

MarkeTrak V: Consumer satisfaction revisited

By Sergei Kochkin

Part one of the MarkeTrak V series, published in January 1999, presented bottom-line customer satisfaction results and concluded that: (1) overall customer satisfaction with newer hearing instruments (<5 years of age) has not improved since we began detailed measurement of customer satisfaction in 1991, and (2) that customer satisfaction with instruments less than 1 year of age had actually dropped.¹ In addition, the survey found that more than 16% of our customers, or 907,120 hearing aid owners, do not use their hearing aids.

The following article will explore detailed consumer satisfaction results in MarkeTrak III (1991), MarkeTrak IV (1994), and MarkeTrak V (1997). Part three in the MarkeTrak V series will analyze the reasons why hearing aids are in the drawer, while part four will document, at a national level, subjective benefit with hearing instruments.

SURVEY METHOD

The first article in the MarkeTrak V series described the survey methodology in detail, so that will not be repeated here. The core of the MarkeTrak survey consists of 45 ratings of customer satisfaction with hearing aids and hearing health service. Four items are behavioral in nature (hours worn and extent to which consumers would recommend hearing aids, would recommend their dispenser, and would repurchase their current brand of hearing aid); one item is a quality-of-life rating, and 40 items are rated on a 5-point Likert scale taking the values "very dissatisfied," "dissatisfied," "neutral," "satisfied," and "very satisfied."

In addition to an overall hearing aid satisfaction rating, MarkeTrak measures satisfaction with 8 product features, 12 performance/value factors, 6 dispenser attributes, and

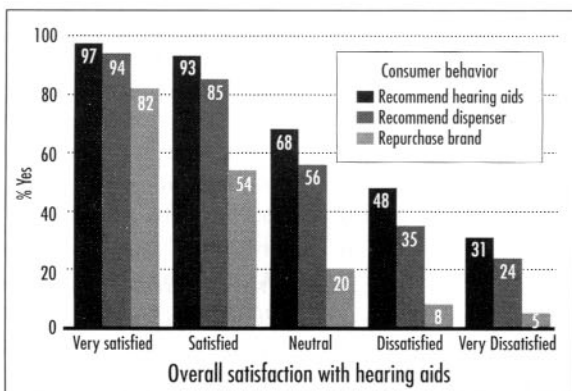


Figure 1. Customer satisfaction is related to important consumer behavior.

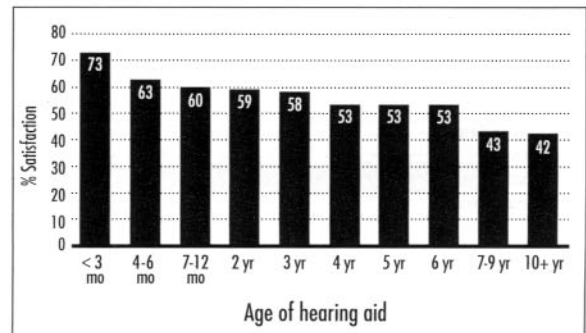


Figure 2. Customer satisfaction by age of hearing aid.

in 13 listening situations. Also, using a modified psychophysical scale (21 scale points=5% each), the Abbreviated Profile of Hearing Aid Benefit (APHAB) was administered both aided and unaided to this sample. The APHAB results will be presented in part four in this series.

With respect to this article, the study is based on usable customer satisfaction survey returns from 2720 hearing instrument owners.

RESULTS AND DISCUSSION

Consumer behavior

As reported in part 1 of MarkeTrak V (1997), 54% of all hearing aid users are satisfied with their hearing instruments compared to 58% in 1991 (MarkeTrak III). Seventy-seven percent of current owners report they would recommend hearing aids to their friends (versus 79% in 1991); 67% would recommend their dispenser (versus 69% in 1991), while only 41% would repurchase their current brand of hearing aid (versus 40% in 1994; 1991 data not available).

Figure 1 demonstrates the importance of satisfying consumers. This chart documents the likelihood that consumers will recommend hearing aids and their dispenser, as well as the likelihood of their repurchasing their brand of hearing aids when it is time for replacement. When compared to consumers who are "very dissatisfied" with their experience, consumers who are "very satisfied" are three times more likely to recommend hearing aids to their friends. They are 4 times more likely to recommend the dispenser and 15 times more likely to want to repurchase their current brand of hearing aid. Clearly, high levels of consumers satisfaction are related to growth of the hearing aid market.

	MarkeTrak III (1991) (n = 1759)		MarkeTrak IV (1994) (n = 1552)		MarkeTrak V (1997) (n = 1779)		Significance Testing (Note 4)	
	Dissatisfied	Satisfied	Dissatisfied	Satisfied	Dissatisfied	Satisfied	MarkeTrak V versus MarkeTrak III	MarkeTrak V versus MarkeTrak IV
Overall Satisfaction	18	60	17	57	15	59		H
Consumer Behavior								
Quality Of life (note 1)	5	68	6	62	5	65	LL	
Recommend hearing aids to friend (note 2)	6	81	5	80	5	81		
Recommend person who fit hearing aid (note 2)	13	72	15	70	13	74		H
Repurchase current brand of hearing aid (note 2)	na	na	15	43	14	46		
Wear hearing instruments (note 3)	9	91	13	87	10	90	L	H
Product Features								
Fit/comfort	7	81	7	77	5	79		HH
Ease/volume adjustment	8	77	10	72	9	73		H
Visibility	5	72	6	60	6	65	LLL	HHH
Packaging	3	68	3	62	2	64		H
Frequency of Cleaning	7	67	7	58	6	63		HHH
Warranty	11	64	12	58	9	60		HH
Ease/Battery Change	4	87	3	84	3	85	L	
On-Going Expense	18	50	15	43	12	46		HHH
Performance/Value Factors								
Battery Life	20	59	19	56	17	57		
Improves My Hearing	9	76	9	74	7	78		HHH
Reliability	7	73	7	67	8	70		
Clearness Tone/Sound	16	62	16	53	15	57		HHH
Natural Sounding	16	55	17	49	16	52		HH
Sound of Voice	na	na	na	na	8	59		
Able to hear soft sounds	na	na	na	na	24	47		
Value (Price vs. Performance)	21	53	17	49	16	54	HH	HHH
Directionality	19	51	20	45	17	52		HHH
Comfort with loud sounds	na	na	na	na	32	38		
Whistling/Feedback/Buzzing	31	40	32	35	29	39		HHH
Use In Noisy Situations	45	30	44	25	41	30		HHH
Listening Environments								
One-On-One	3	90	4	87	3	90		
T.V.	11	71	11	67	10	68		
Small Groups	15	65	13	60	14	63		
Listening to music	na	na	na	na	9	63		
Place of worship	15	56	16	52	14	56		
Outdoors	16	55	16	52	11	60	HHH	HHH
Leisure activitiesna	na	na	na	7	59			
Car	18	54	21	49	16	54		HHH
Restaurant	26	44	28	39	23	45		HHH
Concert/Movie	25	43	24	41	24	44		H
Workplace	na	na	na	na	12	44		
Telephone	35	37	37	31	31	39	HH	HHH
Large Group	47	26	47	22	44	25		HH
Dispenser Service								
Professionalism/Dispenser	2	89	4	85	3	88		HHH
Knowledge/Dispenser	1	89	3	87	2	89		HHH
Quality of service (during fitting)	na	na	4	85	3	88		HHH
Explained How To Care For H.I.	2	89	3	88	3	90	HH	HHH
Explained What to expect from H.I.	3	82	6	77	5	82		HHH
Post-Purchase Service	7	80	8	76	7	81		HHH

Note 1: Dissatisfied=Never, Satisfied=Most of the time or always
Note 2: Dissatisfied=No, Satisfied=Yes
Note 3: Dissatisfied=hearing instrument not used, satisfied=use instrument at least half hour per day.
Note 4: L means MarkeTrak III higher, H means MarkeTrak V is higher. 1 letter = p<.05, 2 letters = p<.01, 3 letters=p<.001.

Table 1. Customer satisfaction: 1991-1997 (for hearing instruments <6 years of age).

The age of hearing instruments

Previously, I have shown that hearing aid age is a strong correlate of hearing instrument satisfaction.² As shown in Figure 2, there is a 31% point spread between hearing instruments 3 months old or less and hearing instruments 10 years or more in

age. In the analysis to follow we have excluded hearing aids more than 5 years of age, since we believe that the most relevant analysis would be limited to hearing aids within the expected lifetime of hearing instruments, which is generally recognized to be about 5 years.

Importance of attributes

Before exploring detailed customer satisfaction ratings, the reader should be reminded that the most important variables explaining overall customer satisfaction are as follows: benefit, value (performance of instrument relative to price

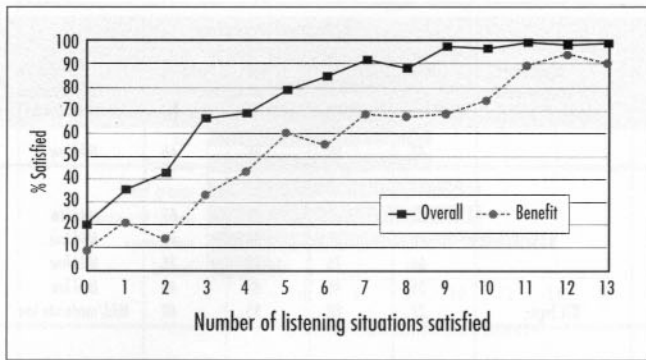


Figure 3. Multiple environment listening utility (MELU) is crucial to satisfying customers.

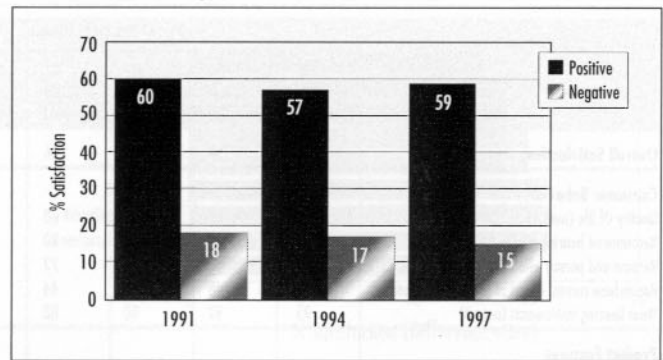


Figure 4. U.S. overall customer satisfaction trends show no significant differences.

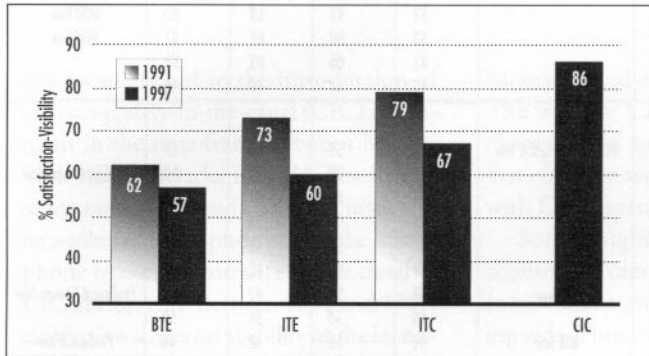


Figure 5. The introduction of CICs probably caused post-purchase cognitive dissonance with visibility of instrument.

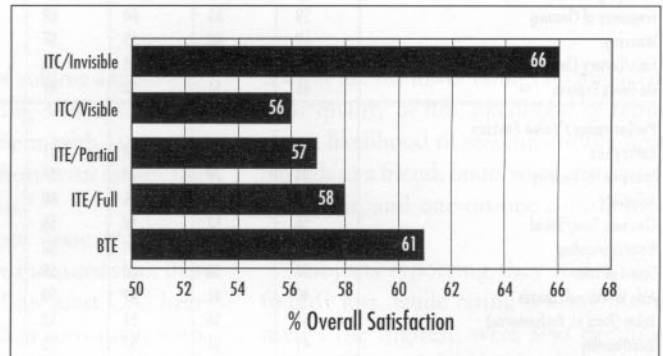


Figure 6. Overall satisfaction by style of hearing aid.

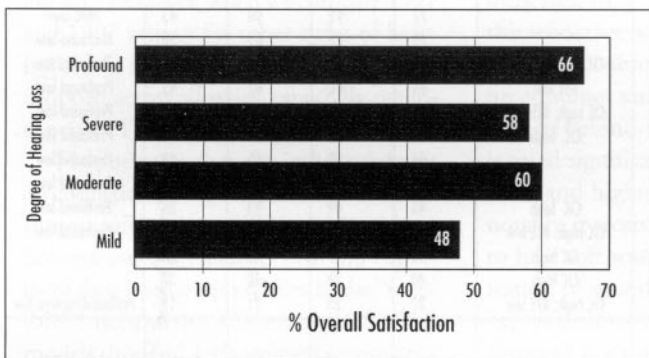


Figure 7. Customer satisfaction by perceived level of hearing loss.

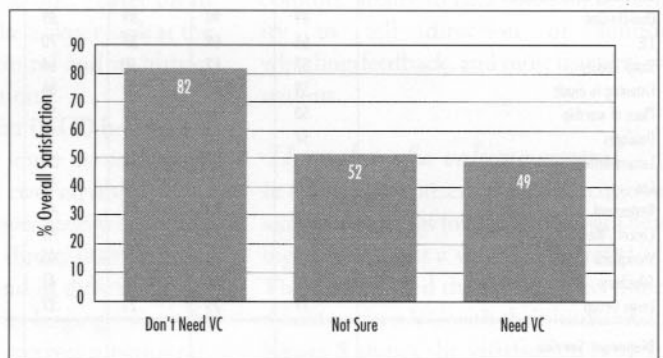


Figure 8. The lack of a volume control when it is desired has a profound impact on customer satisfaction ratings.

paid), sound quality, reliability, multiple environment listening utility (MELU), post-purchase service, and fit and comfort.³

It is obvious from Figure 3 that the way to delight consumers is to exceed their hearing needs in as many listening situations as possible. We have graphed overall customer satisfaction and satisfaction with benefit as a function of the number of listening situations in which consumers indicated they were either "satisfied" or "very satisfied" while using hearing aids. If consumers rated their hearing aids "neutral" (equally satisfied and dissatisfied) in all of MarkeTrak's 13 listening situations, then

they would receive a score of zero. To reach 90% overall satisfaction ratings, on average, the consumer must be satisfied in about 9 out of 10 listening situations. To achieve 90% satisfaction ratings on "perceived benefit," consumers must be satisfied with the performance of their hearing aids in slightly more than half the listening situations they encounter.

Longitudinal comparison of satisfaction ratings

Table 1 documents detailed customer satisfaction ratings for MarkeTrak III, IV, and V for hearing instruments aged 5 years or

less. Table 1 shows the percent satisfied and percent dissatisfied ratings for each of the previous three MarkeTrak surveys. The final two columns indicate if MarkeTrak V mean scores are significantly different from MarkeTrak III or MarkeTrak IV. The overall customer satisfaction ratings (%) are graphically portrayed in Figure 4.

While overall customer satisfaction in 1997 was statistically unchanged from 1991 or 1994, there are some significant changes that should be noted. It is evident that 1997 customer satisfaction ratings are significantly "better" than the 1994 ratings (MarkeTrak IV), considering that ratings in

	Style of Hearing Instrument					Significance Test Comment of means (p<.01)	By Degree of Hearing Loss				
	BTE (n=287)	ITE Full (n= 366)	ITE Partial (n=274)	ITE Visible (n=646)	ITE/CIC Invisible (n=189)		Mild (n=126)	Moderate (n=865)	Severe (n=656)	Profound (n=74)	Significance Test Comment of means (p<.01)
Overall Satisfaction	61	58	57	56	66		48	60	58	66	Mild low
Consumer Behavior											
Quality Of life (note 1)	76	67	63	60	61		37	61	76	62	Mild low
Recommend hearing aids to friend (note 2)	86	81	80	80	78		70	80	84	79	Mild low
Recommend person who fit hearing aid (note 2)	80	72	70	72	72		66	76	73	76	Mild low
Repurchase current brand of hearing aid (note2)	47	48	40	44	53		39	46	48	44	Mild low
Wear hearing instruments (note 3)	95	92	90	88	84	BTE high	77	88	95	89	Mild/moderate low
Product Features											
Fit/comfort	76	79	76	81	85	CIC high	80	80	79	70	Profound low
Ease/volume adjustment	79	78	74	72	55	CIC low	66	73	73	80	Mild low
Visibility	57	59	61	67	86	CIC high	63	66	65	62	
Packaging	62	63	67	61	68		57	65	63	65	
Frequency of Cleaning	59	61	64	63	65		52	65	62	65	Mild low
Warranty	62	60	63	57	66		53	60	61	71	Mild low
Ease/Battery Change	87	86	84	83	87		81	86	85	85	
On-Going Expense	46	51	43	44	47		42	46	48	42	
Performance/Value Factors											
Battery Life	63	60	59	51	50	BTE high; ITE/CIC low	53	55	60	57	
Improves My Hearing	78	78	79	77	80		69	80	79	68	Mild/profound low
Reliability	74	69	68	68	72		64	70	71	73	
Clearness Tone/Sound	56	57	57	56	63		58	58	56	56	
Natural Sounding	50	54	54	50	59		51	53	52	45	
Sound of Voice	59	58	60	59	62		54	59	62	48	
Able to hear soft sounds	40	41	49	50	54	BTE low	58	50	42	32	Profound/severe low
Value (Price vs. Performance)	54	56	51	52	59		48	54	56	52	
Directionality	41	51	57	53	57	BTE low	49	56	48	40	Profound low
Comfort with loud sounds	34	35	37	40	46	CIC high	39	39	36	33	
Whistling/Feedback/Buzzing	42	36	42	39	43	ITE low	39	41	36	30	Profound low
Use In Noisy Situations	28	27	29	28	42	CIC high	28	30	29	28	
Listening Environments											
One-On-One	89	90	89	89	90		77	92	90	83	Mild low
T.V.	66	68	67	70	73		70	72	65	50	Profound low
Small Groups	57	62	60	64	70	CIC high; BTE low	63	69	56	51	Profound low
Listening to music	59	63	59	66	69	BTE low	64	66	62	45	Profound low
Place of worship	50	54	52	59	64	CIC high; BTE low	51	61	52	37	Profound low
Outdoors	57	56	61	59	70	CIC high	55	62	60	44	Profound low
Leisure activities	59	59	51	59	66		56	58	61	49	Profound low
Car	54	53	52	53	62		48	56	55	44	Profound low
Restaurant	39	44	42	46	59	CIC high	46	49	43	28	Profound low
Concert/Movie	37	42	41	46	55	CIC high; BTE low	46	46	42	30	Profound low
Workplace	40	41	37	45	55	CIC high	46	47	39	38	
Telephone	36	37	32	41	53	CIC high	40	39	40	37	
Large Group	17	23	21	27	43	CIC high; BTE low	37	28	21	18	Profound/severe low
Dispenser Service											
Professionalism/Dispenser	88	88	90	86	90		82	89	88	89	
Knowledge/Dispenser	90	88	91	87	91	CIC high	83	90	88	93	
Quality of service (during fitting)	90	87	89	86	91	CIC high	81	90	88	88	
Explained How To Care For H.I.	89	90	91	90	92	CIC high	87	91	89	92	
Explained What to expect from H.I.	84	83	83	80	85		71	84	82	89	Mild low
Post-Purchase Service	83	80	81	79	82		76	81	81	84	

Note 1: Dissatisfied=Never, Satisfied=Most of the time or always

Note 2: Dissatisfied=No, Satisfied=Yes

Note 3: Dissatisfied=hearing instrument not used, satisfied=use instrument at least half hour per day.

Table 2. Customer satisfaction (% satisfied) by style of instrument and perceived degree of hearing loss (MarkeTrak V: hearing aids <6 years of age).

MarkeTrak V are significantly higher than those in MarkeTrak IV on 29 attributes. The reader will recall that the 1993-1994 time frame was a low point in the industry because of the negative publicity surrounding the Food and Drug Administration initiatives directed at this

industry. Thus, perhaps a better measuring stick for change would be a comparison between the 1991 and 1997 ratings.

Compared to the 1991 ratings, MarkeTrak V is significantly higher on four variables (outdoor, telephone, value, and dispenser explanation of how to care for

hearing aids) and significantly lower on four variables (quality of life, hours hearing aid worn, satisfaction with visibility, and ease of battery change).

Many of these changes (improved outdoor and telephone use, fewer hours hearing aid worn, and lower scores on visibility)

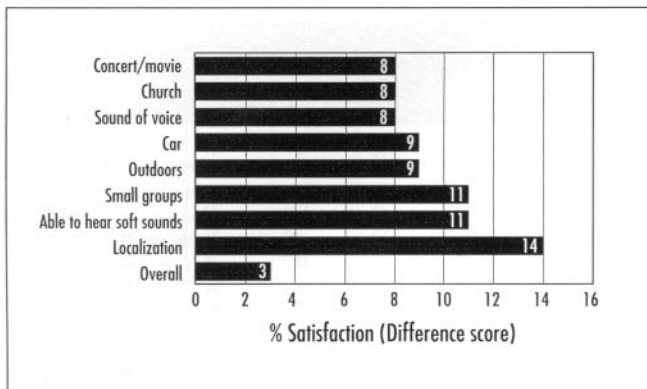


Figure 9. Expected customer satisfaction (%) differentials due to the binaural advantage for bilateral loss subjects.

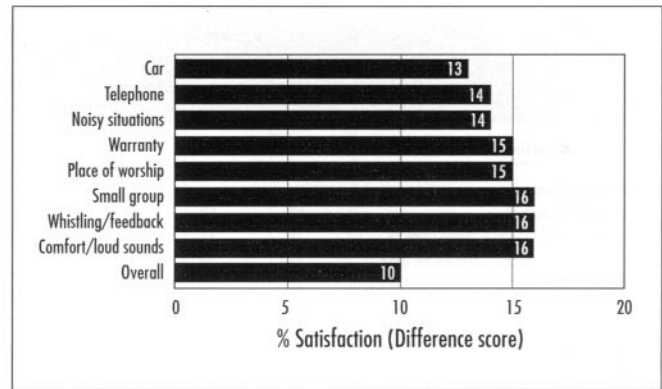


Figure 10. Expected customer satisfaction (%) differentials due to programmable technology.

can be attributed to the introduction of the completely-in-the-canal (CIC) instrument in the time frame between MarkeTrak III and MarkeTrak IV. The higher scores on outdoor and telephone usage can be attributed to the placement of the microphone below the entrance of the canal in CIC instruments. Between 1991 and 1997, satisfaction scores on visibility of the instrument actually got worse even though in MarkeTrak V the CIC received a very high 86% satisfaction score on “visibility of hearing aid.” However, when we compare 1991 and 1997 ratings for other styles of hearing aids it is apparent that scores actually dropped across all styles, especially the in-the-ear (ITE) models (Figure 5).

I hypothesize that the industry’s focus on cosmetics during this period caused consumers with larger ITE hearing aids to become more dissatisfied with the visibility of their instruments relative to the “invisible” instruments. On average, the ITE models dropped 13% points on customer satisfaction with visibility.

Satisfaction by style of instrument and degree of hearing loss

Overall consumer satisfaction by style of hearing aid is shown in Figure 6, while satisfaction by perceived degree of hearing loss is shown in Figure 7. The detailed ratings are documented in Table 2.

The “invisible” in-the-canal (ITC) instrument received the highest overall rating of 66%. As shown in Table 2, the CIC received significantly higher ratings on 15 MarkeTrak variables. Most notable were its higher ratings on visibility, comfort with loud sounds, use in noisy situations, and 8 of the 13 listening situations measured in MarkeTrak. It received lower ratings on

battery life and ease of volume adjustment. The superior CIC long-term satisfaction ratings are in agreement with large-scale first efforts to assess short-term satisfaction with CIC instruments.⁴

Some might argue “ease of volume adjustment” cannot be measured since there is no volume control on most CIC hearing aids. Thus, we asked consumers without a volume control if they would prefer to have one. More than a third (34%) of all CIC users without a volume control indicated they desired one. (Later on in this report we will take a closer look at the value of a volume control and its impact on customer satisfaction.)

The behind-the-ear (BTE) hearing aid is rated significantly lower on seven variables and higher on two variables. Most notably, it receives lower ratings on ability to hear soft sounds, directionality (localization of sounds), and in difficult listening situations such as large groups and places of worship. It receives superior ratings on hours worn and battery life.

Are the lower ratings for the BTE related to degree of hearing loss? The answer is both yes and no. In Figure 7 it can be seen that those who perceive their hearing loss as profound rate their hearing aids the highest (66%), while persons with a self-perceived “mild” loss rate hearing aids the lowest (48%). Subjects reporting a mild loss rated their instrument lower on 12 attributes. Most

notable are the lower ratings on impact on their quality of life, likelihood of repurchase, likelihood of recommending hearing aids to a friend, hours worn, perception of benefit, and one-on-one communication.

Subjects reporting they had a “profound” loss, while rating hearing instruments the highest, were also the most critical. They rated their instruments lower on 15 attributes. Most notable were the lower ratings on perceived benefit, fit and comfort, ability to hear soft sounds, ability to tell direction of sounds, whistling/feedback, and most listening situations.

The value of a volume control

In Figure 8, we present the overall customer satisfaction ratings for consumers with hearing aids without a volume control (VC). The survey asked those consumers if they would prefer a VC with their instruments. Figure 8 shows the satisfaction rates for those who said no to that question, those who said they were not sure, and those who said yes.

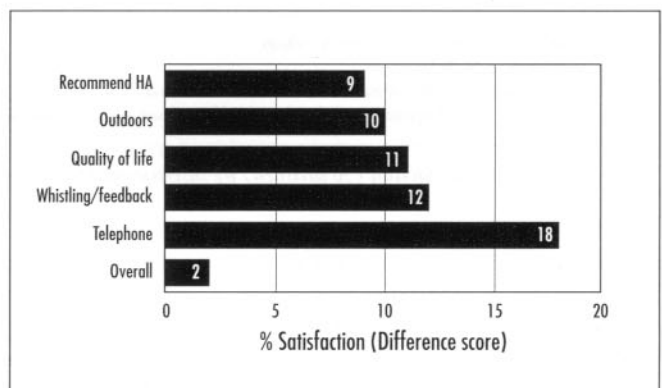


Figure 11. Expected customer satisfaction (%) differentials due to telecoils.

	Bilateral loss			User experience			Programmable			Telecoil		
	Monaural (n=316)	Binaural (n=1077)	Binaural Difference	New (n=800)	Repeat (n=913)	Repeat User Difference	Yes (n=231)	No (n=1115)	Programmable Difference	Yes (n=282)	No (n=601)	Telecoil Difference
Overall Satisfaction	56	59	3	54	63	9***	68	58	10**	61	59	2
Consumer Behavior												
Quality Of life (note 1)	62	69	7**	54	75	21***	74	63	11***	77	66	11***
Recommend hearing aids to friend (note 2)	79	83	4	75	87	12***	88	80	8**	89	80	9***
Recommend person who fit hearing aid (note 2)	75	74	-1	70	77	7***	83	72	11***	79	73	6
Repurchase current brand of hearing aid (note 2)	43	47	4	40	50	10***	52	46	6	51	44	7*
Wear hearing instruments (note 3)	89	92	3	85	95	10***	97	89	8***	97	91	6***
Product Features												
Fit/comfort	80	80	0	79	81	2	84	78	6***	78	78	0
Ease/volume adjustment	76	73	-3	71	75	4*	66	73	-7	82	76	6**
Visibility	64	66	2	65	66	1	75	63	12***	63	59	4
Packaging	61	66	5	63	64	1	73	61	12***	67	63	4
Frequency of Cleaning	59	65	6	60	66	6	72	61	11**	63	62	1
Warranty	57	62	5	57	63	6	73	58	15***	66	60	6**
Ease/Battery Change	84	86	2	84	87	3	90	85	5**	63	61	2
On-Going Expense	48	46	-2	44	49	5	46	48	-2	45	48	-3
Performance/Value Factors												
Battery Life	59	58	-1	52	60	8***	60	57	3	63	61	2
Improves My Hearing	73	80	7**	76	81	5**	83	77	6**	79	78	1
Reliability	69	70	1	65	75	10**	77	69	8***	73	70	3
Clearness Tone/Sound	53	58	5	55	60	5*	68	56	12***	59	56	3
Natural Sounding	49	53	4	49	55	6*	61	52	9*	55	51	4
Sound of Voice	53	61	8**	56	63	7**	66	58	8*	62	57	5
Able to hear soft sounds	37	48	11***	52	42	-10**	56	44	12*	43	42	1
Value (Price vs. Performance)	54	53	-1	51	57	6**	60	54	6	57	53	4
Directionality	40	54	14***	54	51	-3	56	51	5	46	52	-6
Comfort with loud sounds	31	38	7	38	38	0	51	35	16***	37	33	4
Whistling/Feedback/Buzzing	36	40	4	39	40	1	52	36	16***	46	34	12***
Use In Noisy Situations	26	30	4	31	30	-1	41	27	14***	32	25	7
Listening Environments												
One-On-One	86	91	5***	87	92	5**	95	89	6***	91	89	2
T.V	64	67	3*	70	67	-3**	72	68	4	65	67	-2
Small Groups	54	65	11***	64	62	-2*	77	61	16***	62	59	3
Listening to music	58	64	6**	63	64	1	73	62	11*	61	60	1
Place of worship	50	58	8**	58	55	-3*	69	54	15***	52	54	-2
Outdoors	54	63	9***	58	61	3	70	58	12***	65	55	10***
Leisure activities	53	59	6	54	63	9	69	57	12**	60	55	5
Car	46	55	9***	54	55	1	66	53	13***	55	53	2
Restaurant	43	44	1	46	44	-2	50	44	6	41	42	-1
Concert/Movie	37	45	8**	44	44	0	52	43	9*	37	43	-6*
Workplace	38	44	6*	43	44	1	54	43	11**	41	40	1
Telephone	33	40	7	37	41	4	51	37	14***	47	29	18***
Large Group	18	25	7**	29	22	-7***	33	23	10**	22	20	2
Dispenser Service												
Professionalism/Dispenser	86	89	3	86	89	3	96	87	9***	88	90	-2
Knowledge/Dispenser	88	89	1	88	90	2	96	88	8***	89	90	-1
Quality of service (during fitting)	87	88	1	87	89	2	95	86	9***	88	89	-1
Explained How To Care For H.I.	91	91	0	90	92	2	96	89	7***	91	90	1
Explained What to expect from H.I.	81	83	2	80	85	5	90	81	9***	84	84	0
Post-Purchase Service	79	81	2	77	84	7*	90	79	11***	84	80	4

Note 1: Dissatisfied=Never, Satisfied=Most of the time or always
Note 2: Dissatisfied=No, Satisfied=Yes
Note 3: Dissatisfied=hearing instrument not used, satisfied=use instrument at least half hour per day.
*p<.05, **p<.01, ***p<.001 - all significance testing based on mean differences with exception of recommendations & quality of life under consumer behavior.

Table 3. Customer satisfaction (% satisfied) by instrument feature and select demographic (MarkeTrak V: hearing aids <6 years of age).

Nine percent of the U.S. hearing aid owner population report they do not have a VC on their hearing instrument, yet 37% of these say they would prefer to have one. Subjects who said they would *not* prefer a VC report an average satisfaction rating of 82% with their hearing aids. Consumers

who *would* prefer a VC report satisfaction ratings of 49%.

One could argue that the consumers reporting they would prefer a volume control used the missing VC as a scapegoat for their dissatisfaction and that if they were offered one, they would still be dissatisfied.

A more likely explanation, which I have substantiated in discussions with consumers and audiologists, is that the market is segmented into consumers who adjust very well to "automatic" hearing aids and those who prefer to have an override to the automatic system.

	% Very Dissatisfied	% Dissatisfied	% Total Dissatisfied	% Neutral	% Total Satisfied	% Satisfied	% Very Satisfied	Mean	Std	Satisfied per Dissatisfied
Overall Satisfaction	3	8	11	28	62	40	22	3.70	0.99	5.7
Consumer Behavior										
Quality Of life (note 1)			4		69			na	na	17.3
Recommend hearing aids to friend (note 2)			3		85			na	na	27.5
Recommend person who fit hearing aid (note 2)			9		80			na	na	8.9
Repurchase current brand of hearing aid (note 2)			9		52			na	na	5.8
Wear hearing instruments (note 3)			5		95			9.36	5.49	19.4
Product Features										
Fit/comfort	1	4	5	15	81	48	33	4.08	0.84	15.9
Ease/volume adjustment	3	7	10	20	71	45	26	3.84	0.97	7.4
Visibility	1	6	6	24	70	47	23	3.85	0.85	11.2
Packaging	0	1	2	26	73	53	20	3.90	0.73	42.8
Frequency of Cleaning	1	6	6	27	66	52	15	3.74	0.80	10.7
Warranty	1	6	7	25	68	46	22	3.81	0.88	9.2
Ease/Battery Change	1	3	5	9	87	48	39	4.20	0.83	19.3
On-Going Expense	2	10	11	41	48	34	14	3.49	0.91	4.2
Performance/Value Factors										
Battery Life	4	15	19	26	55	40	16	3.48	1.04	2.9
Improves My Hearing	1	4	5	12	84	51	32	4.10	0.83	17.0
Reliability	3	4	7	22	72	46	25	3.88	0.92	10.8
Clearness Tone/Sound	3	9	12	25	63	43	20	3.69	0.98	5.5
Natural Sounding	3	11	14	31	55	39	16	3.55	0.97	4.1
Sound of Voice	2	7	9	29	63	47	16	3.68	0.89	7.3
Able to hear soft sounds	4	18	22	25	53	38	14	3.41	1.06	2.4
Value (Price vs. Performance)	4	10	14	31	56	36	20	3.58	1.04	4.0
Directionality	3	12	15	28	57	42	15	3.54	0.98	3.8
Comfort with loud sounds	5	22	27	29	44	35	10	3.21	1.05	1.6
Whistling/Feedback/Buzzing	6	18	24	34	43	30	12	3.25	1.08	1.8
Use In Noisy Situations	8	27	34	33	33	26	7	2.98	1.05	1.0
Listening Environments										
One-On-One	1	2	3	5	92	48	44	4.32	0.74	31.8
T.V.	2	5	8	16	77	55	21	3.88	0.88	10.2
Small Groups	2	9	11	19	70	53	18	3.75	0.92	6.4
Listening to music	2	5	7	24	69	51	17	3.77	0.87	9.5
Place of worship	2	8	10	25	65	49	16	3.69	0.91	6.4
Outdoors	2	7	9	27	64	49	15	3.69	0.88	7.1
Leisure activities	2	4	6	33	62	48	14	3.69	0.82	11.2
Car	3	11	13	28	59	46	13	3.56	0.94	4.4
Restaurant	4	14	18	28	54	42	12	3.44	1.00	3.0
Concert/Movie	4	15	20	30	50	39	11	3.37	1.02	2.5
Workplace	3	7	10	42	48	38	10	3.45	0.87	4.8
Telephone	6	21	27	26	47	35	12	3.26	1.10	1.7
Large Group	9	28	37	32	31	23	8	2.93	1.10	0.8
Dispenser Service										
Professionalism/Dispenser	1	3	3	6	90	37	54	4.40	0.77	29.2
Knowledge/Dispenser	0	2	3	6	91	35	56	4.44	0.74	36.4
Quality of service (during fitting)	1	2	3	6	91	37	54	4.42	0.76	31.5
Explained How To Care For H.I.	1	3	4	4	93	41	52	4.39	0.76	26.5
Explained What to expect from H.I.	1	4	5	9	87	39	47	4.28	0.86	18.4
Post-Purchase Service	1	5	6	8	86	37	50	4.29	0.89	14.4

Note: All percents rounded to whole numbers. Total sample size=524.

Note 1: Dissatisfied=Never, Satisfied=Most of the time or always

Note 2: Dissatisfied=No, Satisfied=Yes

Note 3: Dissatisfied=hearing instrument not used, satisfied=use instrument at least half hour per day. Means/std are hours per day.

Satisfaction means/stds based on 5 point Likert scale.

Table 4. Customer satisfaction MarkeTrak norms for new hearing instruments (3-12 months old).

Some consumers have told me they would never consider a hearing aid that did not have a VC even if it was the best automatic hearing aid in the world, simply because there are situations (which may be rare) in which they want to turn the hearing aid up or down. The need for a

volume control may be real or perceived. Our research also shows that repeat users are more likely to want a volume control, most likely because they are used to it. It should be noted that both new and repeat users rate hearing aids significantly lower if they report they would prefer a VC.

Could we expect to improve customer satisfaction ratings on non-VC hearing aids by 30% points if we made VCs available? It is unlikely. However, I would expect that a third or more of the differential in satisfaction between those who would prefer a VC and those who would not is due to the

lack of a VC. The fact that close to 4 out of 10 consumers without a VC want one at least deserves a closer analysis by the industry.

Continued evidence for the binaural advantage

Table 3 shows customer satisfaction comparisons for hearing instruments fitted monaurally versus binaurally (bilateral loss subjects only), for new versus repeat users, for programmable versus non-programmable hearing aids, and for instruments with telecoils versus without (isolated to BTEs and full-concha ITEs). For each comparison the satisfaction ratings are documented as well as the differential.

In Figure 9 we have presented the leading expected satisfaction differentials due to the binaural advantage. These are: ability to tell the direction of sounds (+14%), soft sounds audible (+11%), sound of voice (+8%), and improved performance in difficult listening situations. Despite these favorable differentials, overall customer satisfaction is expected to increase by only 3%. These results are consistent with other large-scale studies on the binaural advantage.⁵

Repeat versus new users

Referring to the second analysis in Table 3, customer satisfaction results for new and repeat users are presented along with difference scores (%). On average, new user overall satisfaction is 9% lower than the ratings of repeat users. New users rated 16 items lower than did repeat users. The more notable (based on difference scores) is the impact of the hearing aid on their life (-21%), extent to which they would recommend hearing aids (-10%), likelihood of repurchasing hearing aids (-10%), and hearing aid reliability (-10%). On the positive side, they report significantly higher ratings on their ability to hear soft sounds (+10%) and performance in large group situations (+7%).

The programmable advantage

In a previous large-scale study on the impact of programmable hearing aids on customer satisfaction, it was demonstrated that digitally programmable analog technology achieved on average 13% higher overall satisfaction ratings than the typical product in the marketplace.⁶ Users of programmable instruments reported superior

multiple-environmental utility, perceptions of value, improved quality of life, perceptions of benefit, reliability, and likelihood of making positive recommendations. Results were inconsistent with respect to performance in noise, with multi-microphone and multi-memory product faring better in this category. Single-channel, single-response instruments scored the lowest, but still better than non-programmable non-linear technology.


This is the first time we have been able to achieve a large enough sample in MarkeTrak to measure customer satisfaction with programmable technology at a national level. As seen in the third analysis in Table 3 and in Figure 10, the average programmable product outperformed the non-programmable product on 37 out of 45 MarkeTrak factors. Overall, all programmable products were rated 10% higher than non-programmable products.

The more notable detailed differences due to programmable technology are as follows: comfort with loud sounds (+16%), reduced feedback and whistling (+16%), performance in noise (+14%), and multiple environmental utility. These findings are consistent with other large-scale studies on programmable technology.⁶⁻¹⁰

The value of the telecoil

Finally, in Table 3 and Figure 11, customer satisfaction results are shown for hearing instruments (BTE and full-concha only) with and without telecoils. Hearing instruments with telecoils are rated significantly higher on eight attributes. The most notable are telephone usage (+18%), whistling and feedback (+12%), and outdoor experience (+9%).

MarkeTrak norms

In Table 4, we have documented short-term satisfaction on each variable from the MarkeTrak survey. This table is included for industry researchers interested in comparing specific technologies against national norms. Percentages, means, and standard deviations are included in this table based on a sample of 524 consumers who have owned their hearing aids between 3 and 12 months. When evaluating hearing instruments within their first year, it is my general practice to exclude hearing aids under 3 months of age, due to the "honeymoon" effect. 

SUMMARY CONCLUSIONS

- ❖ While overall customer satisfaction has remained the same since 1991, we have seen major improvements in customer satisfaction with hearing instruments over 1994.
- ❖ There have been only modest improvements in customer satisfaction since 1991. The key areas of improvement have been customer satisfaction on the telephone and outdoors, perceptions of long-term value, and dispenser explanations of how to care for hearing aids.
- ❖ CIC hearing instruments are rated the highest among all styles of hearing aids. Yet, the introduction of CICs has probably caused individuals with larger devices to be less satisfied with their experience.
- ❖ At least a third of consumers without volume controls indicate that they would prefer to have one. The data strongly suggest that there are probably segments of users for which VCs should be provided. In these instances, the lack of a VC could severely impact customer satisfaction ratings.
- ❖ Programmability, telecoils, and binaural fittings all contribute significantly to enhanced customer satisfaction.

Sergei Kochkin, PhD, is Director of Market Development and Market Research for Knowles Electronics, Inc. He also serves as Chairman of the Market Development Committee of the Hearing Industries Association and is a board member of the Better Hearing Institute. Correspondence to Dr. Kochkin at Knowles Electronics, 1151 Maplewood Drive, Itasca, IL 60143.

REFERENCES

1. Kochkin S: MarkeTrak V: "Baby Boomers" spur growth in potential market, but penetration rate declines. *Hear J* 1999;52(1):33-48.
2. Kochkin S: Subjective measures of satisfaction and benefit: Establishing norms. *Sem Hear* 1997;18(1):37-48.
3. Kochkin S: MarkeTrak III identifies key factors in determining customer satisfaction. *Hear J* 1993;46(8):39-44.
4. Kochkin S: Consumer satisfaction and benefit with CIC hearing instruments. *Hear Rev* 1995;4(2):16-26.
5. Kochkin S, Kuk F: The binaural advantage: Evidence from subjective benefit & customer satisfaction data. *Hear Rev* 1997;4(4):29-34.
6. Kochkin S: Customer satisfaction and subjective benefit with high-performance hearing instruments. *Hear Rev* 1996;3(12):16-26.
7. Jedidi K, Estelami H: Measuring user satisfaction with programmables. *Hear Instr* 1994;45(5):22-23.
8. Whichard S: Auditory benefits of ReSound sound processing technology. *Sem Hear* 1997;18(1):63-66.
9. Sandridge S: Customer satisfaction with MultiFocus hearing aids. *Sem Hear* 1997;18(1):67-72.
10. Kuk F: Hearing aid survey tests user satisfaction. *Hear Instr* 1996;47(1):24-29.