

## Chapter 9

### The Role of a Cognitive Laboratory within Total/Tailored Survey Design and Total Quality Management

#### Case Study 4: Testing The Annual Establishment Production Survey.

#### The Best of Two Worlds:

#### Total Design Method and New Kontiv Design.

#### An Operational Model to Improve Respondent Co-operation

*Ger Snijkers and Martin Luppés*

**Summary:** *In 1999 a program was started at Statistics Netherlands to generate ideas on how to increase response rates for self-administered business surveys by improving the communication with the respondent. The traditional approaches based on simple communication strategies (one stimulus for all units at the same moment, traditional reminder approaches using authority principles) give serious problems with response time, net response and response quality. The goal of the new program is to develop measures that change the traditional, formal and passive contact strategies into active, respondent-driven and motivational approaches. In the past several measures have already been implemented, like a cognitive laboratory to improve the wording of advance letters and questionnaires and to reduce response burden, and a guide for form-design standards to improve the layout of letters and questionnaires.*

*This program is based on the philosophies of Dillman (Total Design Method) and Brög (New Kontiv Design). Where the NKD design allows for undefined respondent behaviour, the TDM approach is based on the more general standardised survey approach of well-defined respondent behaviour. In fact, both TDM and NKD are quite similar in their (respondent-driven) paradigms, but quite different in their operational approach. Both fit within Total Quality Management and have proven their benefits. Therefore the challenge is to create strategies and tactics that incorporate the best of both perspectives.*

*In this chapter cognitive laboratory research is placed within a broader view on Total/Tailored Survey Design and Total Quality Management. Within this context, a focus group study will be presented. With this study a redesigned form of a business survey has been pre-tested: the Annual Establishment Production Survey. While in the preceding chapters interviewer-administered questionnaires for persons and households were tested, here we have an example of applying cognitive methods to a business survey with a self-completion form.*

**Key Words:** *Response Burden, Business Surveys, Communication Strategy*

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## 9.1. Introduction

Statistics Netherlands has carried out several projects to improve different parts of the communication strategies in self-administered establishment surveys<sup>1</sup>. These projects are aimed at improving the quality of advance letters and the effects of active strategies on response time and at the reduction of reminder calls. The success of the New Kontiv Design (Brög, 1997) in the Dutch Mobility Survey (see subsection 9.3.2), which is a household survey using an active, respondent-oriented communication strategy to raise the low response rates<sup>2</sup>, triggered the idea of using similar approaches and tactics in establishment surveys.

Communication with respondents includes many closely interrelated aspects. However much effort is put into the planning of the survey process, the sampling and the standardisation of the questionnaires, if not enough attention is given to the position of the respondent, the form and design of the measurement instruments to be used and (most of all) what is needed to motivate respondents, the result will be low response rates and a relatively high number of time-consuming reminder calls (Dillman, 1978; Brög, 1997; Moritz & Brög, 1999). A good communication strategy should incorporate all these aspects, thus resulting in a consistent set of recommendations, procedures and instruments.

The goal of active respondent communication is twofold. First, seen from the respondent's point of view costs, time, effort and number of people involved have to be minimised. But seen from the point of view of our stakeholders and customers statistical information should be adequate, accurate, and delivered in time. It is clear that there is a tension between the customer demand and respondent's willingness. Therefore we have developed a respondent-oriented approach in which both interests are represented and balanced, based on the Total Design Method (Dillman, 1978) and the New Kontiv Design (Brög, 1997).

In this chapter we present the outline of this respondent-oriented communication strategy for business surveys. This strategy is based upon the insights acquired from several projects in the area of establishment surveys in the past years, as well as the work done in the area of social surveys. In section 9.2 we give a short review on the assumptions of the traditional and modern respondent approaches in surveys. Section 9.3 presents some results of case studies on respondent-oriented communication. Based on these results, as well as the TDM and the NKD approach, in section 9.4

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<sup>1</sup> A communication strategy in general sense is defined as performing activities and using appropriate means, necessary within a survey to get an accurate response from a respondent within a predetermined time.

<sup>2</sup> In the Netherlands, non-response is a major problem in survey research, both in household and business surveys. Although business surveys are compulsory, the response rates of these surveys are considered to be too low. For example, the response rates of Annual Establishment Production Surveys (including number of employees, turnover, revenues and costs) vary between 50 and 85%. Low response rates do not only increase confidence intervals, which could lead to rather meaningless point estimates, but also cause non-response bias in the estimates (Groves, 1989; Groves and Couper, 1998). Furthermore, the response time, i.e. the time between sending out and receiving completed questionnaires is quite long, which effects the timeliness of the statistical information.

we give an outline of measures to be taken to improve survey participation in business surveys. In section 9.5 we present conclusions and some issues for further discussion.

## **9.2. The assumptions of survey design reviewed**

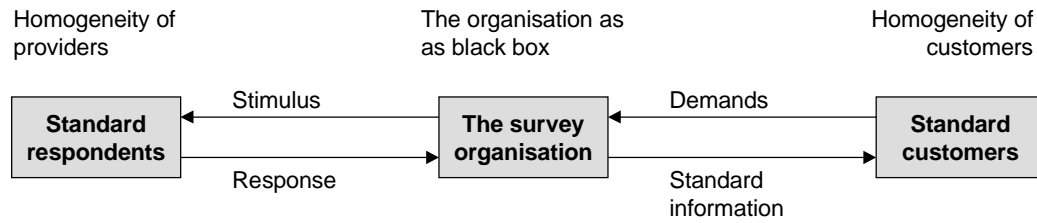
Traditionally, survey design follows the ‘one-size-fits-all’ strategy, which means that one design is used with one instrument for the whole sample. This approach is based on the idea that in order to get comparable response over the units, the units should receive a standardised stimulus, i.e. a stimulus in which environmental factors are controlled for. Standardisation – and not the respondent – is central in the approach, and by the same token the orientation is on the process. The respondent is in fact a ‘standard’ respondent (all respondents can be approached in similar standardised ways without taking into account their specific situations), who is sensitive to authority. Elements of this passive approach are: mandatory participation, based on authority and tradition, one – usually paper – questionnaire for all respondents, sent out at the same time, and no contact with respondents until the deadline has passed.

On the other side, the dissemination of statistical information was also based on the ‘one-size-fits-all’ approach. Customers of statistical information are being served with standard publications. Attention for demand and wishes of customers is only from very recent date (Kavaliunas & Luppés, 1998). The output of the statistical process was not adapted to that demand. Traditionally, the survey organisation sets the standards, both with regard to the input and the output. This situation is represented in figure 9.1.

The ‘one-size-fits-all’ survey approach has been improved by the Total Design Method introduced by Dillman in 1978. The TDM approach is based on the premises of social exchange theory in which the compliance principle of reciprocity is used, and not the principle of authority (Groves, Cialdini & Couper, 1992). The TDM assumed that maximum response could be generated by rewarding the respondent, reducing the costs for the respondent, and by establishing a relationship built on trust. This could be achieved by a coherent system using standardised, well-tested questionnaires, and an appropriate and user-friendly design (including the advance letters, brochures and other enclosures), based on carefully worded and respectfully formulated requests and instructions. This approach was applied to both mail and telephone interviews. Although this approach is respondent oriented, the basic assumption still was the ‘one-size-fits-all’ strategy.

In the modern situation, the survey organisation is no longer in the position to set the standards; it has to adapt to the requirements set by the environment. The modern society is characterised by a growing heterogeneity in organisations (and also in respondents). Shifting cultures create a challenge for survey organisations: organisations, both as customers of statistical information and as respondents, are no longer sensitive to authority, they have matured. Customers are no longer

Figure 9.1. The traditional survey organisation



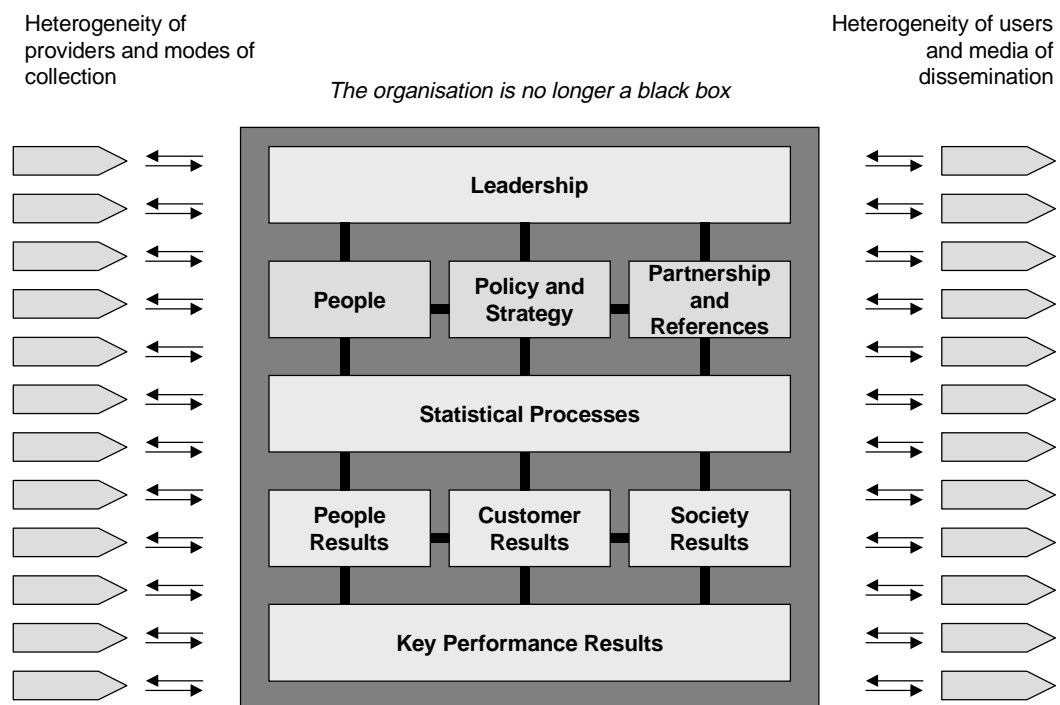
satisfied with one set of publications: they demand tailored information, both with regard to content and mode of dissemination.

Because of large numbers of surveys, there is a strong call for reduction of response burden. The consequence for the survey organisation is that the focus shifts from the survey process to the position and circumstances in which respondents respond, regardless of whether the survey population is the business or the household sector. Nowadays the general policy focuses on reducing response burden, both actual and perceived, by minimising costs, time, effort and the number of people involved. At the same time the respondents' behaviour should be influenced in such a way that an accurate response is received, i.e. all relevant data are provided correctly and on time. This means that the conditions under which the respondent has to provide information should become the focal point in the survey strategy.

The respondent-oriented survey design has been developed by Brög in his New Kontiv Design (see e.g. Moritz & Brög, 1999). The starting point for Brög is: "The researcher must adjust to the respondents, not the respondents to the researcher." In his latest adjustment of the Total Design Method, Dillman also focuses on the respondent in this way, still using 'TDM', but now referring to it as Tailored Design Method (Dillman, 2000). These approaches fit in now generally accepted ideas about Total Quality Management (TQM). The basic principle of TQM is that the quality of the product or service is not only based on internal process control, but on control of all aspects that influence the outcome of a production process<sup>3</sup>. The modern situation is presented in figure 9.2.

<sup>3</sup> Based on the ideas of Total Quality Management, the European Foundation for Quality Management introduced the EFQM model. This model is a non-prescriptive framework of nine areas for which to assess an organisation's performance: Leadership, People, Policy and Strategy, Partnership and References, Processes, People Results, Customer Results, Society Results, and Key Performance Results. The first five areas are 'Enablers', the other four are 'Results'. The 'Enablers' cover what an organisation does, the 'Results' what an organisation achieves. 'Results' are caused by 'Enablers'. The 'Enablers' learn and improve by evaluation of the 'Results'. In figure 9.2 the EFQM model (slightly adapted from the original model: turned on its side) is chosen as a model to describe the modern, open organisation.

**Figure 9.2. The modern survey organisation**



In order to get the best results, i.e. minimum respondent burden and maximum customer satisfaction, it is necessary to include different aspects of the survey organisation in the communication strategies. In the specific situation of communication strategies in business surveys, this means:

- Establishing a relationship with providers on the basis of mutual respect and trust.
- Motivating them to participate by explaining why their response is important and by rewarding their co-operation (using incentives). Also show that you, as a survey organisation, feel that their participation is important.
- Making partnerships with intermediate organisations like umbrella organisations, branch organisations and so on, whose interest in accurate statistical information in their field makes them receptive for motivating their members to provide information.
- Identifying subgroups of providers. Use relevant information on conditions and circumstances of the respondent in order to tailor the survey design: customise questionnaires, ask questions that can be answered easily, pick the right moment of survey, offer the appropriate mode of collection.

- Asking only relevant information, i.e. information that is actually requested by customers, and ask this information only once for the specific time base of the survey<sup>4</sup>.
- At the same time investing in the use of registers instead of primary surveys.
- Giving relevant feedback on the performance of the organisation (many users of statistical information in establishments are also providers of statistical information).

As for the output of the statistical process, quality of statistical information (survey estimates, figures, and so on) was traditionally defined in methodological terms, like reliability, validity, measurement error, sampling bias, and so on, in accordance with the ‘one-size-fits-all’ approach. Less attention was given to aspects like timeliness of information, consistency of data sources, comparability with other types of information, accessibility, and so on. The call for a reduction of response burden coincides with doubts about the necessity of certain types of information and the request for new sorts of information (primarily based on integration of existing information, using the high-end functionality of ICT). This change of perspective resulted in a more balanced set of quality indicators. Overlooking the general discussions at Statistics Netherlands in past years, three quality indicators can be distinguished which determine the overall quality of statistical information (cf. Dippo, 1997; Colledge & March, 1997):

- Accuracy of the information: minimal mean square error in the statistical information. Or in non-technical terms: is the information plausible, valid and reliable?
- Timeliness of the statistical information: information about recent events has to be available as quick as possible.
- Relevance of the statistical information: information has to be of some value for customers or users.

With respect to the accuracy of the information, the existing standard statistical procedures, methods and models, such as random sampling and multivariate estimation procedures are applied to ensure minimal mean square error. Nevertheless, some assumptions underpinning the general practices are being questioned here. The basic question in surveys is whether stimuli, varying according to specific circumstances of respondents can generate the desired same response? Or in other words: is it necessary to treat every respondent with the same procedure(s) and instruments, in order to minimise response error? Or is response error a consequence of neglecting the specific circumstances in which respondents have to answer questions? During the 1970’s research was initiated to increase the validity of survey data, resulting in the CASM movement (Cognitive Aspects of Survey Methodology; Jabine et al., 1984; Hippler et al., 1987). The present insight is that adapting questionnaires (wording of questions, instructions) and interview strategies (clear description of interviewer and/or respondent roles) to specific circumstances in which respondents

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<sup>4</sup> In establishment surveys double questionnaires and/or overlap in questions do occur. The complaint, voiced by many of our providers of information, was one of the reasons statistical processes are being reorganised at Statistics Netherlands.

have to answer questions will lead to better survey results (Tanur, 1992; Morton-Williams, 1993; Sudman et al., 1996; Groves & Couper, 1998; Dillman, 2000; Sirken et al., 1999).

Plausibility of statistical information refers to its external validity. The consistency of time-series is particularly important in this respect. Macro-economic figures may vary substantially over time. Whenever there is a major change in these figures, there has to be a plausible explanation. If the researcher fails to find an explanation, this might be an indication of errors or failures in data-collection, entry or analysis. Non-response, in particular non-response that varies over time and over subgroups (resulting in selective response), complicates the assessment of the plausibility of statistical information.

Timeliness of information is very important. Practically every customer satisfaction survey on the quality of statistical information mentions timeliness as one of the most important dimensions. Statistics Netherlands uses the so-called one-to-one rule, which means that statistical information has to be published within the time period following the time period for which the survey took place. For example, figures from a monthly survey in month T have to be published in month T+1, figures from a quarterly survey in quarter T have to be published in quarter T+1, and so on. Questionnaires received after closing dates of surveys are processed at a later stage (publication of definite figures), or not processed at all. Respondents who return questionnaires too late cannot be considered as refusals or as non-respondents because they do not refuse and they do respond. Nevertheless, their response behaviour does have a negative effect on the quality of statistical information.

It is merely stating the obvious that statistical information has to be of some relevance for customers or users. In many countries, the national statistical institutes (NSI) have some form of programme, which prevents collection and dissemination of irrelevant information. For purposes of fine tuning, ongoing customer satisfaction surveys, focus groups with stakeholders and shareholders, and last but not least analysis of general trends and developments generate the necessary specifications for concepts, definitions and variables (Kavaliunas & Luppens, 1998).

High response rates have a positive effect on these quality indicators. Accuracy of information is improved by smaller variances and, given valid instruments and procedures, minimal bias. Timeliness of information is improved because more response is received within the same units of time. The basis of high response rates in establishment surveys is an efficient and active communication with providers of information<sup>5</sup>, which takes into account the specific circumstances of the provider and his or her organisation.

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<sup>5</sup> In the case of establishment surveys we prefer to speak of providers of information instead of respondents. The providers are the actual persons providing the information whereas the respondent is the business unit or establishment about which data are collected.

### 9.3. Case studies of respondent-oriented communication

#### 9.3.1. Introduction

As we pointed out in section 9.2, respondent-oriented communication targets three dimensions of response. First of all, the response rate: as much as possible respondents should respond. This is influenced by how respondents are requested to participate. Furthermore, – and this is the second aspect: timeliness – if it is to be of any value for users, information must be made available in time. This means that the communication strategy should also optimise, or to be more precise, reduce response time (time between sending out the questionnaire and receiving it back). The third dimension is the accuracy of information, in which non-sampling error plays an important role (validity, and selectivity of response). All aspects of the means and ways of communication with the respondent are reflected in the communication strategy and there is just one moment in time where the respondent decides whether or not to participate. Given the fact that non-response varies over subgroups of the population, mixed modes of contact strategies and questionnaires are ways to minimise non-response in subgroups. However, they will increase the costs of data collection. As Groves (1989) pointed out, it helps if we know which arguments respondents take into consideration in deciding whether or not to participate. These arguments can help the survey organisation not only to redefine data-collection procedures for subsequent surveys, but also to adjust the non-response error: “...realistic models for statistical adjustment and survey administration require theories of survey participation.” (ibid. p. 237).

Several projects carried out at Statistics Netherlands have addressed different theories or ideas with respect to human behaviour related to survey participation. Business surveys differ from household surveys with respect to sampling error because of substantial coverage problems, very skewed distributions within the target populations and volatile units, as well as non-sampling error, for example as a result of accessibility to relevant archives (Cox & Chinnappa, 1995). However, we believe that the non-response problem in business surveys can be described and analysed with the very same theories on survey participation as used in household surveys. In business surveys, as in household surveys (Snijkers et al., 1999), it is people that have to be persuaded to participate in the survey, and it is people that read the advance letter and have to complete the questionnaire. If these parts of the communication are not optimised (e.g. refusal conversion by addressing the right person, personalisation of the letter, and overcoming cognitive difficulties with questionnaires), a refusal to participate or to complete the questionnaire is more likely to occur (Luppens, 1998).

In this section we shall give an outline of the first approaches in this field, starting with a description of a project on the Dutch Mobility Survey, which is a household survey. The results of this project triggered the rethinking of the communication procedures in business surveys, although some initiatives had been taken in business surveys prior to this project. In this context it should be



mentioned that in 1992 the Questionnaire Laboratory was founded for cognitive testing of questionnaires (Snijkers, 1997a).

### 9.3.2. *Project 'Improving response rate in the Mobility Survey' (1997)*

At Statistics Netherlands a major impulse, with regard to respondent-oriented communication, came with the redesign of the Dutch Mobility Survey on the basis of the New Kontiv Design (NKD), developed by *Socialdata* from Munich, Germany (Brög, 1997). The Mobility Survey is held among 60,000 households. The redesign was necessary because response rates had dropped from just over 50% in 1985 to about 35% in 1998 (Moritz & Brög, 1999). The basic philosophy in the NKD is that the respondent should be regarded as a customer, to whom interviewers have to adapt all their communication instead of the other way round. In 1997 a controlled field experiment based on the NKD design was conducted in order to establish whether a significant response improvement could be achieved. This indeed proved to be the case: the response rate in the NKD sample (n=1,000) was 74%, while in the control sample the response was 44% (n=1,032).

The NKD is set up as a PAPI survey (self-completion diaries), with a telephone motivation of respondents and (possible) subsequent follow-up surveys for more detailed data in subgroups. An important advantage of this PAPI approach is that this mode of collection imposes low burden upon on the respondent. The respondents are called shortly after they have received the survey material and are motivated to complete the questionnaire and diaries. This motivation call is an important feature of the strategy. The telephone is not used to carry out the survey, but merely as an instrument to motivate the respondents.

The questionnaire itself is kept as user friendly as possible, which means as simple as possible. Basically, respondents may answer the questions in their own words, and only clearly defined and understandable categories for mode and purpose of trips are given. Pre-coded answers, explanations or definitions in the questionnaire may lead to confusion, so the design aims to put the burden of investigation on the survey organisation itself, rather than on the respondent. If the data from questionnaires are incomplete or require some clarification, additional data and information are collected by telephone. The same principles, partially structured questions and graphically well-designed (i.e. comprehensible and readable) questionnaires apply to the diaries used. The basic idea behind the diary design is to obtain information on all out-of-home activities, not only those predefined by the researcher. This leads to a quite open structure.

### 9.3.3. *Project 'Improving advance letters of 41 Business Surveys on Annual Production' (1996)*

Advance letters are quite a common feature of surveys and it is standard policy at Statistics Netherlands to send an advance letter to alert the provider or respondent of the forthcoming call,

questionnaire or interview. The quality of advance letters has often been discussed, but the lack of an appropriate theory and models lead to subjective decisions, based merely on what is considered to be appropriate. Based on the work of Cialdini (1990) and Groves, Cialdini and Couper (1992) on the compliance principles<sup>6</sup> underpinning requests to participate in a survey, an analytical tool was developed for content analysis of advance letters (Luppés, 1995). This tool makes it possible to describe the information content of an advance letter in relation to the psychological principles, used to convince the respondent.

This tool was applied in an internal study (unpublished) on the quality of 41 different advance letters used in Annual Establishment Production Surveys. The content analysis on these letters, performed by three independent coders, gave the following results and recommendations:

1. The enormous differences in length of the advance letters is not explained by a necessity to provide additional information that could help respondents to make a decision. On the contrary, a lot of the information, addressing definitions and detailed explanations of the survey in the longer letters probably causes confusion in stead of clarity. Extra information should be given in enclosures, not in the letter. Especially the subtle differences between anonymity and confidentiality may be diffusing (Luppés, 1994).
2. Most letters give a telephone number where respondents can obtain more information about the survey, but only 22 out of 41 letters give the name of a contact person. Personalised contacts are more effective in the provision of extra information about the survey.
3. In 31 of the 41 letters no information is given about the survey organisation (Statistics Netherlands). Eleven of the 41 letters do not address anonymity and confidentiality-related responsibility or guarantees on the part of the survey organisation. Information on the significance of the survey is given in only 9 of the 41 letters, and only 17 contain some general information about the influence survey results might have on government policy. Practically all letters address the costs of the survey in terms of information requested, the deadlines to be met and other direct costs (free return envelopes and so on). None of the letters fully informed the respondent on basic issues such as the aims and objectives of the survey, the survey organisation, the costs and benefits and the issue of anonymity and confidentiality (including informed consent issues).

#### 9.3.4. *Project 'Provider-oriented communication in Survey on Finances of Enterprises' (1998)*

The traditional field strategy in the Survey on Finances of Non-financial Enterprises (SFE) was subjected to a study of whether communication with the providers could be improved. The SFE is

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<sup>6</sup> Groves, Cialdini and Couper (1992) describe six compliance principles which can be used in the request to participate in a survey. Of these six principles the compliance principle of authority (compliance based on power difference) and the compliance principle of reciprocity (based on mutual exchange of values) are probably most common to be found in advance letters.

an annual survey among a stratified sample of enterprises with a balance sheet total of more than 25 million Dutch guilders<sup>7</sup>. Although response rates in the SFE are quite high (it is a compulsory survey), response time periods are quite long, many reminder calls have to be made, as well as a substantial number of calls for clarification (accuracy problems). It was hypothesised that the traditional, passive strategy of communication caused the high number of reminder calls and the long response time periods. A qualitative study was set up to investigate the following hypothesis (Oppeneer & Luppès, 1998):

*Positive attention towards the provider, as expressed in (1) the advance letter based on the principle of reciprocity, (2) the moment of sending out the questionnaire depending on availability of information (annual reports of the enterprises), combined with (3) an active reminder strategy, will lead to shorter response time periods and a drop in the number of reminder calls.*

A combined research strategy was used in which information of several sources was analysed:

1. quantitative description of response rates and response time per stratum;
2. content analysis of advance letters based on an adaptation of the model described in Luppès (1995);
3. focus groups with internal staff and field staff on issues of participation (especially their perception of reasons why providers would participate or not);
4. telephone interview with providers based on the results of the focus groups (their information was used to construct a topic list with respect to reasons of participation and non-participation).

Although no definite correlation between response times, number of reminder calls and the communication strategy was established, the qualitative data in the study indicate that changing the passive communication strategy into an active one will lead to a reduction of response times and the number of reminder calls. In short, the active strategy should at least consist of:

- Well-formulated advance letters, which present relevant information on the survey (purpose, costs, benefits and time to complete the questionnaire) and give the provider the sense that he or she is important for the survey. Also, thoughtful use of compliance principles is helpful in motivating the provider.
- The moment of sending out the questionnaire should be related to the availability of information. In many cases providers have no information from the annual accounts available when they receive the questionnaire. This means that the survey organisation has to keep track of the dates the information becomes available at the enterprises, and should send out the questionnaire accordingly.
- Given the fact that many enterprises are in a panel, it is helpful to use a provider's profile in which relevant dates and information are registered and which helps to customise the complete communication strategy. In fact, data-based communication approaches should be used to optimise the communication (Luppès, 1998).

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<sup>7</sup> Information on small enterprises is collected on basis of tax registers.

9.3.5. *Project 'An efficient reminder strategy in Business Surveys on Commercial Services' (1998)*

In a qualitative study (Cörvers, 1998) on improving the reminder strategy in commercial services surveys, concepts developed in the New Kontiv Design (see project 1 in subsection 9.3.2) and the Total Design Method were used to formulate some standards and rules for improving response rates. The reason for this study were the relatively low response rates in these surveys, which could only be raised to an acceptable level by an extensive number of costly and time-consuming reminder calls, letters and duplicate questionnaires. The study resulted in the following recommendations for improving the efficiency of reminder strategy:

1. Start with questionnaires which are simple to complete, which look attractive and which use concepts and questions that respondents recognise and use;
2. Reduce the number of written reminders and use the telephone more. Although this may result in higher costs, it is more effective than reminder letters;
3. Personalise the contacts between the provider and the survey staff as much as possible. Reducing the psychological distance (i.e. establishing a relation of trust) is also possible by collecting data in a joint venture with the boards of trade. The benefits of such joint ventures make the survey more important for the providers.
4. Use an active reminder strategy in which a frequent and regular contact with providers is established. Also the quality of the contact should be high, which implies continuous training of field staff.
5. Make it clear in the case of compulsory surveys that completing and returning the questionnaire on time is a legal requirement. Just stating this requirement in the communication leads to higher response rates (Paxson, Dillman & Tarnai, 1995), although the effectiveness of this authority principle is questioned in Oppeneer and Luppés (1998).

9.3.6. *Project 'Redesign of the Annual Establishment Production Survey' (1999-2000)*

In the second half of 1998 Statistics Netherlands started a major redesign of the Annual Establishment Production Surveys. In this redesign of over 130 surveys the input, throughput and output processes are integrated into one survey, using standardised and harmonised questionnaires, consistent data collection strategies and macro-editing procedures. The redesign was triggered by a growing dissatisfaction with the relatively low response rates, the accuracy and the coherence of statistical information. Early in 1999 an extensive inventory was made of customer demands, using focus groups of stakeholders and regular customers, as well as desk research. Based on these findings, the questionnaire was redesigned early in 2000 and cognitively pre-tested in 5 focus groups with providers (Snijkers, 2000).

Although the groups were small (about 4 people per group<sup>8</sup>), the results were clear and in accordance with earlier results (Snijkers, 1997b):

- The advance letter did not provide an answer to all questions the providers had about the survey. For example, it did not state why the survey was conducted and what the data are used for. Providers said they would appreciate it if some results of the survey could be sent back to them (feedback).
- Providers pointed out that in the former survey, the questionnaire was sent out at the wrong time: in March, whereas the requested data become available in June. Also in June they have more time to complete the questionnaire.
- The former questionnaire asked for a lot of detailed information, which took too much time to provide. As such items were often left open, many follow-up phone calls were necessary and this probably contributed to high item non-response rates. The corresponding items in the new questionnaire were easier to answer.
- The ordering of some items in the new questionnaire was not in accordance with the administration of some businesses. For these businesses, a lot of effort was needed to obtain the requested data. Others had no problems with the ordering. In this way, subgroups of providers can be identified.
- Many providers complained that they received a large number of questionnaires every year, and, as they pointed out, they are not employed to fill in forms. What is worse, they had to provide the same kind of information for several surveys. They were not impressed by the mere fact that the surveys are mandatory.
- While at the beginning of the discussion, the providers were a bit sceptical about the aims of the meeting (improving the questionnaire), afterwards they felt it had been very useful both for them and for Statistics Netherlands. They felt they got to know Statistics Netherlands a little better.

#### **9.4. Measures to improve respondent co-operation**

Given the results of the case studies described in section 9.3, and taking into account the features of the Total Design Method and the New Kontiv Design, we define a number of measures to improve survey participation in business surveys. We present this list of measures (that may not be complete) within the design phase of the survey and data collection phase.

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<sup>8</sup> It is difficult to organise focus groups with establishments. First, it is difficult to find the right person (i.e. the person who completed the questionnaires before), and secondly it is not easy to make an appointment. We had about 20% response for recruitment, and from those who said they would come, only about half actually showed up.

### **Design phase:**

- *Contact person:*

Make an effort to find the right contact person within each business, i.e. the person who has access to the requested information and is authorised to provide that information. Use all information available on past response behaviour and availability of information within the establishment to customise and personalise the communication. Databases with provider profiles form the basis for effective communication. It goes without saying that properly defining the target population and picking the sample is the first step.
  
- *Advance letter:*
  - Always use a personalised advance letter, well formulated and written in the right tone; make the respondent feel that he or she is important.
  - Make sure the letter is clear and short, attractive to look at and well designed, without typing errors; the tone should stimulate and motivate participation, and the language should be neutral and non-directive, without official jargon.
  - The letter should contain information on the organisation conducting the survey, the survey itself (what it is about, who has been requested to participate, an actual request to participate, including liability), why it is important to participate; the costs and benefits of participation; the issue of anonymity and confidentiality (including informed consent issues); who to contact in case of questions, i.e. name and telephone number (personalisation of contact).
  - Any additional information about the survey should be given in an extra enclosure: more information on what the survey is about and what the data are used for.
  
- *The questionnaire:*
  - Only ask for relevant information that cannot be collected any other way, like primary data collection using Electronic Data Interchange (EDI) from business administrations and secondary data collection using registers.
  - Only use pre-tested, well-designed and attractive questionnaires (Dillman, 1999; Jenkins & Dillman, 1997) that are user-friendly, simple to complete, without complex routing, with questions and instructions worded in such a way that they are easy to understand.
  - Use questionnaires that are tailored to subgroups. Ask each subgroup only for the information that they are able to provide. If necessary use follow-up questionnaires.
  
- *Mixed-mode design:*
  - Use a mixed-mode design, in which providers can choose how to provide the information, e.g. EDI, paper forms, by phone, by fax, by the Internet, or in a non-standardised way by allowing respondents to send in reports, etc. containing the requested information.
  - Only use well-tested data collection procedures and instructions.

### **Data collection (fieldwork):**

- *Sending out the questionnaires:*
  - Make an effort to get the timing right: send out the advance letter and questionnaire at the moment the requested information is available and the respondent has time to provide that information. As many establishments participate in panel surveys, information should be available to help determine the best moment of surveying each unit. As a basic rule, for every unit the availability of annual reports should be recorded in the provider profile, together with past response behaviour.
  - Motivate providers to participate by using incentives and by making personal contact at an early stage. Phone the provider immediately after the form has been sent out in order to motivate (make an agreement about when the data can be expected, thus not giving him or her the chance to say 'no'), to show the respondent that the survey and his/her participation is important, and to maintain interaction with the respondent (building a relationship). This is essential for providers who are known to return forms late, and for those whose data are essential to the survey (e.g. large enterprises in surveys on volume of trade).
  - Try to get the data as soon as possible, after the questionnaire has been sent out. This is especially important for establishments that are essential within the survey. This makes publication of accurate estimates at an early stage possible.
  
- *Reminding and maintaining interaction (follow-up):*
  - Use the phone to collect missing data (reducing item non-response), immediately after the completed questionnaire has been received. Use e-mail in stead of the phone if providers prefer to communicate by e-mail. Although little is known about the real effects of e-mail communication on response behaviour, it is generally accepted that e-mail is a very efficient means of information exchange.
  - As for reminding (reducing unit non-response), switch modes: for example, use the phone, fax or the Internet in stead of mail as a first reminder. This will remind late providers more effectively to send in the requested information. Using a tailored communication strategy based on a provider profile (using all information that is known about the provider in the phone call) will increase effectiveness of the reminder strategy. In general the time between two contacts should not be too long, but the moment of the follow-up contact should always be arranged beforehand.
  - Sending back results from the survey to providers, helps to maintain interaction and to build up a relation of trust and respect. This information should preferably be of use to the individual provider (e.g. information on his line of business in his own region, or benchmark information). This is especially important in the case of panel surveys.

## 9.5. Conclusions

We started with a discussion on the position of providers of information and customers of that information in relation to the survey organisation in past and at present. We have seen that in the modern society the survey organisation is no longer in a position to tell providers what to do and customers what to expect as statistical products. The ‘one-size-fits-all’ approach is no longer appropriate, neither for the input nor for the output of the statistical process. Dillman’s Total Design Method and Brög’s New Kontiv Design have improved this approach on the input side of the survey process. Today, the organisation has to adapt to input and output demands, making a ‘mixed-mode’ approach necessary. These demands are:

- Input: reduced respondent burden and increased response rates.
- Output: increased timeliness and accuracy of relevant statistical information.

Of course, internal demands with regard to the throughput can also be put forward, such as integration and standardisation of similar processes, efficient use of statistical modelling, applying efficient sampling, stratification and weighting methods, and using other techniques to speed up the production process, e.g. macro-editing and Optical Character Recognition (OCR). As for the input and output goals, we feel that the demands can be achieved by using an active, respondent-driven and tailored communication strategy.

The respondent-oriented approach implies optimisation of the communication by using customised or tailored questionnaires and contact strategies, based on the specific conditions and circumstances of the respondent. Basically this comes down to asking the *right person* (the person who has access to the requested information and is authorised to provide that information) for the *right information* (the data that are really needed, nothing less and nothing more) at the *right moment* (when the data are available and the contact person has the time to complete the questionnaire) with the *right mode* (the mode that suits the respondent best).

However, implementation of an active, provider-oriented communication is not without consequence for the survey organisation. Apart from rising costs, and without being complete, these consequences are:

- Homogenous subgroups of providers should be identified in advance on the basis of information about which questionnaire to send and when, the preferred interviewing mode, their significance within the survey, and so on. This enables specific communication towards specific subgroups and optimises the process.
- A contact administration at the level of the provider is necessary, keeping track of all contacts with all contact persons.
- A facility for pre-testing questionnaires and data-collection modes should be present in order to optimise for questions, procedures and instructions.
- Mixed-mode designs make the statistical process much more complex since parallel processes have to be developed, thus making a detailed planning of the statistical process and



co-ordination of logistics necessary. They also have consequences for the type of statistical models used.

- A call-centre is needed, staffed by enthusiastic employees, well trained in handling different types of verbal communication strategies.

But above all, we would like to stress that putting a respondent-oriented approach into practice is more than just adapting tools and procedures. In order to be effective, the internal culture of the survey organisation should reflect the values of the modern society. Staff not only have to be trained in the use of new tools and procedures, but also in the principles of bilateral human (interviewer-respondent) interaction, in which the special relationship between a survey organisation and the respondent is reflected. Therefore, we firmly believe that the most successful survey organisations will be those which determine the perceptions, needs and wants of the sample population best, and minimise response burden through the design, delivery, and communication of appropriate and comprehensible requests.

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