THE UTILIZATION OF CAPI IN MEDIA ANALYSIS AT AG.MA

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Introduction

Computer Assisted Personal Interviewing (CAPI) has been around for more than 10 years. In the early eighties, the initial investigations and published studies on this subject concerned themselves with the first utilization of computers in surveys conducted at shopping centers and with similar matters. Even though CAPI was widely known and its advantages recognized, CAPI technology spread very slowly across Europe - with but a few exceptions such as the Netherlands. As far as readership surveys are concerned, which are based on a large sample size and are carried out continuously, the National Readership Survey conducted by RSL in Great Britain was the first, and at present only, survey to convert to CAPI.

It is true that German market research institutes have also begun to rely heavily on computer-assisted interviews for surveys with large sample sizes such as omnibus surveys, customer surveys, conjoint measurement, etc. Nevertheless, large-scale readership surveys are still conducted by the traditional pencil and paper method. One asks oneself why the conversion to computer technology is so difficult in this particular area.

One difficulty surely has its roots in the type of memory aids used within the framework of media surveys. In the course of a media survey (MA) at AG.MA, the interviewee is presented with approximately 150 color facsimile masthead cards, upon which the masthead of the magazine/newspaper is printed in colors true to the original. Due to the veritable flood of titles on the market, color is an indispensable aid when it comes to preventing mix ups.

If a laptop is used with the interviewer reading questions from the screen and entering the responses per keyboard, the sample folder and masthead card set must still be presented to the interviewee in printed form. Only a fraction of the technical possibilities are employed; the interview procedure still remains unchanged for the interviewee.

Yet the interview should be made as interesting as is humanly possible - especially for the interviewee. Just picture the above-mentioned deluge of titles during a media-survey interview where the initial step requires the interviewee to "work" his way through around 150 masthead cards. For this reason, the Media Analyse e.V. (AG.MA) advocates the use of pentop units and is testing them.

The questions and memory aids are displayed on the set's screen, and replies are given by tapping with a wand. A color monitor must be used, however.

The objective is to let the interviewee work at the pentop himself. In this way, both interviewer and interviewee can take advantage of the entire spectrum of benefits. Through an attractive layout of the screen surface, it is hoped that the interview may be made more varied, more interesting, and more entertaining, thereby providing more options, especially when dealing with the deluge of titles. Last but not least, it is hoped that this method will reduce the much-discussed "interviewer effect".

Past History

Towards the end of `91, AG.MA began looking into the possibilities and conditions for utilization in the sector of news media surveys.
An analogous study was conducted from October `91 through February `92 with the goal of collecting initial data concerning the suitability of the laptop as a survey instrument for AG.MA. Laptop units with black & white touchscreens were utilized, whereby the interviewee conducted the interview independently without the participation of an interviewer. Approximately 1,000 laptop-interviews were carried out in 4 administrative regions of North Rhine-Westphalia. This spatial constraint was due to the limited number of units (16). The programmed questionnaire corresponded exactly to the MA 92. In addition, the overall time required for the interview and for the individual questions was also recorded.

It was planned that the results of the laptop survey be compared with those of the MA 92 news media and those of the parallel wave `92 from the corresponding survey areas. It became apparent, however, that the random surveys were not comparable, and it was therefore necessary to abandon the idea of comparing coverage data.

The following results were noted:

- CAPI is fundamentally suited for media-survey interviews.
- The interview should not be copied verbatim from the questionnaire, however; it should be made "laptop compatible".
- Compared to conventional media-survey interviews, the duration of the laptop interview was about 10 minutes shorter, promising a reduction of 18%.

New Pentop Trial

The committees at AG.MA have decided to continue testing the possibilities and conditions for utilizing "CAPI", especially in the news media sector. In order to illustrate just how helpful and advantageous the utilization of this technology could be, particularly for media analysis, the current situation regarding media-survey interviews is to be demonstrated.

- At present, around 150 popular magazines are included in the media-survey interview. Add to these rival mags, city magazines, and daily newspapers. The upward trend continues.
- The burden on the interviewee is quite heavy: the average interview lasts approx. 55 minutes; this can vary from between 20 to 90 minutes in individual cases.

Additionally, in the case of such a large questionnaire as the MA, it is to be expected that a number of disadvantages of the printed paper & pencil questionnaire become apparent:

- The media-survey interview in its current form places high demands on the interviewer, who must be able to cope with an entire collection of survey documents: questionnaire, various masthead card sets, sample folder.
- In addition, filter errors can occur.
- From the interviewee's point of view, the interview is probably experienced as something boring and monotonous. The paper survey documents simply do not leave much leeway for creativity.
- A further disadvantage is the large amount of time required for the production of the survey documents. Therefore, changes in the course of a wave such as a modified masthead logo, for example, cannot be updated prior to the following wave due to technical reasons.
- Subsequent coding and checking for entry errors or filter errors, etc., also require a large amount of time.

It is obvious that these difficulties can be countered through the use of laptops. To put it more precisely: AG.MA is testing the use of laptops. While several German market research institutes are carrying out various studies with laptops - the interviewer reads the questions from the screen and enters the reply with the keyboard - the MA interview of the future envisions an interviewee operating the unit himself. This was already the case in the above-mentioned Laptop Study '92.

With the objective of allowing the interviewee to actively use the unit himself, AG.MA has taken on a "pioneer role", so to speak. At present, there exists almost no empirical data regarding such a plan outside of AG.MA. Only in the case of trade fair surveys can the interviewees occasionally do the entering themselves, whereby this involves but a very limited target group, i.e., persons with a higher level of education, working people with PC experience, etc. Market surveys, on the other hand, must be representative of the overall population.

With the pentop method, questions and memory aids appear on the screen, and replies are entered by tapping with a wand. A keyboard is not necessary. The objective is to exhaust the **entire** spectrum of advantages, not just a few aspects.

On the one hand, the advantages of pentop utilization lie within the technological/methodological sector; on the other, within the sector of logistics.

First of all to the **technological/methodological** advantages:

- The interviewer's job is certainly made much easier; he no longer need carry around an entire packet of survey documents and spread them out on a table. Furthermore, he only gets involved in the interview should the interviewee have questions which require clarification.

- Obviously, filling out the questionnaire independently directly reduces the much-discussed influence of the interviewer. Filtering is programmed; filter errors can therefore be ruled out.

- As pentop technology allows broader leeway for creativity, the interview can be better tailored to the interviewee and designed to include more variety, e.g., by using symbols to aid the interviewee.

- The improved capabilities of available media result in an even larger range of options, e.g., it is possible to display several masthead cards on one screen "page".

- It makes it possible to rotate samples. A possible serial effect can thereby be prevented.

- It is possible to monitor times: both for the overall interview and for the individual questions or complexes of questions.

- More diverse tests of methodological effects are made possible.

Logistical advantages include:

- Accelerated data transfer from the interviewer to the institute and vice versa, e.g., via modem.

- Accelerated data transfer makes for more flexible updating procedures. Modifications to a masthead card can be passed on to the interviewer even when a survey wave is in progress. It is thus possible to react more quickly to changes in the market which affect the advertising medium.

- The discontinuation of data acquisition, and perhaps the discontinuation of a portion of data appraisal such as controlling filter jumps, implausible replies, etc.

- These logistical advantages lead to accelerated data availability and, as a result, to higher topicality, which certainly complies with AG.MA's efforts in the area of "topical data".

In order to put all of the above-mentioned advantages to use by conducting pentop interviews, a number of conditions apply to both the hardware and the software.

As far as the **hardware** is concerned, the following equipment is required in order to conduct media-survey interviews, both as envisioned by AG.MA and for independent completion by the interviewee:

- Lightweight, portable units without keyboards.

- A color monitor is an absolute necessity because colored samples are shown during the interview.

- The units employed are exposed to a high degree of wear and tear; therefore, they should be as sturdy as possible, e.g., able to withstand changes in temperature.

- The units should have sufficient battery capacity so that it is possible to work without electrical outlets.

Last but not least, the price plays a role, whereby - as so often in the computer sector - they have dropped and may continue to drop.

All these technical prerequisites pertaining to hardware are already available, whereby for media surveys 2 manufacturers are especially attractive, and their units should be tested.

As far as the demands placed on the **software** are concerned, a few preliminary considerations are also in order.

As previously mentioned, it is not to worthwhile to simply transpose the media-survey questionnaire in its current form to the pentop. This could be considered, however, should the survey continue to be conducted by the interviewer - using a laptop instead of a questionnaire - as is the practice for media surveys in England, for example. Since the objective is to allow the interviewee to work independently, the screen surface must have an attractive layout and, at the same time, be easy to operate. After all, even individuals without PC experience should be encouraged to participate. For this reason, all possibilities which CAPI

technology has to offer must be drawn upon for the realization of the querying system and its optical design. The question now arises regarding the possible layout of a laptop-compatible media-survey questionnaire.

A commission at AG.MA busied itself with this question. Although it has not yet arrived at a final recommendation, it has already come up with various concepts and possibilities for realization. A modification of the conventional media-survey questionnaire would be, for example, the idea of simultaneously presenting numerous masthead cards from the same editorial group (e.g., business press) during the first step, i.e., during the introductory filter (known/unknown). Pentop technology would be especially well suited to this because, as mentioned previously, serial effects can be prevented by rotating samples.

Now to the software. There are, without doubt, a number of ready-to-use software packets, which - if one is prepared to make compromises - live up to most of the requirements of a media-survey interview. Nevertheless, AG.MA, in cooperation with a small software firm, has chosen to develop a system which completely fulfills the special demands of media surveying. (Alternative: a system that meets all these demands is available.)

This software program that is currently being fine tuned to the requirements of a media-survey interview, makes it possible to independently program and test various questionnaire variants and various display options. Programming is not dependent upon the knowledge of a particular programming language; it makes handling quite simple and increases flexibility. This is a great advantage, especially when the conversion to pentop is in its testing phase.

The software - named Media-MOPS (Mobile Programming System) - consists of two parts: Media-MOPS Data Acquisition and Media-MOPS Designer.

- Data acquisition pertains to the actual conduct of the interview, i.e., to the questionnaire transposed to pentop.
- The interview sequence is automated, based on verbal or visual queries.
- Jumps, loops, and the exclusion of implausible entries, etc., are also grouped by the program.
- Upon completion of the interview, the data are filed in an ASCII file and can then be further processed using any program of the user's choice.

Because the acquisition program can be adapted to the requirements of each interview by means of a so-called configuration-profile file, it can be used universally.

This configuration-profile file can be set up, and later modified, using the second component of the Media-MOPS software, namely the Program Designer.

The program designer makes it possible to lay out the questionnaire in whatever form desired without knowledge of a programming language.

- For example, it makes it possible to compile the interview and to define the items and reply categories.
- The designer is used to define jumps and loops.
- It is also possible to define exactly where on the screen "page" texts, items, and reply categories are to be located.

In theory, this description of the software probably sounds quite complicated. Therefore, in order to provide a better impression of what the planned media-survey interview could look like, Media-MOPS will be briefly introduced below. This is of course but a brief summary which only contains a few variations. The contents of the questionnaires, i.e., texts, reply categories, etc., are only meant to serve as examples and in no way correspond to the final questionnaire, which must undergo a performance test. This will then be put to careful consideration by the AG.MA committees.

In order to test the pentop units and the software, a performance test is planned. At the same time, it is hoped that this test will also provide insight into the acceptance among interviewees, especially among the possible "problem groups" such as older individuals or individuals who have never come into contact with a PC.

- The performance test is to be conducted in the greater Frankfurt area, including rural areas.
- 100 field interviews are planned, as well as an additional 10 observation-interviews in the studio via video and two-way mirrors.
- Random addresses will be provided.

As this is purely a performance test - the methodological aspects cannot possibly be taken into consideration due to the limited number of samples - the questionnaire will be based very closely on the conventional media-survey questionnaire, with the exception of a few minor changes.

For the meantime, future plans will depend heavily upon the results of the performance test. Should certain problem groups in fact become apparent, the reasons for this should be sought out, possibly by use of Belson interviews. Of course it is hoped that keyboardless pentops will closely approximate the use of paper and pencil, thereby lessening the inhibitions associated with this technology.

In a further step, greater importance will have to be attached to the design of the questionnaire. As previously mentioned, concepts and possibilities for realization are already available. These must be tested in further investigative steps as to their functionality, however. This requires a large-scale test with a sufficient number of samples so that the effects at the results level - it is conceivable that changes in coverage may become necessary - can be painstakingly analyzed and discussed until all committee members agree upon the appropriate survey method.

Last but not least, AG.MA and the 10 or so institutes with which it conducts media analysis (with approx. 28,000 samples in the press sector) must think over the possible financing and organizational options involved in a project which requires such heavy investment.