

# MarkeTrak III Identifies Key Factors In Determining Consumer Satisfaction

By SERGEI KOCHKIN

**T**he first article in this series on the MarkeTrak III survey documented that fewer than 6 out of 10 U.S. hearing instrument owners are satisfied with their instruments.<sup>1</sup> This, the second article in the series, explores consumer satisfaction with: (1) hearing instrument product features, (2) the perceived ability of hearing instruments to improve hearing in multiple listening environments, and (3) dispenser service. The article also studies the impact of the hearing aid owner's satisfaction on his or her purchase behavior and word-of-mouth advertising.

## KEY FINDINGS

- Consumer satisfaction is highly correlated with: (1) quality-of-life ratings, (2) the likelihood that a hearing instrument user will endorse hearing instruments generically, and (3) the likelihood that a consumer will switch brands or dispensers.

- 12% of owners do not wear or use their hearing instruments, compared to 13.5% in 1984.

- 21% of owners experience stigma when they wear their hearing instruments, but most of this is internal to the individual.

- The most highly rated product features are fit/comfort and the size of the hearing instrument; ongoing expense gets the lowest ratings.

- With respect to performance, roughly 7 out of 10 owners believe hearing instruments improve their hearing. However, hearing instrument sound quality, especially in noisy situations, receives low marks.

- Dispensers generally receive outstanding satisfaction ratings. The greatest room for improvement is in the areas of providing realistic expectations of hearing instruments and post-purchase service.

- Consumers are highly satisfied with

the ability of hearing instruments to improve their hearing in one-on-one communications, but they give low ratings to the devices' ability to improve their hearing in listening environments typically found outside the quiet of their homes.

- Consumer satisfaction with hearing instruments, as measured in this study, is explained almost entirely by the ability of the instruments to provide reliable, high-quality sound across multiple listening environments.

## SURVEY METHOD

A detailed description of the survey method appeared in the first article on MarkeTrak III and will not be repeated here.<sup>1</sup> The data for this article are based on usable survey returns from 2323 hearing instrument owners.

## CONSUMER EXPERIENCES

Consumer experiences and behaviors associated with the purchase of hearing instruments are shown in Figure 1. Nearly 8

out of 10 owners would recommend a hearing instrument to a friend with a hearing loss, while approximately 7 out of 10 owners would recommend a specific dispenser or would repurchase their current brand. These indicators of satisfaction exceed the current satisfaction rating of 58%, which suggests that satisfaction is not

perfectly synonymous with stated purchase behaviors.

With respect to their most recent hearing instrument purchase, nearly all of the respondents (96%) know how to adjust their hearing instrument; nearly 7 out of 10 received a follow-up appointment, but fewer than half received a hearing instrument wearing schedule. In addition, 76% report that hearing instruments have improved the quality of their life. Approximately one out of five owners experience stigma associated with wearing their hearing instrument. The majority of the stigma, however, is internal (embarrassment) rather than external (job discrimination, rejection, ridicule).

Twelve percent of the owners never use their hearing instruments. This is an improvement over the rate of 13.5% reported in the Hearing Industries Association 1984 study.<sup>2</sup>

Owner satisfaction with hearing instruments (shown in Figure 2) should be an area of concern to the hearing industry, for it is significantly related to the purchase behavior of consumers and their willingness to endorse hearing instruments generically, to recommend a dispenser, or to repurchase a brand. A comparison of the extremes of satisfaction (very satisfied and very dissatisfied) finds that very satisfied individuals are

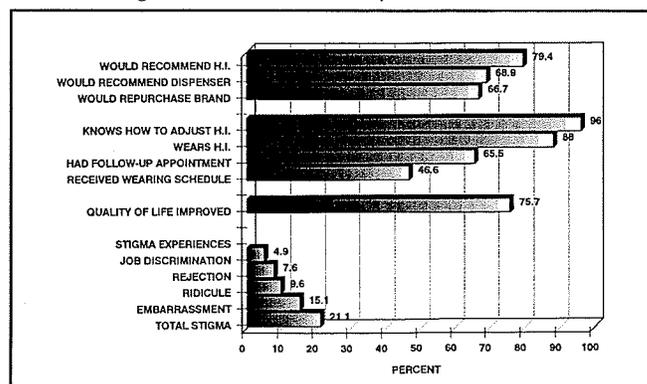


Figure 1. Consumer behavior/experiences associated with current hearing instrument purchase.

Sergei Kochkin, PhD is responsible for market research and market development at Knowles Electronics, Inc. He is also an officer on the Board of Directors of the Better Hearing Institute. Correspondence to Knowles Electronics, Inc., 1151 Maplewood Drive, Itasca, IL 60143.

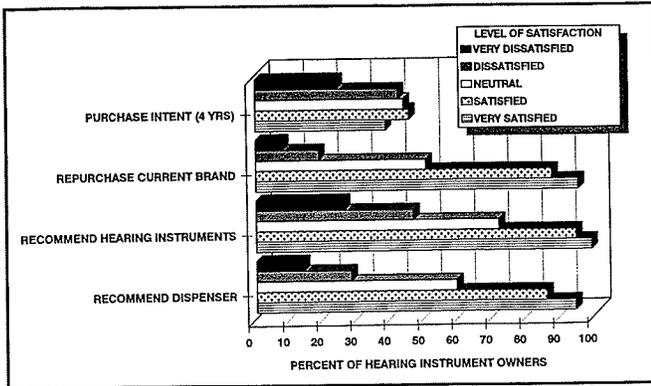


Figure 2. The impact of hearing instrument satisfaction on consumer behavior.

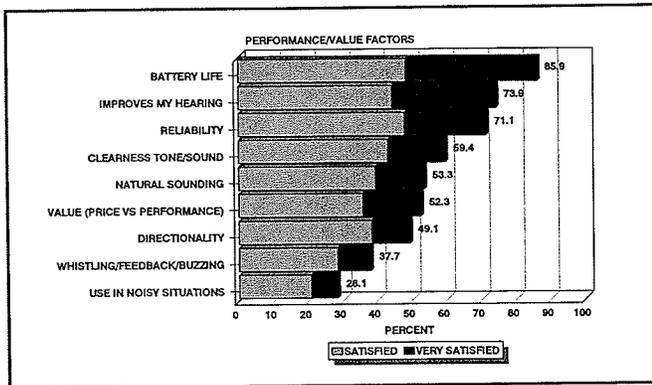


Figure 4. Consumer satisfaction with hearing instrument performance and value.

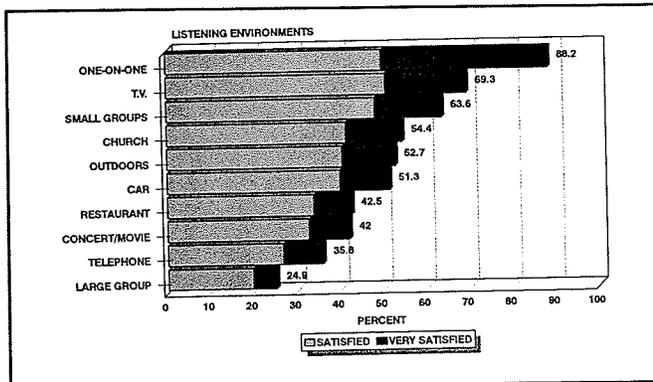


Figure 6. Consumer satisfaction in listening environments.

12.2 times more likely than very dissatisfied consumers to repurchase their current brand, 3.8 times more likely to endorse hearing instruments generically, and 6.8 times more likely to recommend their dispenser.

However, satisfaction ratings are not significantly related to intent to purchase in the next four years. Very satisfied consumers are only 1.6 times more likely to purchase a hearing instrument in the next four years than are very dissatisfied consumers. The data in Figure 2 suggest that dissatisfied customers per se do not totally leave the market. They are more likely, because of their desire to improve their hearing, to switch brands and dispensers, but "bad-mouth" the product to hearing-impaired friends and relatives.

### Satisfaction With Product Features

Levels of consumer satisfaction with 10 hearing instrument product features are shown in Figure 3. The highest rated feature is fit and comfort (79.6%), followed closely by size, ap-

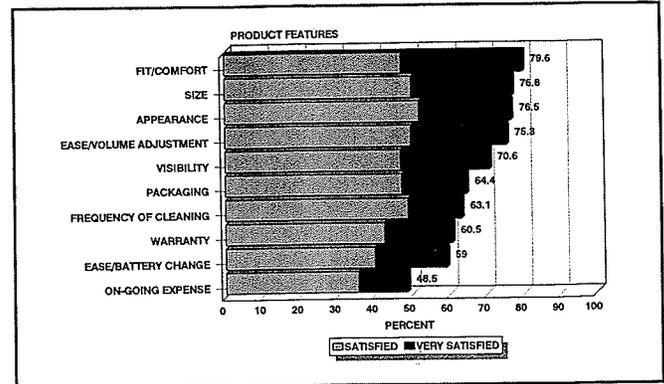


Figure 3. Consumer satisfaction with hearing instrument product features.

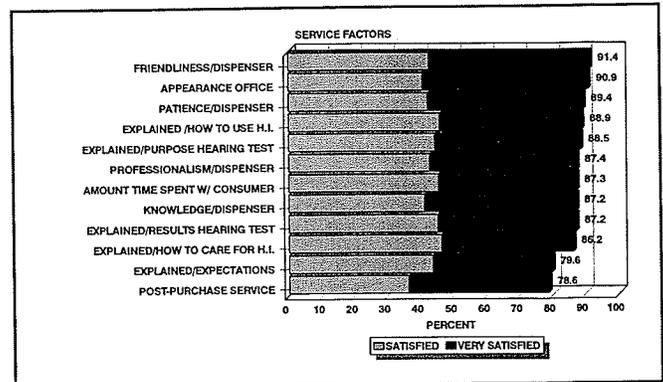


Figure 5. Consumer satisfaction with dispenser service.

pearance, visibility, and ease of volume adjustment. Product features receiving satisfaction ratings in the 60% range include: packaging, frequency of cleaning, warranty, and ease of battery change. The lowest rated product feature is ongoing expense (48.5%).

### Satisfaction With Performance

Consumer satisfaction on nine measures of hearing instrument product performance is shown in Figure 4. The life of the battery receives the highest rating (85.9%), followed by "improves my hearing" (73.9%) and reliability (71.1%). Approximately half of the owners believe that sound quality and the ability to localize direction are satisfactory. The most negative ratings are given to whistling/feedback/buzzing (37.7% satisfaction) and the ability to use the hearing instrument in noisy situations (28.1%).

These results are consistent with previous articles on consumer complaints about hearing instruments.<sup>3</sup> It is noteworthy that only slightly more than half of the respondents perceive hearing instruments as having satisfactory value. (The survey specifically defined the term value for the consumer as "performance versus money spent.") Later, this article will explore, from a statistical standpoint, what consumers mean by value.

### Satisfaction With Dispensers

Consumer satisfaction with 12 measures of dispenser service is shown in Figure 5. The ratings given to dispensers are outstanding. In all but two areas, dispensers receive satisfaction ratings close to 90%. They are rated lowest in explaining what to expect from hearing instruments (79.6%) and post-purchase service (78.6%).

### Satisfaction In Different Environments

Consumers were asked to rate their level of satisfaction in 10

listening situations, from one-on-one communication to large groups (Figure 6). Nearly 9 out of 10 owners report satisfaction with hearing instruments for one-on-one communication, and 7 out of 10 for watching TV. However, satisfaction ratings decline dramatically as the complexity (noisiness) of the listening environment increases. Large-group settings receive the lowest ratings (24.9%).

If all hearing instrument users were homebound, I suspect satisfaction ratings would be very high in this industry. However, most people are social animals and want to participate in group settings. A device that improves hearing only in limited situations can be expected to have low satisfaction ratings, low repurchase rates, and negative word-of-mouth advertising.

This pattern is demonstrated in Figure 7, which segments current owners by the number of listening environments (none to all) in which they find the performance of their hearing instruments satisfactory. The chart shows an extremely strong association between satisfaction and the variety of listening environments in which the hearing instrument improves the consumer's hearing. For example, the segment of consumers who experience improved hearing in no listening environment (8.8% of owners) report an overall satisfaction rating of only 6%. Compare this to the 13.6% of owners who report satisfaction in all 10 rated listening situations; their satisfaction rating is an astounding 91.5%.

### UNDERSTANDING SATISFACTION

Clearly, there are significant segments of owners who report little or no satisfaction with their hearing instruments and other segments who report a great deal of satisfaction. If we can find the factors that differentiate dissatisfied from satisfied users, perhaps we can help define strategic directions for the industry.

In this final section, we will explore the interrelationship among the satisfaction measures, as well as the relative importance of various factors explaining satisfaction. An analysis conducted by this author (factor analysis not shown) found strong evidence that overall satisfaction, quality-of-life ratings, and likelihood of repurchasing a brand, recommending hearing instruments, or recommending a dispenser are all highly interrelated and, thus, part of the same psychological construct. The analysis presented here with respect to understanding satisfaction ratings in general holds also for the other behavioral measures, with one exception—purchase intent next four years.

Table 1 shows the results of a factor analysis of the 41 satisfaction ratings.

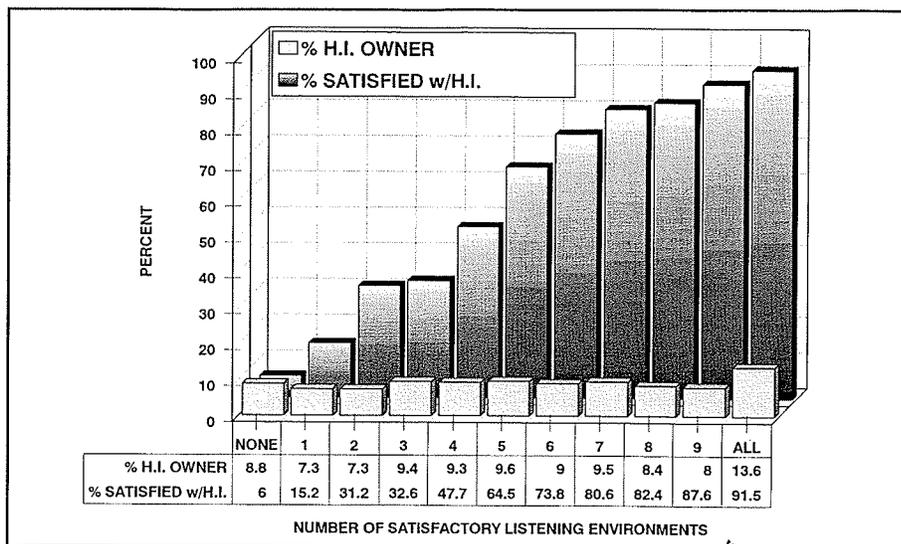


Figure 7. Hearing instrument satisfaction as a function of value in multilisting environments.

Table 1. Dimensions of consumer satisfaction ratings.

	Factor 1 Multi-environmental Value	Factor 2 Dispenser	Factor 3 Product Features	Factor 4 Fit & Visibility	Factor 5 One-on-one Communication
<b>Utility</b>					
Improves hearing	60				
Value	54		50		
<b>Listening situations</b>					
Large groups	84				
In a restaurant	81				
At a concert/movie	76				
In church	75				
Riding in a car	71				
Outdoors	68				
In a small group	68				
Watching TV	68				
Telephone	68				
One-on-one					63
<b>Sound quality</b>					
Performance in noisy situations	78				
Natural-sounding	65				
Directionality	65				
Clearness of tone & sound	63				
Whistling, feedback, and buzzing	50				
<b>Product features</b>					
Ease of battery changing			67		
Warranty			66		
Ongoing expense			65		
Frequency of cleaning			58		
Packaging			57		
Reliability			57		
Ease of adjusting volume			48		
Battery life			47		
Visibility				87	
Size				86	
Appearance				77	
Fit & comfort				53	
<b>Dispenser attributes</b>					
Patience		86			
Knowledgeable		84			
Friendliness		82			
Professionalism		80			
<b>Dispenser explained:</b>					
Purpose of hearing test		86			
Results of hearing test		83			
How to use hearing instruments		83			
How to care for hearing instruments		80			
What to expect from hearing instruments		73			
Dispensing office appearance		78			
Post-purchase service		71			

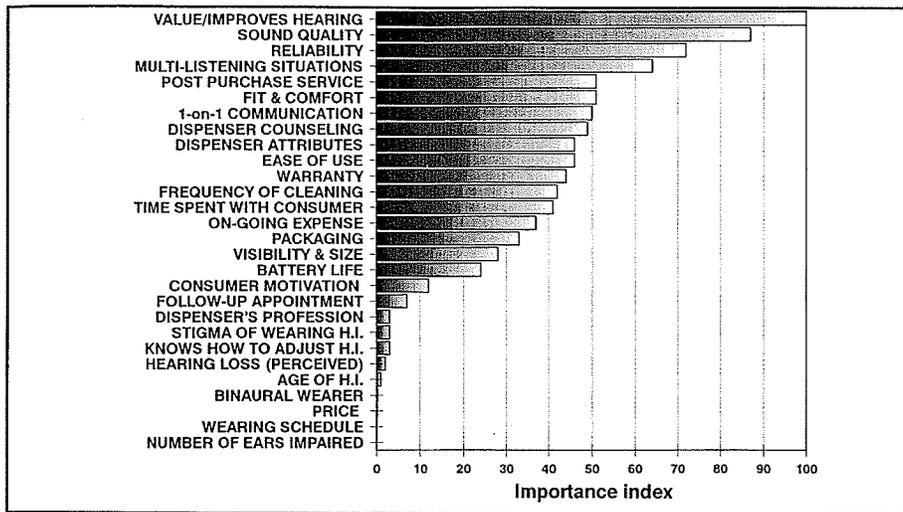


Figure 8. Relative importance of factors explaining consumer satisfaction with hearing instruments.

(For the technically oriented reader: This was a principal-components analysis, minimum eigenvalue set to 1, rotation=varimax, 66% of the variance explained with five factors.) Factor analysis permits the extraction of clusters of variables (in this case, ratings) that tend to move together. The correlations between each of the factors and the "underlying dimension" are shown in Table 1, and this is primarily how we name the factor.

Although consumers rated hearing instruments and dispensers in 41 categories, the factor analysis found five underlying dimensions to these ratings: (1) The multi-environmental value of the product (sound quality, improves hearing in a number of listening situations, value), (2) the dispenser, (3) product features, (4) fit and visibility, and (5) one-on-one communication. Notice that "value" is related to two of the dimensions: (1) the reliability of the product in improving hearing in multiple listening environments and (2) product features.

Figure 8 ranks the relative importance of hearing instrument product features, consumer attributes, and the dispenser in predicting/explaining satisfaction. (Again, for the technically oriented: The importance index was derived by taking the simple Pearson correlation or contingency coefficient ( $r$ ) between the variable and the overall satisfaction rating, squaring it, and then indexing it to the largest  $r$  squared.) The top four factors explain the essence of satisfaction with hearing instruments: A hearing instrument, to have high value, must reliably improve the subject's hearing in multiple listening situations while also providing a high degree of sound quality.

Ranking high, but significantly lower than the top four factors, are: post-purchase service from the dispenser, fit and comfort of the hearing instrument, improved hearing in one-on-one communication, dispenser attributes, dispenser

counseling skills, and ease of use.

Moderately important characteristics are: warranty, frequency of cleaning, amount of time spent by the dispenser with the consumer, packaging, size of the hearing instrument, and battery life.

Factors of minor or trivial importance are: consumer motivation to hear well, receiving a follow-up appointment, dispenser's profession, stigma, knowing how to adjust hearing instrument (because nearly everyone knew how), degree of hearing loss, and the age of the hearing instrument.

Factors that are not statistically related to satisfaction are: number of ears impaired, the price of the hearing instrument, whether the individual received a wearing schedule at the time of purchase, and whether the individual wears one or two hearing instruments.

Findings on the relationship between hearing loss and satisfaction are consistent with low correlations reported elsewhere between audiometric measurements and hearing instrument satisfaction.<sup>4</sup>

#### TOWARD A CONSUMER SATISFACTION MODEL

Another way of presenting a model of consumer satisfaction is to find the combination of factors (product, dispenser, consumer) that best explain satisfaction. Typically, this is accomplished by using techniques such as multiple regression. The measurements used in this study, however, are inadequate for such a task.

Potentially, collecting more thorough measures of consumer satisfaction (e.g., behavior-oriented measures); product attributes (e.g., digital versus analog, class of amplifier, canal fitting depth, vent size); dispenser attributes (e.g., preciseness of physical fit and audiological diagnosis, fitting philosophy); and the consumer (e.g., audiological, psychological, sociological factors) will lead to more comprehensive models of consumer satisfaction.

When the variables in Figure 8 were used simultaneously (via regression) to predict satisfaction, we were able to predict 66% of satisfaction ( $r=.81$ ). The first four variables in Figure 8, which are the essence of a high-value hearing instrument, accounted for 97% of the predicted satisfaction. The remaining 3% of satisfaction can be attributed to the following factors: improved one-on-one communication, post-purchase service, and motivation to hear well.

#### CONCLUSIONS

Perceived satisfaction by the consumer is highly related to the likelihood of the consumer's repurchasing a brand, recommending a specific dispenser, and endorsing hearing instruments to a hearing-impaired friend or relative. Thus, it is in the best interests of our industry and its consumers to improve the consumers' perceived experience with our product.

To satisfy a consumer we need to enhance the perceived or actual value of our product. We can do this by providing products that reliably improve hearing in multiple listening environments while providing a high degree of sound quality.

In segmenting consumers into those who are satisfied with our product in few listening environments and those who are satisfied with our product in most listening environments, we have seen that current technology can meet the needs of a significant portion of our consumers. Perhaps a more thorough analysis of the factors (consumer, dispenser, product, and manufacturer) that differentiate satisfied from unsatisfied users would lead to empirical models designed to optimize consumer satisfaction.

The decision rules emanating from such research conceivably could lead to an industry standard for fitting hearing loss. This standard, which would dynamically change with new technologies, could be encoded into an artificial intelligence system and made available to dispensers as a diagnostic tool. In turn, consistent application of an empirically derived fitting model could increase consumer satisfaction, produce positive word-of-mouth advertising, and reduce returns, all leading to accelerated growth of our market and higher industry profits.  $\square$

#### REFERENCES

1. Kochkin S: MarkeTrak III: Higher hearing aid sales don't signal better market penetration. *Hear Jour* July 1992; 45(7): 47-54.
2. Hearing Industries Association: *Market Survey: A Summary of Findings and Business Implications for the U.S. Hearing Aid Industry*. Washington, DC, HIA, 1984.
3. Smedley TC, Schow RL: Frustrations with hearing aid use: Candid observations from the elderly. *Hear Jour* June 1990; 43(6): 21-27.
4. Kapteyn TS: Satisfaction with fitted hearing aids: II. An investigation into the influence of psychosocial factors. *Scand Audio* 1977; 6(4): 171-177.