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# Health Manpower Management

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## Contents

# Strategic aspects of the purchasing process in the Finnish hearing instruments business

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Abstract

Discusses the Finnish hearing instrument market which, in the past decade, has been characterized by both closed and shared markets. Indicates there has been some formal competition, but real price competition has not influenced the resharing of market shares. Finds that the current recession has forced hospitals to re-evaluate their purchasing criteria. Investigates the process with the help of industrial marketing theories to determine the strategic means which can be used to create competitive advantages. The new automatic data-processing (ADP)-based high technology in the hearing-instrument business provides opportunities for identifying these advantages. Surveys the abilities of hearing-centre personnel in university hospitals to take advantage of ADP-based tools. Shows that hearing-centre personnel have a low level of ADP knowledge and, thus, a great need for ADP training. Discusses the ADP-based strategy chosen to be AP Medical Hearing Ltd's main strategy and emphasizes the importance of ADP-based training in high technology.

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## Theory

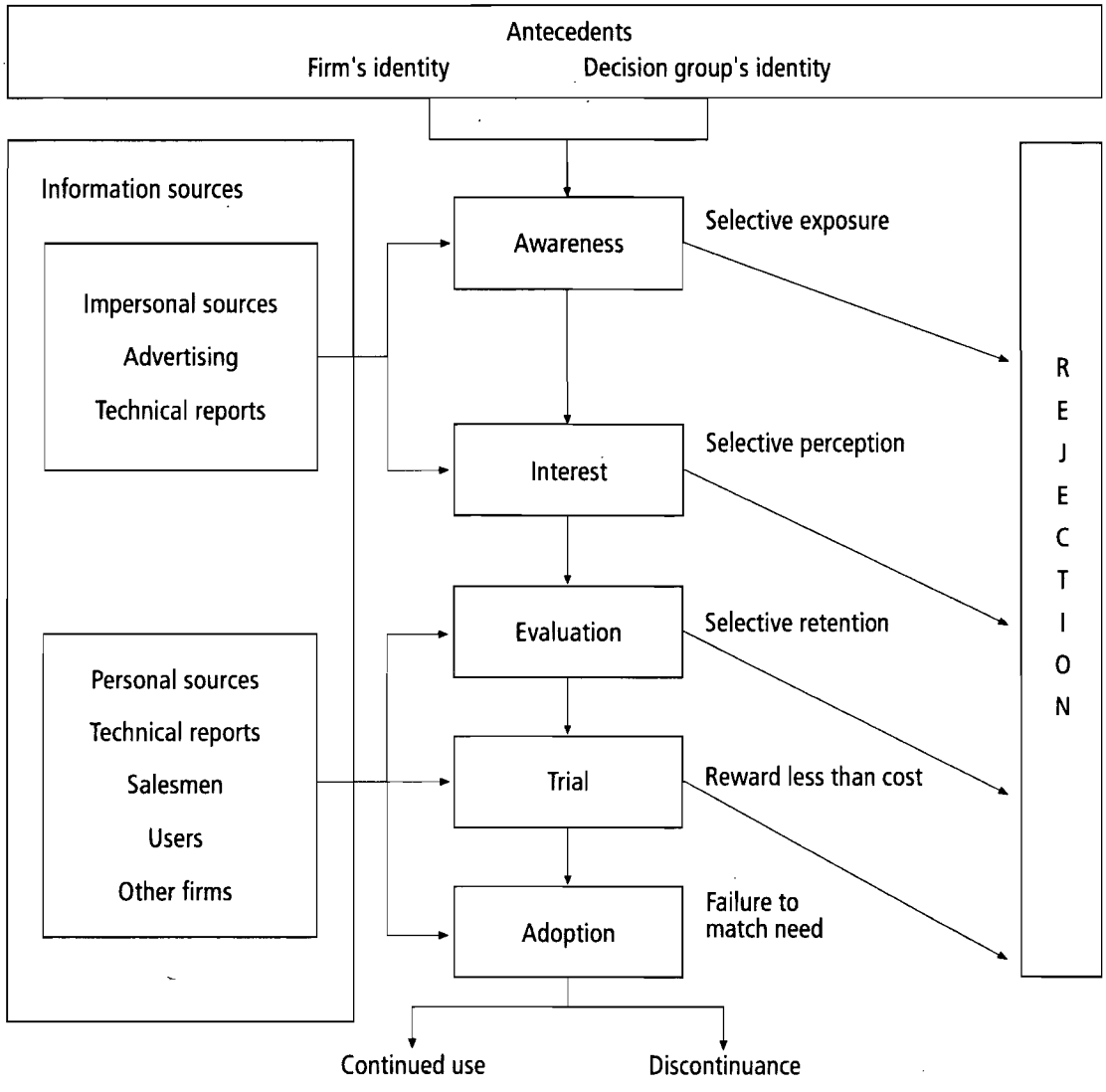
The theoretical reference frame is taken from models and theories of industrial marketing behaviour. The hospital network can be described as an industry which produces health. If so, then the purchasing process is comparable with industrial behaviour. The theoretical framework presented is a combination of the theories of the "buy phase", "industrial adoption model" and "purchase decision model". These models seem particularly useful in solving the problem. They all point to different phases in the organizational buying process.

### Industrial adoption model

The model (see Figure 1) was developed in 1968 by Ozanne and Churchill[1]. The model combines elements from both the theory of diffusion of innovation and typical buying process theories. The model focusing on market communication has five different phases: awareness, interest, evaluation, sample and adoption. Ozanne and Churchill used the model to investigate the function of information sources in the different phases of the process. They discovered that the mass media had a great influence during the whole process, but that this was most powerful during the interest phase. In the evaluation phase, impersonal sources such as price quotations, written proposals and offers are of great importance. Generally speaking, the need for information for the decision makers increases, the longer the process goes on[2].

The model is based on their "antecedents", the characteristics of the company and the decision-makers group. These underpin the basis for the whole process: the organization of the company, the needs, the company history, the composition of the decision makers, psychological factors, etc. According to the model, the awareness and interest phases are dominated by information sources consisting of impersonal sources, advertisements and technical reports. Reasons for rejection of the process in the first two phases are, according to the model: selective notification and selective perception. The evaluation, test and adoption phases are dominated by information sources consisting of impersonal information sources, technical reports, sales personnel, users and other companies. As shown in the figure, the reasons for rejection of the process in the last three phases are:

**Figure 1** The industrial adoption-process model




*Source:* [1]

selective remembering, capital costs exceeding perceived benefits, and unfulfilled need.

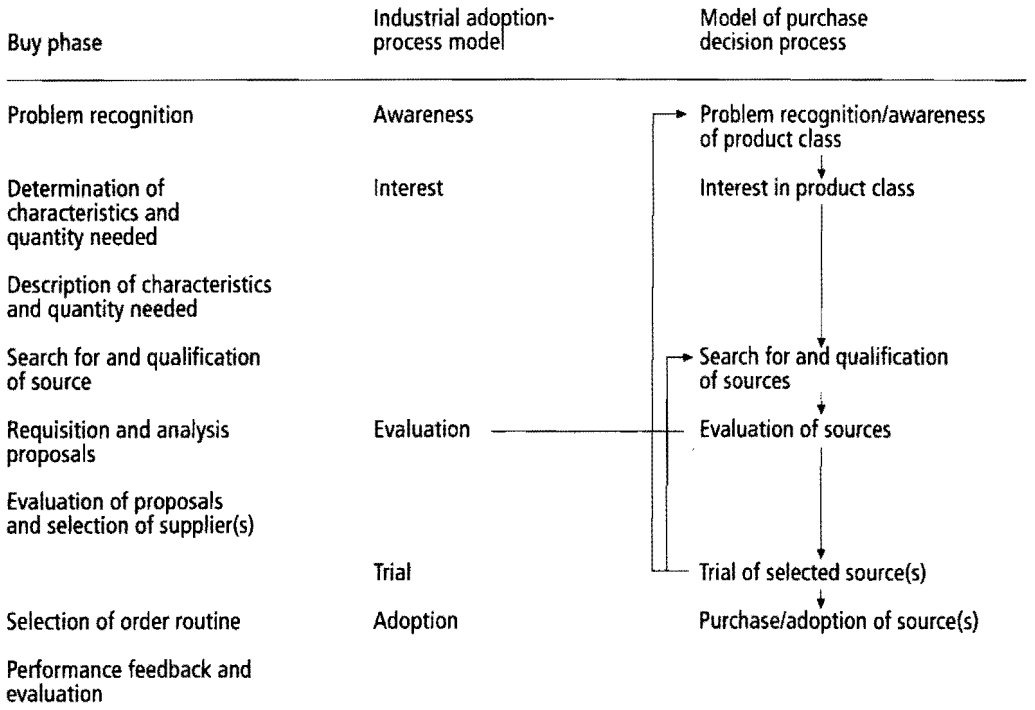
**Purchase decision model**

Figure 2 shows a comparison between the three models: the "buy phase model", the "adoption model" and the "model of the purchase decision process".

Instead of approaching the process as an external process with emphasis on external communication (the adoption model), this model defines the buying process as an internal one. Some important differences with the adoption model follow. Problem experience and awareness are both part of the first phase, because either of them may start the process. Problem experience may lead to awareness and vice versa. Both the problem experience and the awareness must be included to make it possible to pass to the next phase in the process: the interest in product class. Second, this model includes an active search. This shows that the customer plays an active role in the process: the buyer looks for information on potential suppliers. Third, the model includes feedback (not shown in the adoption model). Based on trial and error it is possible to fall back on earlier phases in the process. Two different types of feedback may appear: feedback from the evaluation phase to the problem experience awareness phase and feedback from the trial phase to the search phase. All feedback is based on a malfunction during the previous phase[3].

Although the models presented above are simple, they are useful for further investiga-

**Figure 2** Development of the purchase decision process model




*Source:* [4]

tion. The models are explained above and are complementary to one another. It is possible, based on these models, to create a reference frame for the ongoing investigation.

## Buying process for hearing instruments

Based on practical experience in the field, a typical buying process for hearing instruments appears as follows:

- problem experience;
- specifying the need;
- active search for information;
- evaluation 1;
- product test;
- evaluation 2;
- buying decision;
- implementation/feedback.

The industrial adoption model presented in the theoretical part shows that impersonal information sources dominate the first phases of the buying process, while personal information sources dominate the later phases. Based on this, the following reference frame is proposed (compared with the industrial adaptation model), the basic elements of which are sources of information, phases in the buying process and roles (see Table I).

People with hearing impairment enter the buying process when they discover that there is something wrong with their hearing. The next phase, specifying the need, includes the measurement of hearing and its problem definition. As a result of the problem definition the patient enters the next phase, evaluation 1. At this point we know whether a hearing instrument will help him or not, and which instrument has been chosen for testing. The evaluation 1 phase is important, as it leads to the selection of a hearing instrument. This decision is influenced by opinion leaders, such as organizations for the hearing impaired, their chairmen and others who use the instrument. The roles of various decision makers also have an effect on the patient. These are doctors, hearing assistants and sometimes the patient himself. Advertising, technical reports, congresses and exhibitions are also important sources of information when choosing the brand.

After the product test comes evaluation 2: is the hearing instrument good enough and, above all, is it suitable for the patient? At this stage different situations which the patient has experienced are analysed. The idea is to determine how the hearing instrument has

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Table I A buying process for hearing instruments – a reference frame

| Information sources | Phases in the buying process | Roles |
|---|---|---|
| **Dominated by impersonal sources** | Problem experience | Dominated by opinion leaders and decision makers |
| **Advertisements** | Specifying the need | |
| **Technical Reports** | Active search for information | |
| **Congresses** | Evaluation 1 | |
| **Exhibitions** | | |
| **Dominated by personal sources** | Product test | Dominated by users and decision makers |
| **Users' reports** | Evaluation 2 | |
| **Sellers** | Buying decision | |
| | Implementation | |
| | Feedback | |

helped the patient's everyday life. Here, the importance of different roles is emphasized. Users and decision makers play the dominant roles. If evaluation 2 leads to a decision and the patient wants the hearing instrument, the decision makers will give it to him. If the patient expresses negative feelings about the instrument, he may get a new test instrument and the project is repeated. The decision makers' opportunity to manipulate is emphasized if the patient does not receive a new test instrument. Decision makers can, for example, say "It is just the same as with glasses. You'll get used to it within a couple of months. Just keep this instrument." This leads to a buying decision. At the implementation phase, the ear part of the instrument is prepared, either beforehand or afterwards. Repeated check-up visits provide essential feedback.

## The research

### The goal of the research

The goal of the research has been to clarify attitudes of the personnel of the hearing centres towards automatic data-processing (ADP)-based measurement of hearing and programmable hearing instruments, ADP-training level in relation to performed work, management's ability to support or hinder development work, as well as to find new business opportunities for the company.

### Method and target group

The research is based on qualitative interviews including, however, semistructured analysis. Semistructured analysis is a combination of both qualitative and quantitative analysis. The research included all the five Finnish university hospitals, in Helsinki (HYKS), Turku (TYKS), Tampere(TAYS), Oulu(OYKS) and Kuopio (KYS). Furthermore, two regional hearing centres in Ahvenenmaa and Helsinki served as comparison groups. University hospitals were chosen because they represent the best possible level of audiological knowledge in Finland. As far as other functions are concerned, they also correspond very well to the hearing centres of central and regional hospitals.

The 51 interviewees represented the professions of a docent (five), doctor (six), head nurse (five) and hearing assistant (35). In the hospital hierarchy doctors and docents form the consultative role in audiology. Docents, moreover, are head doctors of medical clinics. Hearing assistants take care of the basic measurement of hearing and, usually, the choice of hearing instrument when this has medical foundations. In more difficult situations they consult the doctors. The threshold for consultation is low, because the working mode of these professions is teamwork. The head nurse's work differs from that of doctors and hearing assistants: their work is mainly administrative. Head nurses do not take part in routine fitting of hearing instruments.

The qualitative research method was chosen because of its advantages, such as the flexibility of the research process and its ability to identify different behaviour and psychographic groups, giving impulse for continued research and expanding depth of comprehension. The approach includes finding unities, meanings and processes.

## Results

The interviewees were grouped into three different categories according to their work as follows: A = doctor; B = head nurse; and C = hearing assistant.

### Development work opportunities

The doctors from two university hospitals had clear views on development and planning. They also had highly positive attitudes and well-laid plans to implement them in practice. Two interviewees had positive views, but

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implementation was not in the same proportion at the system level (see Table II).

A positive feature of the results was that only one tenth of the interviewees saw their superiors as an obstacle to their development work in automatic data processing. Thus, most of the interviewees had clear views as well as the experience to do the development work, in addition to their daily routines. Furthermore, attitudes were mainly positive. On the other hand, at the management level the unit had, as a rule, a valuable and skilful resource of automatic data-processing (ADP) knowledge.

Therefore, perhaps the most positive result from the research regarding the development work opportunities was that as many as 76 per cent of the interviewees thought they have enough chances for development work in ADP. As one docent said: "I have been given a free chance to develop systems whenever there is need for it," and continued, "Within the next two years, the first, more sophisticated, digital hearing instruments will be introduced."

Only five of 51 interviewees felt the opposite. They felt that they had been neglected in ADP-development work. One of the five, a doctor, explained the reasons for poor opportunities: "The employer has not provided us with enough material support."

Management attitudes will determine what sort of basic prerequisites there are to develop the organization with the help of information technology (IT) or to change the organization as a result of an increased use of information technology. Management's positive attitude offers an important framework for undertaking development work in ADP[5].

## ADP experience and training

The most important thing at the individual level, in order to improve readiness to apply the information technology, is the desire to study and learn new things. The most promising result of individuals' introduction to IT is probably the positive attitude it creates towards the subject[5].

Most of the interviewees (62 per cent), primarily doctors and head nurses, had used ADP considerably in their past (see Table III). They emphasized ADP's importance in routine work: "ADP has simplified and made it easier to complete routine work. ADP is a working tool just like a piece of paper or a calculator."

At least they consider ADP a future means of doing their work. A head nurse agreed with the previous comments: "ADP will become more widely used and simpler as well. It relates to so many things. ADP is the future."

The most inauspicious results were those of the hearing assistants: 15 of them (43 per cent) considered they themselves were inexperienced (Table IV).

However, it is important to recognize that 36 per cent of the interviewees do not possess much past experience in ADP. Of the interviewees, 72 per cent thought they were undereducated in ADP as far as their current work was concerned. It is obvious that the level of the ADP training they have received is too low. The results are interesting for doctors. As mentioned earlier, most of them (73 per cent) have considerable past experience in ADP. However, an equal number feel that they do have enough ADP training for their current work. Therefore, only one eighth of the 11 doctors interviewed wish to have more ADP training.

When each group is included, 42 out of 51 (72 per cent) would like to receive more training. A lack of time seems to be the major reason for poor levels of training: "All the time I receive new instruments, on which I do not have enough time to concentrate", said one

**Table II** Do your supervisors give you enough opportunities to do development work in automatic data processing (ADP)?

| | A | | B | | C | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| **Very well** | 2 | 18 | 2 | 40 | 6 | 17 | 10 | 20 |
| **Quite well** | 6 | 55 | 2 | 40 | 21 | 60 | 29 | 56 |
| **Difficult to say** | 1 | 9 | 1 | 20 | 5 | 14 | 7 | 14 |
| **Quite badly** | 1 | 9 | 0 | 0 | 2 | 6 | 3 | 6 |
| **Very badly** | 1 | 9 | 0 | 0 | 1 | 3 | 2 | 4 |
| **Total** | 11 | 100 | 5 | 100 | 35 | 100 | 51 | 100 |

*Note*: $N = 51$

**Table III** How much personal experience do you have of ADP?

| | A | | B | | C | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| **Very much** | 5 | 46 | 3 | 60 | 8 | 23 | 16 | 31 |
| **Quite a lot** | 3 | 27 | 1 | 20 | 12 | 34 | 16 | 31 |
| **Difficult to say** | 0 | 0 | 1 | 20 | 0 | 0 | 1 | 2 |
| **Quite little** | 0 | 0 | 0 | 0 | 7 | 20 | 7 | 14 |
| **Very little** | 3 | 27 | 0 | 0 | 8 | 23 | 11 | 22 |
| **Total** | 11 | 100 | 5 | 100 | 35 | 100 | 51 | 100 |

*Note*: $N = 51$

hearing assistant expressing her worries. "There simply is not enough time to keep up with the ADP. Training should be separated from the actual work and be included in working days and hours", added another.

The exception to this phenomenon were those who had used their spare time and spent their own money in order to obtain enough training in ADP. The interviewees wanted the basic training in ADP and its operating systems. Generally, they had got only a few days of ADP training for their work.

In fact, some of the interviewees stated that they had not got any training at all or far too little. "There has been hardly any material support from the employer." As one doctor said, the barrier to learning the use of ADP is great, and he preferred private training in order to learn things properly.

This research implies that the head nurses are in the best position in relation to ADP experience and training. They possess extensive personal experience in ADP. Furthermore, they have had a relatively large amount of ADP training for their present jobs: 40 per cent of them feel that they do not need much more training.

On the other hand, hearing assistants were clearly the most depressed group, especially when compared with head nurses, forming in every case the major part of the bad results: each head nurse felt happy about her development opportunities in ADP, past ADP experience, programmable hearing instruments training and ADP's future. However, in all but two cases (development opportunities in ADP, 60 per cent; and quality of ADP training for their current work, 73 per cent) hearing assistants comprised more than 80 per cent of the "bad" results. The above information is invaluable – it helps an entrepreneurial company, seeking to break into this market, to target its ADP training to the right group, i.e. hearing assistants. Hearing assistants are also the group, whose attitudes it should try to change the most in order to facilitate ADP's triumph (see Table V).

Importers of hearing instruments also have an important role as trainers of ADP-based applications. Interviewees thought that training given by the importers was not always sufficient, and preferred small group or individual training. As several hearing assistants said: "Education and training offered by importers is often the only training we get, particularly when high-tech training is concerned." Hearing assistants in particular thought that it was very difficult to have enough ADP training. Generally, investments

**Table IV** Have you got enough ADP training for your current work?

| | A | | B | | C | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| **Enough** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Almost enough** | 3 | 27 | 2 | 40 | 5 | 14 | 10 | 20 |
| **Difficult to say** | 0 | 0 | 1 | 20 | 3 | 9 | 4 | 8 |
| **More needed** | 5 | 46 | 2 | 40 | 12 | 34 | 19 | 37 |
| **Much more needed** | 3 | 27 | 0 | 0 | 15 | 43 | 18 | 35 |
| **Total** | 11 | 100 | 5 | 100 | 35 | 100 | 51 | 100 |

*Note*: $N = 51$

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in hardware and programs were reasonable, but those in training were too small.

### Attitudes towards ADP and programmable hearing instruments

The measurement of staff attitudes can only be achieved through opinion polls. These polls should inform us of the attitudes towards information technology, development, study and structural changes. Based on critically estimated results, the relative portions of the positive attitudes can be used as measurement instruments[5].

The attitudes of hearing centres' personnel to ADP-based work were generally positive. In addition, more than half of the interviewees took a positive attitude towards ADP's future. It was also clear that people who had a great deal of or considerable experience in ADP had a more positive attitude, compared with those who had a little or only very little experience of ADP. This view is based on the interviews and the information received from them: even though one cannot see it directly from the Tables, it was those people with the best past ADP experience, and opportunities to do development work in ADP, who had the most positive attitude towards programmable hearing instruments (Table VI) (and on ADP in general), and had received enough ADP training for their current work.

Thirty-six interviewees (70 per cent) felt positively about programmable hearing instruments. "Programmable hearing instruments will be cheaper to use and faster to fit than traditional ones" and "the essential advantage of them is the fact that they can be tailor-made for the purposes of clients; it is obvious that they will become more and more common in the future", were the most frequently heard comments.

Naturally, the programming of hearing instruments causes problems to some users. However, only eight of those interviewed did not like them. One of the hearing assistants had the courage to confess: "The hardest part is to remember which button to press first, followed by the problem of choosing the next one, the one that does not wreck the whole system."

ADP's future looks quite bright as we look at the numbers and figures in Table VII. Only 11 had negative feelings about it; and not one of them was a doctor or a head nurse, everyone of whom, in turn, looks forward to ADP's future.

### Research conclusion

The personnel of the university hospitals are technically oriented. This fact, coupled with the positive attitudes towards changes, can

**Table V** Would you like to get more ADP training?

| | A | | B | | C | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| **A lot** | 4 | 36.5 | 1 | 20 | 25 | 71 | 30 | 59 |
| **Quite a lot** | 4 | 36.5 | 2 | 40 | 6 | 17 | 12 | 23 |
| **Difficult to say** | 2 | 18 | 0 | 0 | 3 | 9 | 5 | 10 |
| **Quite little** | 1 | 9 | 2 | 40 | 0 | 0 | 3 | 6 |
| **Very little** | 0 | 0 | 0 | 0 | 1 | 3 | 1 | 2 |
| **Total** | 11 | 100 | 5 | 100 | 35 | 100 | 51 | 100 |

*Note*: $N = 51$

**Table VI** How do you feel about programmable hearing instruments?

| | A | | B | | C | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| **Very positive** | 6 | 55 | 1 | 20 | 18 | 51 | 25 | 49 |
| **Quite positive** | 3 | 27 | 3 | 60 | 5 | 14 | 11 | 21 |
| **Difficult to say** | 1 | 9 | 1 | 20 | 5 | 14 | 7 | 14 |
| **Quite negative** | 1 | 9 | 0 | 0 | 5 | 14 | 6 | 12 |
| **Very negative** | 0 | 0 | 0 | 0 | 2 | 6 | 2 | 4 |
| **Total** | 11 | 100 | 5 | 100 | 35 | 100 | 51 | 100 |

*Note*: $N = 51$

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help overcome the threshold to the use of more ADP-based applications.

The unit management personnel have an important position as they influence the operational framework in ADP-based development work. Personnel's attitudes are dependent partly on management's corresponding attitudes, and form, as a sum, the corresponding attitudes of the organization.

ADP training can be very expensive, but it becomes more expensive not to educate yourself. More emphasis should be put on education and training.

The personnel of the hearing centres have a clear desire to increase their own ADP-based training. There should be enough opportunities for the education and training; the pressure of work as well as the disturbance caused to the routine work was held to be one of the hindrances. The most effective form of training is in small groups based on simulations. Importers also have an important role as educators, and the amount and the level of training by importers should be increased.

Strategically, the research revealed that there is a strong training need in the market. Thus, the company's main strategy can be directed to ADP-oriented strategy, which comprises sales of hearing instruments and other equipment for measurement of hearing, and training programmes for the implementation of these tools.

Finally, we will examine the strategic means which can be used to create new competitive factors. The results of the research play an important role here. First pricing and relation management are introduced, then intrapreneurship and finally, as the most important, ADP-based strategy which includes training.

## Market analysis

Based on interviews in the qualitative research, the motives for hearing instruments purchases are the following:

- *Price*: as a rule, price does not matter much in the decision-making process.
- *Technical quality*: the instrument's technical quality is of great importance.
- *Product choice*: the range of choice has only a formal meaning.
- *Operating ability*: the selling company's general operating ability is, however, crucially important.

It is interesting that price has hardly any role in the purchasing decision process. Experience shows that even with 50 per cent price reductions it is difficult to alter the market share. There are, for example, certain local hearing centres in Helsinki which are fully aware of the price difference, and still they buy the more expensive instrument from another importer.

Technical quality is emphasized. At best there can be 20 different types of hearing instruments for a certain type of hearing impairment. It is senseless that each hospital maintains a stock comprising different brands of corresponding instruments, when a couple of brands would be enough. The hospitals' justification is based on subjective opinions of hospital professionals, who say that there must be plenty of different corresponding brands, owing to differences in their voice quality. Subjective opinions should not have an important role, because, according to factory measurements and those of the Technical Research Center of Finland, there is no significant difference in technical measurement results between the corresponding hearing instruments. A greater emphasis should be put on operating ability of the manufacturer (factory) and the importer.

**Table VII** How do you feel about ADP's future in the hearing business?

| | A | | B | | C | | Total | |
|---|---|---|---|---|---|---|---|---|
| | Number | Per cent | Number | Per cent | Number | Per cent | Number | Per cent |
| **Very positive** | 8 | 73 | 3 | 60 | 21 | 60 | 32 | 62 |
| **Quite positive** | 2 | 18 | 1 | 20 | 4 | 11 | 7 | 14 |
| **Difficult to say** | 0 | 0 | 1 | 20 | 0 | 0 | 1 | 2 |
| **Quite negative** | 1 | 9 | 0 | 0 | 5 | 14 | 6 | 12 |
| **Very negative** | 0 | 0 | 0 | 0 | 5 | 14 | 5 | 10 |
| **Total** | 11 | 100 | 5 | 100 | 35 | 100 | 51 | 100 |

*Note*: $N = 51$

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## Why the hearing-instrument markets are what they are

It is obvious that business habits partly have contributed to the distribution of market shares. This has led to an evolvement of a benefit network, profiting the customers on behalf of the importers. This benefit network includes repeated foreign trips and other PR activities.

For some reason there has not been any wish to change this stabilized situation. From the economic viewpoint it is difficult to understand why it is impossible to break down the shared markets with, for instance, price competition. One explanation is surely the fact that doctors lack management skills.

The first example illustrates the buying behaviour in the hearing instrument business. A company aims to increase its market share by providing a special offer of 50 per cent discount to one hospital. Hearing assistants of this hospital do not wish to take advantage of the offer. In private negotiations it appears that the doctor of the department would like to utilize the offer in the financial sense. However, he refuses to do that, explaining that he does not want to disrupt the climate in the department by giving a company a privilege of some sort. This privilege is only based on the concept of price competition.

In the second example a hearing assistant expresses her feelings by stating that for her it does not matter how much the hearing instrument costs. She will always receive for certain her monthly salary, independent of the prices of the hearing instruments. Finally a director of health in Helsinki states: "The previous examples indicate doctors' lack of management skills."

Based on the above, it is obvious that it is not the normal elements of market economics, but the business habits which affect the decision-making process in this small business area. As a result, a difficult and sensitive climate prevails in the market.

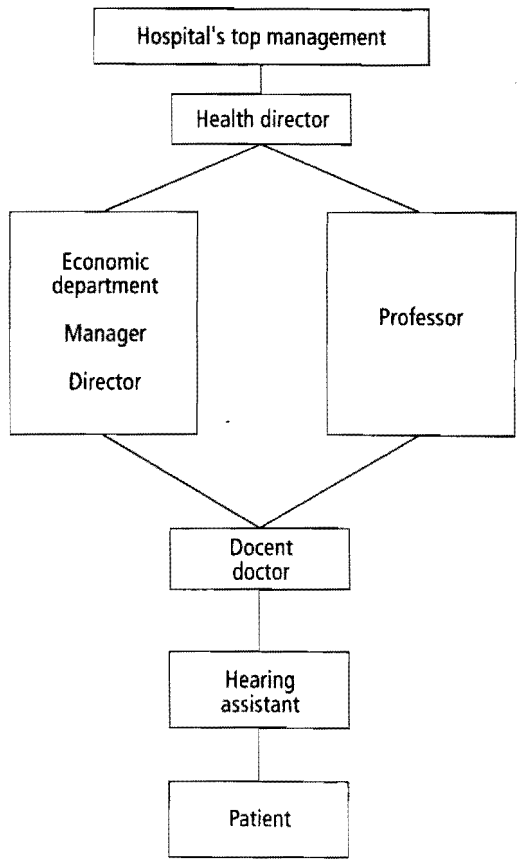
## Criteria for future decision making

The decision making should be based on the quality and the price of the product, guarantees offered, maintenance provided, the suppliers' (both the manufacturer's and importer's) general operating ability, the additional level of services and the credibility (Figure 3). The hospital's top management as well as the director of health and financial department should take part more actively in the decision-making process, so that the real rules of market economy could prevail in the hearing instrument business. In a period of recession, more emphasis should be put on the price, while preserving the right price-quality ratio in relation to a product's technological features.

Hospitals' purchasing systems for hearing instruments should be rationalized, i.e. product range should be considerably smaller, which would be the case if there were normal competition in the field. The Office for Fair Trading has suggested that instead of the current purchasing system, a new, national, centralized purchasing system should be created. The idea of the new system is to increase competition in the market so that the rigid market shares would be broken down.

A centralized purchasing system is not, however, a good idea, because it requires a totally new purchasing system when one already exists. Furthermore, the new system does not take regional conditions into

**Figure 3** Decision-making process – future



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account. Instead of a new system, the older one should be sharpened, in addition to which more decision-making power should be given to people like directors of health, who are independent of importers and the benefits they offer.

Finally the doctors' and hearing assistants' main roles should be restricted to the instrument and assistance of the patients. Their participation in the decision-making process should be only that of expert adviser.

## Pricing

The extremely high level of technical and financial volatility of the high-tech markets makes the pricing decisions very difficult. At the same time, the marketers face the demands of covering costs and making profits, and they are pressured by changing external environments, aggressive competitors, and fickle customers. The skills of the marketer include the ability to analyse the environments relevant to the company to establish realistic company objectives, and to select pricing strategies for special situations. While controlling and covering costs is an important item in the balancing of the cash flow equation, it is only a part of cash flow management. Revenue generation, which is linked closely to pricing strategy, is the other critical part of the equation. Market response to pricing strategies is as important as the internal operating efficiency when determining the firm's survival.

AP Medical Hearing Ltd's previous pricing policy was simple and inflexible. It was based on high profit margins and small market share. This project has helped to change the pricing strategy into a more flexible and sensitive one. The company's current pricing system should enable it to anticipate future changes in the business. Doctors and hearing assistants have indicated clearly that the price does not play an important role in the hearing instrument business. Price had occasionally some meaning, but represented only a few per cent of the sample. Attachments to importers through presents, etc. are solid. Doctors, docents and others do not want to give up these benefits – and, hence, hospitals have not been able to move towards a real profit-centre thinking.

On the other hand, we are fully aware of the fact that more emphasis will be put on the price of the hearing instrument in the decision-making process in the near future. This change will happen with the help of the market forces. Deepening recession as well as the evolution of profit management in hospitals have already contributed to this development, as has the change of hospitals' purchasing systems. Hospitals are introducing more centralized purchasing systems, which put more emphasis on product range and quality, as well as on the price of the product. AP Medical Hearing Ltd has prepared for this change by introducing a pricing policy of 40-50 per cent reductions when larger quantities are concerned. The fact that these changes in the market have been anticipated has helped to negotiate the best and clearest benefits possible from suppliers and financial institutions.

## Relation management

Intimate and long-term relations require different kinds of input from superficial and short-term relations. In close and long-term relations customers become more than just customers; they become professional partners, colleagues, backers, developers, friends and confidants.

**'...results from the research, interviews and a better knowledge of this business field show that, when the quality, maintenance and distribution of the product provide a good framework, the most important driving force is then relation management...'**

When the connection between personnel and the customer becomes more complex, we need ethics to take care of it. We have already seen the birth of the "ethics wave". Discussions and seminars regarding business ethics have become more popular during the past few years. The increased number of long-term and complex business relations have resulted in a growing demand for ethics.

The estimated relation time in the hospital business is five to ten years. Qualitative research showed that ADP-based training, for both hearing instruments and ADP systems, is required and desired. The interviewees also said that relation management should be included in educational meetings. This is why a reorientation to relation management business is needed. Previously, the author had not given much thought to relation management among hearing assistants

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and had treated doctors too superficially. However, results from the research, interviews and a better knowledge of this business field show that, when the quality, maintenance and distribution of the product provide a good framework, the most important driving force is then relation management. This argument is supported by the fact that there are only about 100-150 persons to manage in this business.

In AP Medical Hearing Ltd relation management has been implemented and included in business strategies. In practice it means better planning of customer meetings and deeper attachment of customers to the salesmen at the emotional level. It has also required a direction of funds to implement relation management.

## Intrapreneurship

As a result AP Medical Hearing Ltd was also able to increase intrapreneurship at a strategic level and implement it in practice. Intrapreneurship's strategic thinking also involves anticipating the start of the process. That is, when recruiting new staff it is sensible to look for characteristics which indicate intrapreneurship. Different kinds of tests are good for determining whether a person fits a company's intrapreneurship or not. Strategically, one must also take care of positive enforcement of intrapreneurship. This means, in the short term, commission-based salary and, in the long term, eventual partnership in the company.

There are also many requirements demanded of the company management. Alec Freiner states in a simple way: "The intrapreneur has to be an opportunist in the sense of learning how to operate within the system. You have to put your foot in any door that cracks open and be quick to grab opportunities to move toward implementation."

In fact, strategic intrapreneurship would also be needed on the part of customers, because, with the help of relation management and models, many problems would be solvable.

Strategically, the content of intrapreneurship is very important, especially when consolidating the theoretical model for intrapreneurship, in order to support and develop it as a process. It is most important that there is a strategic system supporting and maintaining intrapreneurship. In this way it can be applied as the functional tool between customer and personnel.

## ADP-based strategy

*Benefits from the application of information technology*

Evaluation of returns on and other benefits from an investment in information technology is difficult. Not all the effects of IT are measurable. A company rarely can calculate how much the use of IT improves its competitiveness.

Reponen[6] divides the benefits of IT into three groups: increased profits, decreased costs and other immaterial benefits. Reponen's study showed that other immaterial benefits are of bigger importance for Finnish corporate managers than cost savings. According to his study, a better understanding of the company's condition, rapid information exchange, and received information to support decision making were the most important benefits.

Development of working methods, quickening of revenue collection and improvement of stock turnover were the most noticeable measurable benefits. An interesting result was that managers, who were familiar with information technology, were able to see its advantages best. If IT is not well understood and known its benefits are also imprecise.

Information technology changes competition in many industries. Cutting production costs with the help of IT is not the only way to obtain competitive advantage in relation to other companies. AP Medical Hearing Ltd has competitive advantage over other companies, because:

- its relations and contacts with industry's interest groups are better taken care of than those of its competitors – the company's competitive advantage is based on logistics and on the fact that orders and purchases are computerized;
- its business is internally more efficient than competitors – analysis has shown that currently AP Medical Hearing Ltd has the most efficient ADP system in the industry despite the fact that it is quite simple;
- information technology supports better decision-making processes within the company;
- information technology forms a part of the product – high-quality training is included in the company's hearing instruments, which in turn has helped to win customers' trust.

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For the company the differential advantage is its ability and skill to train the customers better than competitors can. Training starts with basic courses in ADP with the help of training modules. Later, training includes also working with modules of programmable hearing instruments and the Phox-programming unit. Thus, information technology strategy has a positive influence on the extent and the depth of business which, in turn, helps to keep the training price high.

The company's competitive advantage is also based on information intensity in products and services. That is, products can be linked with more information. Information can be sold as a part of a product and information technology can be embedded in them.

The internal part of the company's information technology strategy involves also the extension of computer capacity and know-how which will help to save time as well as automate the manual activities.

**To be a pioneer or follower?**

AP Medical Hearing Ltd can be considered a pioneer in information technology. Generally, the risks which arise as an innovative system evolves are regarded as natural. In many cases an organization which has developed a new service has the competitive advantage, making it impossible for others to catch up in the short term. This is why companies should try to be leaders. Competitors cannot copy your solutions and gain a headstart right away. Customers are dependent on the company because it is too costly for them to break the business relationship. This helps to create a practical training standard. According to Porter[7], history shows that pioneer companies have obtained a sustained reputation and an image of technological leadership.

## Conclusion

The qualitative research showed that the level of ADP skills of the personnel in hearing centres was very low. The research also reinforced opinions that ADP-based measurement of hearing will increase considerably within the next two to five years. This applies also to hearing instruments. The research also indicated that the personnel in hearing centres both want and need to train themselves.

The qualitative research has, moreover, helped the company to be one step ahead of competitors. It has also made it possible to strengthen the company's know-how in information technology as well as its implementation both at corporate and individual level. Furthermore, AP Medical Hearing has adequate resources for extensive ADP training which, in the long run, will lead to increased volume of programmable hearing instruments sold.

This project has helped the company to create and sharpen its strategies in pricing, relation management, intrapreneurship and, in particular, ADP. The qualitative research showed that there is no doubt about the fact that ADP-based measurement of hearing will increase. The results imply clearly that personnel of hearing centres have a genuine need and a wish to improve their own ADP-based readiness, which compared with that in private corporate business is relatively low. Thus, the research has reinforced attitudes to strategic decision making: more emphasis on training of ADP-based applications and sales work, supported by training. Furthermore, the product range must include more programmable hearing instruments as well as other ADP-based instruments and applications of measurement of hearing.

The theoretical part of the project has clarified the structure of the buying and decision-making processes, and strengthened the view that the purchasing process of hearing instruments will change in the near future. This change will gradually break down the rigid market shares. This project enabled the company to prepare for the change proactively, making it possible to accelerate the change in the markets and, thus, obtain competitive advantage in this field. To be able to do that, a greater emphasis should be put on objective reasons, such as pricing, quality, training and maintenance, affecting the buying decision.

Especially in a period of deepening recession, a public discussion about the rigid market shares would increase pressure for the breakdown of the shared markets. AP Medical Hearing Ltd must participate in this discussion, emphasizing the importance of price-quality ratio and price competition. At best, this could result in real competition in the hearing instrument business, the consequences of which would be the elimination of some of the brands as well as gradual concentration of the business in the long term.

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Instead of creating new centralized purchasing systems the Finnish government should strengthen the existing system by giving the decision-making power to financially-oriented and independent persons, like directors of health, who base their decisions on financial considerations. Doctors' and hearing assistants' participation in the decision-making process should be only that of expert adviser.

The project has also provided the company with refined information with which it has been able to make important and correct strategic decisions. The information which the project provided has helped to strengthen the company's credibility with its associates, including banks and future partners. It can only be hoped that strategies developed with the help of this project will enable the company to maintain its current market share, and take advantage of the resulting improved competitiveness.

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