

SATISFACTION WITH AND SUPPORT OF A CONTINUOUSLY UTILIZED SERVICE:
A PUBLIC RADIO STATION

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ABSTRACT

Exploratory research was conducted to investigate the concept of satisfaction with a continuously utilized service, a public radio station. A model of the process is presented and tested empirically. Comparisons are made to the disconfirmation paradigm explaining immediate post purchase satisfaction. Implications for future research involving continuously utilized services are given.

INTRODUCTION

The purpose of this study was to analyze hypothesized correlates of satisfaction and financial contributions to a public radio station. The main theme of this article is satisfaction with a continuously utilized service. The sample was composed of listeners to a public radio station. The contribution of this study is that only a few attempts to understand satisfaction with continuously utilized services have been reported. Most recent studies have focused on immediate satisfaction following the one-time usage of a product.

MODELING SATISFACTION

Satisfaction has been modeled as an outcome of a process in which the consumer forms prepurchase expectations of product performance, the product is used, and if performance exceeds expectations (positive disconfirmation), satisfaction results and dissatisfaction occurs if performance is short of expectations (Day 1977; Oliver 1980; LaTour and Peat 1980; Swan and Combs 1976; Swan and Trawick 1980; Swan 1977). The disconfirmation paradigm is especially suitable for explaining immediate post purchase satisfaction. However, the influence of original expectations could be expected to decline as a product or service is utilized over an extended period of time (Ortinou 1979). An alternative paradigm is needed for products that have a long useful life and for services that are used more or less continuously.

Day (1977) and Ortinau (1979) have modeled the satisfaction process for extended use goods. Swan and Combs (1976) and Westbrook (1980) have empirically analyzed satisfaction for clothing and durable goods and found that perception of the confirmation of expectations was related to satisfaction. A work that is similar to the concept of interest in this study is Reibstein, Lovelock, and Dobson's (1980) investigation of satisfaction and utilization of public transit. They found that beliefs that public transit had certain attributes influenced satisfaction, while in turn satisfaction contributed to behavior, a self report of the frequency of bus riding. Behavior was positively related to the perceived availability of bus service.

The model tested in this study was necessarily drawn from a number of sources as will be explained shortly. The model is presented in Figure 1.

EXPLANATION OF MODEL

Essentially the causes of satisfaction are based on the assumption that satisfaction is a function of comparing the service to alternatives available, utilization of alternatives, preferences for benefits offered by the service, demographics and involvement.

The idea that satisfaction will increase to the extent that an alternative is not perceived as being available or the alternative is not used very extensively was drawn from Thibaut and Kelley's (1959) concept of a comparison level for alternatives. Thibaut and Kelley wrote that satisfaction with group membership would increase as the group was perceived to offer rewards that were superior to those offered by alternative groups. Extending the proposition to the present context, satisfaction with the station (hereafter the station will be referred to as PUBLIC) should be high if a listener did not have an alternative station, as this would be an indication that alternatives were not perceived favorably. Similarly, limited use of the alternative station would suggest that it was a relatively poor alternative. Alternative radio stations were available. LaTour and Peat (1980) and Swan and Martin (1980) have found that satisfaction increases as a brand is perceived to perform better than the expected performance of alternative brands. Swan and Trawick (1981) reported that satisfaction with food and service in a restaurant was significantly related to both disconfirmation and a rating of the best alternative restaurant. As the rating of the alternative became less favorable, satisfaction increased.

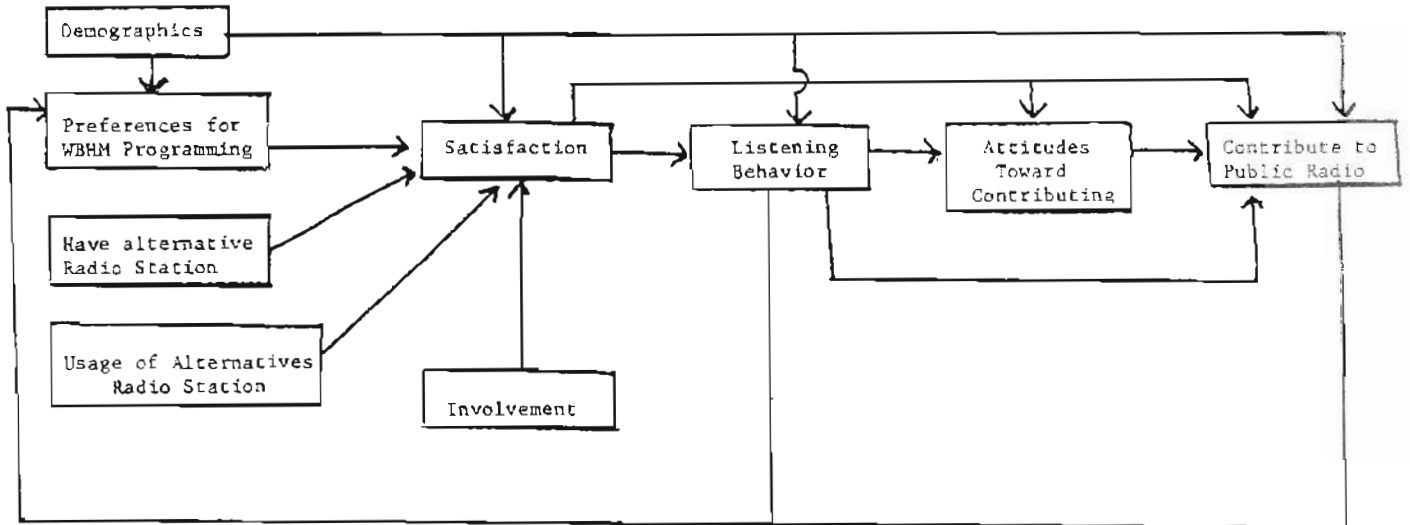
Satisfaction is thought to represent an overall effect towards its referent (Reibstein, Lovelock, and Dobson 1980; Oliver 1980) and/or an evaluation of it (Day 1977). It is reasonable to posit that as preferences for different benefits (types of radio programs) of the service increase, satisfaction would increase. This is also congruent with the argument by Howard and Sheth (1969, p. 145) that satisfaction increases as the user feels that the product satisfies the motives served by it.

Relationships between demographics and satisfaction have been found in some studies, but not others (Swan, Trawick and Carroll 1979). The most consistent finding is that age is directly related to satisfaction. Public radio appeals primarily to higher social and economic status listeners. Swan, Darden and Trawick (1982) have found that satisfaction varies directly with demographic characteristics that determine the target market segment for department stores. It was expected that satisfaction would increase with income, education, and the prestige of the respondent's and/or spouse's occupation.

Day (1977) has speculated that consumer involvement will be related to satisfaction. He did not specify the nature of the relationship. Ortinau (1980) investigated some possible involvement/satisfaction relationships. He defined involvement in terms of product usage rate. We used a different measure of involvement. In this study the two types of programs with the highest proportion of listeners were classical music (94%) and news (82%). Involvement with music was higher if the

FIGURE 1

MODEL OF PREFERENCES, SATISFACTION, LISTENING AND CONTRIBUTING BEHAVIOR



respondent listened to PUBLIC to hear certain music and low if the respondent just listened to have some music on. High involvement would signify more extensive self-exposure to the programming. In experimental aesthetics, self-exposure has been found to be correlated with an evaluative factor (Berlyne 1974, p. 317-322). We anticipated that involvement would be positively related to satisfaction.

The consequences of satisfaction were expected to include: listening to PUBLIC, attitudes toward contributing to public radio and contributing behavior (see Figure 1). Higher satisfaction represents a more positive feeling toward its referent than does lower satisfaction. Positive relationships were expected between the variables just mentioned. Other relations were anticipated. Demographics could influence both listening and contributing. Better educated persons may have more interest in classical music which was an important part of PUBLIC's programming. Higher income persons may feel more able to contribute.

Some feedback relationships were anticipated. Reibstein, Lovelock and Dobson (1980) found that bus riding led to more favorable beliefs about bus service. Similarly, we predicted that increased listening would increase preferences for PUBLIC programming.

Based on the relationships discussed above, the following hypotheses were proposed.

- H1: An alternative station: satisfaction will be lower among respondents that have a favorite radio station other than PUBLIC.
- H2: Usage of alternative station: satisfaction will be inversely related to usage of the alternative station.
- H3: Involvement and satisfaction will be positively related.
- H4: Preference for types of PUBLIC programs will be positively related to satisfaction.
- H5: Demographics: Satisfaction will be positively related to age, education, income and occupational prestige.

H6: Satisfaction and listening to PUBLIC and attitudes toward contributing and actual contributing will all be directly related.

H7: Contributing will be positively related to listening preferences for PUBLIC programming, attitudes towards contributing, income and social and economic status.

H8: Listening will be related to preferences for PUBLIC programming.

METHOD

Sampling

As a result of a pretest, the researchers determined that a random sample of the total PUBLIC listening area of the Central part of a Southeastern state or the SMSA where PUBLIC was located would exceed the budget due to the small percentage of PUBLIC listeners in the area (approximately 6% in the pretest). Investigation showed that eight ZIP code areas accounted for 75% of the SMSA area PUBLIC supporters and the area supporters accounted for 82% of the total support for PUBLIC. The population for the study was selected as those households having a telephone within the eight ZIP code areas. The sampling unit was any adult member at that household.

A representative of the local telephone company identified the telephone exchanges which corresponded to the ZIP codes. Using the City Directory, a systematic random sample of residential listings was chosen to yield 300 completed questionnaires. In order to guarantee that a comparison could be made between contributors and noncontributors to PUBLIC, a systematic random sample was drawn from the PUBLIC contributor list, resulting in 84 completed questionnaires. The resulting sample size of 384 was within budgetary constraints. The interviewing was done in September and October of 1979 by a professional interviewing service. Nonlisteners to PUBLIC were screened out.

Measurement

Satisfaction has been defined theoretically as the consumer's post purchase evaluation of product performance as being satisfactory, neutral, or dissatisfactory

(Day 1977), and/or the consumer's post purchase feelings about the product as being good/poor, etc. (Oliver 1980). The operational definition of satisfaction used here was made specific to PUBLIC programming as it was assumed that programming was the most salient activity of PUBLIC from the listener's perspective. Two items were used:

1. How would you rate the programs on PUBLIC - 5 point scale "very poor" to "excellent" scale.
2. How satisfied or dissatisfied are you with the programs of PUBLIC - 5 point scale "extremely satisfied" to "very unsatisfied".

The assumed antecedents of satisfaction included four sets of variables. Affect towards some social object has been conceptualized as the individual's positive or negative feelings about the object. This was measured for each of five types of PUBLIC program programs on a 4 point scale "like very much" to "dislike" scale. The types of programming included classical, bluegrass and jazz music, news and public information, and radio drama. The station had little, if any, additional programming. "Have an alternative radio station" was measured by asking the respondents: "Do you have a radio station that is your favorite, other than PUBLIC, that you might listen to? Yes--no." If they reported an alternative station, usage of alternative station was measured as the number of different types of programming listened to on that station. Nine types of programming were included. Involvement has been thought to encompass three distinct types of involvement of which one seemed pertinent to radio listening; it was what Houston and Rothschild (1978) have labeled response involvement. They defined it as "the complexity of extensiveness of cognitive and behavioral processes characterizing the overall consumer decision process." Involvement was measured by two questions about listening to news and music:

1. When you listen to a music program on PUBLIC, do you do so in order to hear certain music or just to have some music on? (listen to certain music was high involvement.)
2. How important to you is news on PUBLIC compared to other sources of news such as TV, newspaper, magazines, other radio stations? (responses: PUBLIC is: more, equally, less important.)

The demographics of income, education and age were measured as the total income of all persons in your home, the last grade you attended in school (six categories from grade school to some post graduate work or degree), and six age categories starting with 18-24 and ending with 65 and older.

The last demographic, occupation, requires some discussion. A person's occupation may be relevant to nonoccupational behavior due to occupational skills and interests. A problem occurred in that 42% of the respondents were not in the labor force (39% homemaker, 3% student). In order to have as large a sample as possible, the spouse's occupation (if any) was used in cases where the respondent was a homemaker or student. It was felt that this was justified as most marriages occur within social classes and the spouse's occupation should also reflect the respondent's interests.

The definition and measurement of the consequences of satisfaction (listening behavior, attitudes toward contributing and contribute to public radio) also bear discussion. Listening behavior can be relatively easily defined conceptually as the amount of time spent listening to PUBLIC. That is a deceptively simple definition as listening can vary in terms of listening attentively

to paying very little attention to the program. Also listening may vary by days of the week, times of the day and seasons of the year. Listening was respondent defined as they were asked questions in terms of "do you usually listen to PUBLIC." Questions were asked about listening behavior that provided measures of: (a) whether the respondent was a week day, Saturday or Sunday listener and on how many weekdays. Answers were summed across days to measure the number of listening days per week (hereafter listening days); (b) if the respondent listened to PUBLIC during eight time periods (6 a.m. to 1 a.m.) on week days, Saturday or Sunday. Answers were summed across days and periods to yield the number of listening periods per week (hereafter listening periods); (c) the amount of time spent listening on a week, Saturday or Sunday which provided a measure of listening time.

Attitudes toward contributing to public radio can be conceptually defined as the listener's evaluation of contributing. Two approaches to measuring attitudes toward contributing were used. First, the respondents were asked about contributing to public radio (such as: "most people who listen to public radio support it with donations" on a 3 point Likert scale). The 11 items were summed to form the contributing attitude scale. Secondly, following the 11 items the respondents were asked the following summary attitude towards contributing item (attitude towards contributing):

"Considering, on one hand, the purpose of broadcast appeals for funds to support public radio and, on the other hand, people's objections to them, do you agree or disagree that these appeals are a fair price to pay for the programming on public radio?"

Contributing to public radio is the act of providing financial support to PUBLIC. The station actively solicited contributions. Contributors were operationally defined as those who reported that any member of their household had contributed to PUBLIC.

Analysis

Five constructs, such as satisfaction, were measured with multi-item scales which were analyzed for reliability (see Table 1). The resulting reliabilities were adequate for exploratory work, except for the involvement scale. It was apparent that the involvement two items noted above (attention to music and importance of news) were not related. The separate items were used in the analysis since they did not form a scale.

TABLE 1
ALPHA RELIABILITY COEFFICIENTS

Scale	Alpha	Number of Items
Satisfaction score	.57	2
Usage of alternative station	.84	9
Preference for PUBLIC programming	.49	5
Involvement	.16	2
Contributing attitude scale	.60	11

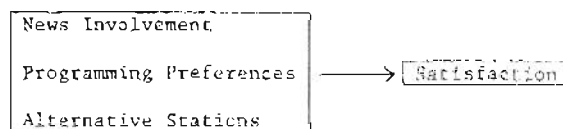
The statistical analysis was done in two steps. First, simple correlations between the variables of interest were used. Both Pearson correlation and nonparametric correlation were employed. The results were very similar, so only Pearson coefficients are reported. Secondly, a multivariate analysis was attempted. Multiple regression analysis of the variables (excluding demographics) in Table 2 as predictors of satisfaction and listening periods was done. Demographics were

excluded as they were not related (Table 2) to the criterion variables. Factors related to contributing (yes/no) to PUBLIC were accessed using multiple discriminant analysis. In the multivariate analysis, the following measures were intercorrelated, so only one predictor from the set was used.

Have alternative station
Usage of alternative station
Listening Behavior
Contributing attitude or attitudes

Usage (not having an alternative = 0 usage)
Listening periods (it had the highest simple correlation with criterions)
Attitude towards contributing (it had a higher simple correlation to the dependent variables)

summary, support was found for one step in the basic model:



Consequences of Satisfaction. It was predicted and the analysis found that satisfaction was positively related to: 1) listening to PUBLIC; and 2) contributing (Table 2). The satisfied/dissatisfied satisfaction measure was correlated with the contributing attitude scale, but the sign was opposite to what had been expected (increasing satisfaction was related to less favorable attributes). The poor/excellent satisfaction measure was positively correlated with the summary attitude towards contributing. The conflicting results are puzzling. However, the single item measure may be best as it (as was expected) was positively correlated with actually contributing.

Contributing to Public Radio. Contributing increased with listening to public radio, satisfaction, attitude toward contributing and education and as occupation increased in occupational prestige (Table 3).

TABLE 3
CORRELATIONS WITH SATISFACTION

Correlate	Satisfaction Score	Poor to Excellent	Satisfied/Unsatisfied
	(r)	(r)	(r)
Have alternative station	-.14***	-.16**	-.14**
Usage of alternative station	-.13**	-.11**	-.13**
Involvement: music	-.03	-.02	-.07
news	.12**	-.09*	-.05
Preference for PUBLIC programming	.12**	.14**	.12**
Demographics:			
Age	.09	-.02	.09
Income	-.02	-.02	-.02
Education	.08	.08	.08
Occupation	.03	.01	.03
Listen to PUBLIC			
Listening Days	.17***	.21***	.16***
Listening Periods	.23***	.25***	.20***
Listening Time	.20***	.23***	.15***
Attitude Towards Contributing	.06	.11*	.08
Contributing Attitude Scale	-.03	-.04	-.09*
Contribution to PUBLIC	.20***	.22***	.14**

*p ≤ .05 **p ≤ .01 ***p ≤ .001

RESULTS

Causes of Satisfaction

Correlation Analysis. It had been anticipated and the results found that satisfaction: 1) was lower among respondents that had a favorite radio station other than PUBLIC; 2) was inversely related to the usage of alternative stations; and 3) increased with increasing preferences for PUBLIC programming (see Table 1). The hypothesis of a positive relationship between involvement and satisfaction was partially supported by involvement with news but not music.

Positive relationships were expected between demographics and satisfaction for age, education, income and occupational prestige. Satisfaction was not significantly correlated with any of the demographics. In

TABLE 3
CORRELATIONS WITH CONTRIBUTION TO PUBLIC RADIO

Correlate	Pearson Correlation
Satisfaction score	.20***
Poor/excellent	.22***
Satisfied/dissatisfied	.14**
Preference for PUBLIC programming	.14**
Listen to PUBLIC	
Listening Days	.16***
Listening Periods	.18***
Listening Time	.17***
Attitudes Towards Contributing	.22***
Contributing Attitude Scale	.02
Demographics	
Age	.002
Income	-.01
Education	.12*
Occupation	.09*

***p ≤ .0001 **p ≤ .01 *p ≤ .05

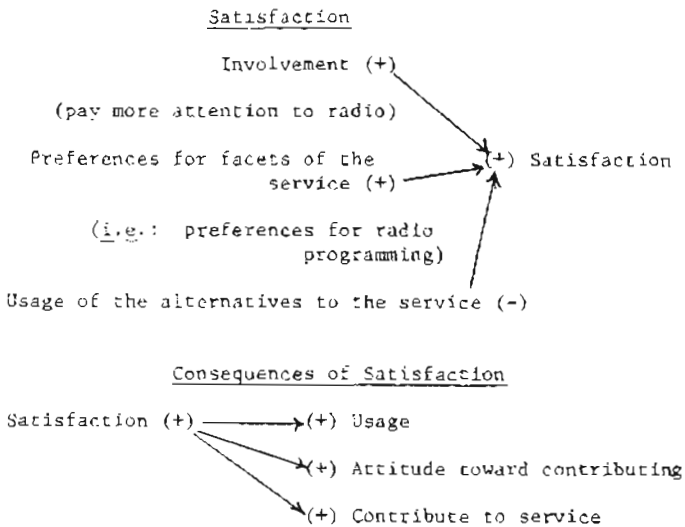
Feedback: Reference for Programming and Listening.

The last hypothesis anticipated, and we found preference for programming and listening were positively correlated (listening time, r = .09 (p < .05); days r = .22 and periods r = .22 (p < .001)).

Multivariate Analysis

The two regressions with satisfaction score and listening as criterions only achieved adjusted R² of about .045 and .10. The results were statistically significant. The details of the regressions are not shown as the R² were so low that the regression analysis adds little to the univariate results presented above. The R² do imply that the model was able to explain relatively little variance in satisfaction or listening behavior. The discriminant analysis results were also marginal and are not presented. The discriminant function was significant. Some 62% of the cases were correctly classified, but 30% correct classification could be expected by chance.

The results provide support for a basic model of satisfaction with a continuously utilized service and the consequences of satisfaction as follows:



The basic motivation for this paper was our feeling that the disconfirmation paradigm is very well suited for explaining immediate post purchase satisfaction. However, we are aware of only a few attempts to explain longer term satisfaction or satisfaction with products or services that are continuously utilized. One would expect that as the time horizon lengthened, the disconfirmation of initial expectations as an influence on satisfaction would decrease. At some point, disconfirmation effects may cease. Our model was very speculative and intuitive, so one important point is that the data at least suggests that the model may be on the right track.

The model has parallels with much of the satisfaction literature and the data both reconfirms prior findings and provides support for the model. In particular:

1. Preferences for programming → satisfaction. This suggests that attribute level performance influences satisfaction (Day 1977, Thirkill, 1981).
2. Usage of alternatives (-) → satisfaction (Swan and Trawick 1981).
3. Involvement → satisfaction. The possibility that involvement may be a part of the satisfaction process has been discussed by Day (1977) and Woodruff, Cadotte, and Jenkins (1981). Evidently, it has not been included in empirical research. One unique contribution of this study is that involvement was included and was found to be positively related to satisfaction.
4. Satisfaction → usage. It is certainly logical to expect that satisfaction should increase usage and vice versa. However, very little research has been done on that relationship. This study provides some evidence of a satisfaction → usage link.
5. Satisfaction → usage → contributing. This finding has obvious implications for organizations which require contributions to operate. Those individuals most likely to contribute are the people who more actively utilize the service.

The low predictive ability of the results may be indicative of two factors surrounding the study. First, little work has been done to develop and refine measurement in this context. Better measurement could possibly yield stronger results. Second, as was earlier indicated, the satisfaction model for immediate post purchase use may need modification in the context of continuously used products or services.

CONCLUSIONS

The main purpose of this study was to conduct exploratory research to investigate the concept of satisfaction with a continuously utilized service. In this paper a modest extension of the "traditional" post purchase satisfaction model was developed. The model was able to explain but a modest proportion of the variation in the dependent variables. We feel that much more in the way of conceptual work is needed.

Satisfaction was found to be related to a number of variables that would be interesting both conceptually and from a managerial perspective. For a public radio station, satisfaction was related to usage of alternatives, preferences for programming, listening and contributing to the radio station.

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