it should be noted that out of the four variables, three are related to the dealer.

For the intermediate model (Malibu), four variables, of which three are identical to that of the compact model, account for an adjusted R² of 0.253. The only different variable is the estimated annual miles travelled on the car (AMILES), which is positively related to the overall level of satisfaction. The dominance of the dealer-related variables in explaining the R² is again illustrated in this model.

Five variables account for an adjusted R² of 0.291 on the overall level of consumer satisfaction for the full-size car model (Impala). The same three variables that dominate in the previous two models also continue to show considerable effects on the overall level of satisfaction in this model. The two variables that are different are the number of cars in the household (HCARS) and the personal independent information search variable (PERIN). The negative effect of HCARS suggests that as the household owns more cars, the family member is likely to be more dissatisfied with a particular

car. Intuitively, this makes a lot of sense, as having more cars in the household allows the drivers and owners to make comparisons among them, and they are likely to discover more faults with a particular car. The Impala is a full-size car, and costs considerably more than the Chevette and the Malibu. As such, it is not unexpected that the buyer would attempt to search for more information about the car before buying it. This study shows that the personal independent information search variable, which involves comparing among various automobile makes and visiting various dealers, is significant in explaining the overall level of consumer satisfaction. In fact, the positive relationship between the overall level of consumer satisfaction and information search suggests that postpurchase satisfaction is more likely to occur when the consumer has carried out a significant information search.

Of the five variables which account for an adjusted R² of 0.295 on the overall level of satisfaction for the sports model (Camaro), three are again identical to all the previous models. NTRIPS, BELIEF AND FINTOT continue to dominate the model in terms of magnitude of effects. The two variables which are different from the previous models are total household income (INCOME) and the principal driver's mileage as a proportion of total mileage (PMILES). The effects of these two variables may be explained as follows. The Camaro, being a sporty and more expensive car than the Chevette and the Malibu, is not likely to be bought by the lower income group. In fact, based on cross-tabulations, 40.6% of Camaro owners have household incomes over \$30,000, compared to 31.8% for Impala, 26.2% for Malibu and 27.6% for Chevette. The Camaro is also likely to be a personal car, and this accounts for the significant effect of the fifth variable (PMILES), which suggests that as the principal driver uses the car more, he tends to be more satisfied with it. In any multiple regression for predictive purposes, it is important to validate in order to estimate degree of shrinkage in the

TABLE 5
Results of Double Cross-Validation

VARIABLE	B VALUE OF EQUATION 1	SIG. OF T	B VALUE OF EQUATION 2	SIG. OF T	EQUATION 1 ON SUBSAMPLE 2	EQUATION 2 ON SUBSAMPLE 1
NTRIPS	-0.2729	0.0000	-0.2715	0.0000		
BELIEF	-0.4729	0.0000	-0.4721	0.0000		
FINTOT	-0.0018	0.0030	-0.0018	0.0030		
OPTS	0.0761	0.0071	0.0766	0.0069		
PERIN	0.0893	0.0141	0.0887	0.0149		
TSERV	0.1210	0.0158	0.1188	0.0179		
CONSTANT	7.5070	0.0000	7.5042	0.0000		
PEARSON r	—	—	—	—	0.4695	0.4722
R ²	0.2310	—	0.2236	—	0.2204	0.2230
ADJ. R ²	0.2213	—	0.2189	—	—	—
F	23.8840 (0.0000)	—	23.5163 (0.0000)	—		

NOTE: Double cross-validation was not carried out on each of the four car models because the sample size of each is not large enough to provide meaningful tests.

R^2 , as well as to assess the stability of the regression equation. Double cross-validation (Lord and Novick 1968, p. 285; Mosier 1951) of the best fit regression model was carried out on the total sample of 982 cases, and the results are shown in Table 5. Note that the two regression equations are very similar, including the values of the B's and their levels of significance. The four R^2 's are also very close, indicating that there is little shrinkage and that the subsequent combined equation to be developed would be very robust as a predictive tool.

DISCUSSION AND CONCLUSION

The results of this study show that there are some differences in the various kinds of factors which affect the overall level of consumer satisfaction among different models of automobiles. Thus it is unwise to assume that consumer satisfaction is affected by the same set of factors within a particular product class. However, this study also shows that although there are different factors which have significant effects on the level of consumer satisfaction among different models within a product class, it is the common factors that exert much greater effects. In the context of automobiles, three significant factors - NTRIPS, FINTOT and BELIEF - dominate all the different car models in terms of explaining the effects on satisfaction. It is also interesting to note that most of the factors that affect satisfaction are related to the dealer - NTRIPS, FINTOT, OPTS and TSERV. This suggests several managerial implications.

This study serves to provide empirical evidence supporting the perceptions of retailers (Etzel and Silverman 1981) that a great deal of customer dissatisfaction is attributable to post-purchase interactions with the retailer. When analyzed concurrently with constructs related to individual customer differences such as amount of pre-purchase information search engaged in, past experience with the product class, circumstances of use, individual personal differences, and household differences, practical dealer-controllable factors such as the number of trips to the retailer for warranty service and the amount of out-of-pocket expenses above normal operating costs turn out to explain the greatest amount of the variance in satisfaction. Generalized market beliefs, a highly individual and permanent consumer characteristic, is the only other variable that helps to explain a substantial amount of the variance. Also statistically significant, but less important, are other factors such as total number of options selected, amount of information search, time since last warranty service, etc.

What are automobile dealers to learn from these results? First, they must focus on after-sales service if they hope to improve customer satisfaction. Every trip to the dealer for warranty service is a negative experience leading to customer dissatisfaction. As the number of trips to the dealer for warranty service increases, so does the level of dissatisfaction. Furthermore, a warranty service trip is perceived so negatively, that the nearer in time to the most recent warranty service trip a respondent filled in the survey questionnaire, the higher was the level of dissatisfaction (overall model and the

Chevette model). When the problem involves additional expenses not covered by the warranty, the level of dissatisfaction is further exacerbated.

In order to better understand the after-sales service problem identified by the above analyses, data on expectations of after-sales service and the confirmation or negative disconfirmation of these expectations were analyzed. Table 6 summarizes the results of this analysis carried out on the total sample. Supporting the regression results, 30.8% of the respondents considered the number of warranty repair visits required to be worse than expected. Even more serious, from a retail/dealer managerial point of view, is the fact that there appears to be a problem with the quality of the warranty work done. Almost 40% of the respondents in the sample had their expectations of warranty work doing done right the first time negatively disconfirmed. This may be an underlying reason for our finding that dissatisfaction was highly correlated with the number of warranty trips made. Expectations of the "people" aspects of service such as attitude of service personnel, service personnel understanding problems, and service and repairs done when promised, appear to exceed what automobile retailers are delivering. More than one-fifth of the respondents considered these aspects of the service operation to be below expectations. In comparison to the regression results, which showed out-of-pocket financial expenses to be a significant correlate of dissatisfaction, cost related aspects of the service operation do not seem to fall much below expectations. It can only be concluded that consumers expect these expenses but nonetheless are unhappy about them.

These data partially support the common wisdom of the industry that product quality and service are closely intertwined in the car business (Business Week 1984), and the data partially add a new dimension. In defense of their poor showing on the "number of warranty repair visits" and "warranty repairs correct first time" measures, dealers can probably share the blame with manufacturers in that sloppy quality on the assembly line can lead to chronic problems that are difficult for car dealers to fix. The dealer, however, cannot share the blame with the manufacturer when it comes to the poor showing on what we have called the "people" aspects of service and the poor showing on measures such as "parts availability" and "days without car because of repairs". These aspects are affected by the product quality, but are controllable by the dealer.

Automobile dealers can deal with the after-sales service issue in a number of ways. First, they can look to their car shipment inspections. Are they rigorous enough? Can this operation be improved and "tightened up" in any way so as to reduce the frequency of warranty service for relatively easily diagnosable and correctable operating problems? Secondly, automobile dealers can look at their service operations. Are there sufficient quality control monitors, or is shoddy work being allowed to leave the shop? If a particular problem is difficult to diagnose and a "shot-in-the-dark" solution is attempted, is the nature of the repair fully disclosed to the customer so that he or she can adjust expectations accordingly? Does the

TABLE 6
Aspects of After-Sales Service Compared To Expectations

	Worse Than Expected	As Expected or Better
Level of Maintenance Cost	11.2% ⁺	88.8% ⁺
Repair Costs not Covered by Warranty	12.7%	87.3%
Number of Warranty Repair Visits	30.8%	69.2%
Number of Non-Warranty Visits	10.8%	89.2%
Days without Car Because of Repairs	22.6%	77.4%
Warranty Repairs Correct First Time	38.2%	61.8%
Attitude of Service Personnel	20.6%	79.4%
Service Personnel Understand Problems	22.0%	78.0%
Service/ Repairs Done when Promised	22.6%	77.4%
Parts Available when needed	20.8%	79.2%

⁺ All percentages are based on the total sample of 982.

operation leave anything to be desired in the way of dealer-customer interactions? It must be remembered that a recent new car buyer has just gone through a period of interactions with the dealer, prior to the purchase, who indicated to him or her that the car he or she was buying was the very best and that the customer was "number one." A sudden after-sales switch from salespeople who "bent over backwards" for the customer and insisted that the car being bought was the absolute best, to service people who matter-of-factly report to the customer that the problem he is having with his or her cherished new possession is typical and one of the poorer attributes of the car, can be devastatingly dissatisfying. Dealers should examine their service operation carefully to ascertain whether there are any ways in which the level of service can be raised cost effectively. With respect to non-warranty out-of-pocket expenses customers must bear, dealers might consider "investing" in their customers' repurchase behaviour towards future new cars or post-warranty service on the present car, by absorbing minor non-warranty expenses often incurred. These small "touches" carefully highlighted on the customer's service invoice may go much further than expensive media advertising.

The above remedies for customer dissatisfaction must of course be reconciled with how the dealer must view the problem of customer dissatisfaction. Customer dissatisfaction, like bad debts, has an economic value. To be sure, dissatisfaction can be reduced to a very small proportion of customers. But there is a considerable cost involved in doing so. The question with which all managers must grapple is: "Do the advantages accruing from an incremental satisfied customer outweigh the expenditures required to satisfy this customer at the margin?" The problem with this seemingly simple equation is that the manager must equate an immediate measurable financial expenditure with a largely unmeasurable and uncertain future return.

The authors of this paper believe that many retail managers fail to appreciate the value of a satisfied customer and focus on the profitability of services as "profit centres." A "cost centre" approach, used by some

very successful retail organizations, focusses instead on the long run returns side of the equation. A recent study for the U.S. Office of Consumer Affairs attempted to quantify the long run value in revenues from a loyal customer. Automobile marketers, it was estimated, could count on \$142,000 over a satisfied buyer's lifetime; appliance marketers would get \$2,840 over 20 years; banks could expect \$568; and supermarkets could expect \$22,000 over a five year period (Technical Assistance Research Programs 1979) Although it would be inappropriate to put a lot of emphasis on these estimates, they do serve to highlight the potential long run value of customer satisfaction to the retailer.

The managerial implications of the research discussed above have been limited to automobile dealers. Strictly speaking, this is probably generalizing too broadly since data was only analyzed regarding experiences with General Motors automobiles. However, the authors believe that such restricted applicability of the findings is probably too conservative. Much of our discussion is relevant to most automobile dealers as well as to many retailers of major consumer durables, which by their nature require a considerable amount of after-sales service.

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