Measuring the degree of organisational transformation

A methodological benchmark of organisation surveys

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Definition of the problem

International organisations are increasingly urging governments to support the dissemination of new organisational concepts, in particular by removing a number of obstacles to this dissemination. The *OECD* is playing a leading role in this respect, one of its policy objectives being specifically to encourage the adoption of new organisational concepts. These organisational concepts are expected to promote the knowledge-creation and innovation and, in turn, to benefit productivity and employment. The action points are described as follows: "(1) fostering the adoption of "innovative workplaces" by individual companies; (2) reforming framework conditions to maximise the incentives to introduce new forms of work organisation and to minimise the obstacles; (3) enhancing the development of human capital" (OECD, 1998). Within the context of the first action point, government programmes are running in a number of countries, aimed at supporting the development of new organisational concepts, for example the "Swedish Working Life Fund" (Gustavsen, 1996) or the "Finnish national workplace development programme" (Alasuini, 1996). The second action point relates to reforms in the sales market, the capital market and the labour market. The third point relates to basic education, vocational training and company training.

The *European Commission* is also actively promoting the new organisational concepts. To this end, the European Work Organisation Network has been formed to identify, analyse, support and disseminate new organisational concepts, partly by encouraging all the relevant parties in this direction. Increasing the adaptability of organisations is one of the four pillars underpinning European employment policy. In order to strengthen social dialogue on this topic, the European Commission has published a green paper entitled "Partnership for a new labour organisation" (European Commission, 1997). Following extensive consultation (European Commission, 1998b) the Commission decided that initial responsibility for implementing the new organisational concept lies with companies, but that this process can only be successful if it is based on close cooperation between social partners (European Commission, 1998a).

These policy lines underline the importance of accurately monitoring what is going on within organisations. Research into the efforts made by the business community in its quest for new organisational concepts and permanent monitoring of the effects of organisational modernisation are necessary tools for supporting these policy lines. An evaluation of the research agenda, however, shows us that many "blind spots" still remain in this research into new organisational concepts. The following questions therefore deserve close attention:

- *Is a structural change taking place within the main organisational concepts?* The image of the "transformed organisation" prevailing within management literature probably leads to a significant over-estimation of the level of dissemination of new organisational concepts. In fact, academic research may even encourage this systematic over-estimation through its heavy concentration on "best practice cases".
- *How new do new organisational concepts have to be?* Can reforms in the margins of the Fordist-Taylorist model absorb the pressure being exerted on organisational concepts? By no means all the schools of organisational research respond positively to this question. For example, the French Régulation School evaluates the present situation as fairly diffuse. Old Fordist and Taylorist principles go hand-in-hand with neo-Fordist and neo-Taylorist.

"Economies of scale" are thus combined with "economies of scope" and rapid response to market developments (Boyer, 1991).

- *Does "one best way" stand out?* Over the past two decades, production models have been launched hand over fist. All these models claim to be a complete departure, in several respects, from the Fordist-Taylorist organisational model: lean production (Womack et al., 1990), "flexspec" (Piore & Sabel, 1984), the Swedish socio-technical approach (Berggren, 1992), diversified quality production (Streeck, 1992), new production concepts (Kern & Schumann, 1984), BPR (Hammer & Champy), etc.. Research into organisational change should be able to discern whether one of these models dominates (in terms of dissemination, economic performance and/or labour market effects). In other words, the question is whether or not the models referred to can serve as functional equivalents.
- *International diversity, national homogeneity?* It is often decided, based on the geographical origin of the models, that "differentiated spatial development" is taking place (Van Hootegem, 2000). Japan is under the spell of lean production, socio-technical approaches are the order of the day in the Netherlands and in Scandinavian countries, Germany sees the new production concepts as a necessary condition for diversified quality production, certain regions of Italy are regarded as a highly fertile breeding ground for the development of flexible specialisation, etc.. Research into organisational concepts in various countries should depart more from identical conceptual models and make use of specific measuring instruments. Only then can the existing regional diversity be reduce to normal proportions.
- This is far from being a complete list of key questions. What are the characteristics of the organisations applying the new organisational concept? To what extent is application of this organisational concept fine-tuned to the business strategy and the environmental requirements? Does this new organisational concept only apply to key employees in certain companies and does it then go hand-in-hand with new segmentation of the labour market? What are the "results" of these new organisational concepts for companies (e.g. in terms of performance) and for employees (e.g. in terms of stress risks and learning possibilities)? Etc.

The importance of these questions justifies the creation and further development of organisation surveys. In order to be able to respond to the above questions, ideally these surveys should satisfy a number of characteristics. For instance, the 'one best way' question implies that it should be possible to demonstrate that new organisational concepts always lead to improved performance, regardless of differences in market characteristics. Such causal questioning makes panel studies necessary. The question about the international diversity of organisational models again underlines the importance of greater alignment between organisation surveys currently operating at national level. In response to the question about the dissemination of new organisational concepts, we must again look for ways of defining the population of organisation surveys as broadly as possible and of aligning the sample frame to this ambition.

The key question in this paper is to what extent the main organisation surveys in Europe and North America make it possible to achieve these ambitions. A total of 16 major organisation surveys are involved in this comparative study. A comparative study of surveys can be carried out at various levels. An initial approach is to compare results. A second comparison level is that of the conceptual frameworks and modes of operationalisation used. A third level is that of the survey methodology or *survey design*. This paper concentrates on this third level. In other words, we are confining ourselves to a comparison and evaluation of the methodological choices in these 16 surveys. The objectives can be described as follows:

- comparison of organisation surveys with the aim of making an inventory of 'good practices' at several levels (e.g. sampling method, non-response strategy, etc.), which can strengthen the quality of research into the diffusion and effects of new organisation concepts;
- charting current 'methodological diversity' with the aim of investigating the possibilities for cross-national research into the spread and effects of new organisational concepts.

We chose this approach because little information is currently available about the methodological limitations of organisation surveys, the results of which appear frequently in journals and policy circles. By contrast, the findings relating to the content of these surveys have frequently been put under the microscope (Appelbaum & Batt, 1995; Cappelli et al., 1997; European Commission, 1999; Kling, 1995; Marsden, 1995; OECD, 1999; Vickery & Wurzburg, 1998). These comparisons of content are, incidentally, fraught with major difficulties precisely because the choices of methodology differ widely. For this reason, focusing on the methodological approach of the surveys and explaining the differences between them produces a stronger foundation for such comparisons at results level.

This paper is structured as follows. The first section discusses the selection of the 16 surveys studied. The second section systematically compares these surveys based on the following criteria: (1) description of the population; (2) definition of research units; (3) sampling plan and sampling; (4) choice of respondents; (5) questioning method and response and (6) continuity of the survey efforts. We conclude with recommendations relating to the further structure of organisational research.

Inclusion criteria

In this first section, we explain the selection of the 16 organisation surveys involved in this comparative methodological research. Three inclusion criteria were used. The first is, of course, the *content* of the survey. The only surveys retained are those which allow the dissemination of new organisational concepts to be measured in terms of at least a number of dimensions. The two other inclusion criteria relate to important dimensions which can be used to make an inventory of the organisation research – scope and continuity.

Scope

The most prevalent type of organisation research is the *single case study*. Some of the most influential studies in the organisation sciences are based on case studies: the Hawthorne studies (Dickson & Roethlisberger, 1966), the research into the 'politics of production' by Burawoy (1985), etc. These studies are often carried out in companies with which the researchers have a privileged connection or which make the business press with a notable innovation. This type of research often gives a clear picture of the logic for action of various stakeholders. However, statistical or theoretical generalisation is risky. A related type of research is the *multiple case study* (Kern & Schumann, 1984; Sels, 1996; Van Hootegem, 2000). This is a method which provides better guarantees for theoretical generalisation, particularly if cases are chosen so as to create maximum contrast in terms of theoretically critical variables (e.g. companies with direct participation versus those without). Here too, however, numbers are often so limited that it is impossible to keep sufficient confounding variables under control. *Convenience sampling* is also often seen in

organisational research. Any available company is questioned. A typical example is research into company cultures with questionnaires which are given to MBA students. Since convenience sampling is not based on a random sampling technique, the statistical generalisability cannot be tested.

One method which is currently gaining in popularity is the *single-type organisation survey*, usually in the form of a sector survey or intra-industry survey, where the field of validity is limited by selecting organisations from the same industry (Dunlop & Weil, 1996; Ichniowski et al., 1998; MacDuffie, 1995; Womack et al., 1990). This approach allows the operationalisation of variables to be developed in a sector-specific manner and therefore enables more precise questions to be asked. Moreover, this is a good method for keeping many confounding variables under control. To give a simple example: by comparing companies which make similar products using comparable technology (e.g. textile companies), it is easier to examine the pure effect of the features of human resource management on turnover, labour productivity, etc. However, the same question arises here as with the single case study, i.e. can the relationships we find in one industry be generalised for other industries? What is the relevance of the advantages ascribed to lean production in car assembly for the chemical industry, banks or hospitals?

It has been demonstrated, for instance in the Trend Study (Huys et al, 1999), that it is difficult to generalise the results from a survey in one industry for other sectors. The Trend Study is an example of a *multiple sector survey*. In this project, operationalisation of the survey variables was carried out on a sector-specific basis, but at the same time derived from one generic conceptual framework. As a result, the results are comparable for the basic dimensions of the conceptual model. A comparable format can be found in Appelbaum et al. (2000). By developing several intra-industry surveys one after the other, in this design the findings from one sector or industry can be replicated in other sectors. However, the costs of developing sector-specific questionnaires can be high. If the questions vary by sector, comparability can succeed or fail depending on the strength of the underlying conceptual framework.

Restricted diverse organisation surveys expand the population further. In this survey method, no restrictions are imposed on sectors or activities but limits are imposed, for example, on the size of the company. Expectations regarding response or the accessibility of companies are often used as arguments, for example, for excluding companies with fewer than 20 employees. Often, surveys are confined to private enterprises because no all-embracing sample frames are available. This type of intervention means that a substantial proportion of reality (such as the growth of small businesses) remains hidden. *Unrestricted diverse organisation surveys* therefore have the widest scope.

Continuity

The majority of surveys are carried out *once*, which means that they cannot give a precise indication of trends in organisational change. Surveys involving regular questioning of a random sample of organisations using a similar sampling method and questionnaire can measure changes at the level of the overall population. In this case, we are talking about *periodic cross-sectional analyses*. *Organisation panels* offer by far the most possibilities for analysis. The same organisations are questioned at various times. This makes it possible to chart the organisation dynamics at micro-level, i.e. that of the individual organisations. Cross-sectional time series can give the impression of a fairly stable situation, when in fact major restructuring is underway at organisation level. A cross-sectional analysis is also inadequate for monitoring the impact of

particular measures (e.g. financial incentives to increase the investment in company training), where the situations before and after implementation have to be compared.

Selection

The dimensions 'content', 'scope' and 'continuity' are used to determine the inclusion criteria. As far as the *content* is concerned, the only surveys selected are those which are devoted to examining the dissemination and/or effects of new organisational concepts or which enable changes in organisational concepts to be related to, for example, transitions in the system of industrial relations or the functioning of the labour market. As far as *scope* is concerned, the inventory is targeted firstly at 'broad' surveys. This means that the inventory is confined, in the first instance, to restricted and unrestricted diverse and multiple-sector surveys. In terms of *continuity*, in an initial selection round the only surveys included are those which regularly measure changes in organisational concepts. This included both surveys which aim to provide periodic (for example, biennial) cross-sectional measurements and panel studies.

The inventory was expanded to include a few surveys which did not meet the 'continuity' criteria. These are surveys which are particularly interesting at methodological level, for example because of the way in which the sample frame is constructed, because of the sampling method used, etc.. We include these surveys because they can have an inspirational effect on future attempts to streamline methodological diversity in some way.

In the table below, we present the 16 surveys which were selected on this basis. An abbreviation is given for each survey, which will be used further in this paper. We also indicate which organisation is responsible for the survey and to which country the results relate. For each survey, we include in an appendix some sources which may help interested researchers with their work. It goes without saying that the inventory is not complete. Many other organisation surveys were traced although, partly as a result of the unavailability of English, German or French publications, it was not possible to obtain sufficient information within the time available to us.

Table 1. Summary of organisation surveys discussed

	Survey	Organisation	Country
COI	Changements Organisationnels et l'informatisation dans l'Industrie (Organisational Changes and Automation in Industry)	SESSI (Ministère de l'économie, des finances et de l'industrie, Service des Statistiques Industrielles) and DARES (Ministère de l'emploi et de la solidarité, Direction de l'Animation de la Recherche des Etudes et des Statistiques)	France
DISKO	Danish Innovation System in a Comparative Perspective	Aalborg University, Department for Business Studies	Denmark
EPOC	Employee direct Participation in Organisational Change	European Foundation for the Improvement of Living and Working Conditions	Ireland
Fortune 1000	Survey of Employee Involvement and Total Quality efforts in Fortune 1000 companies	University of Southern California, Marshall School of Business	US
Huselid	Human Resource Management	Rutgers (State University New Jersey), School of Management and Labor Relations	US
IAB	Institut für Arbeits- und Berufsforschung (Institute of Industrial and Career Research)	Institut für Arbeitsmarkt- und Berufsforschung der Bundesanstalt für Arbeit, Arbeitsbereich 5: Betriebliche Arbeitsnachfrage- und Innovationsforschung	Germany
ISI	Neue Produktionskonzepte in Deutschland (New Production Concepts in Germany)	Fraunhofer-Institut für Systemtechnik und Innovationsforschung, Abteilung Innovationen in der Produktion	Germany
NES	National Employer Survey/Educational quality of the workforce	Bureau of the Census/United States Department of Education/University of Pennsylvania, National Center on the Educational quality of the workforce	US
NOS	National Organisation Study	University of North Carolina, Department of Sociology	US
NUTEK	Flexible Work Organisations	Swedish National Board for Industrial and Technical Development, Department of Industrial Policy Analysis	Sweden
OSA	Organisatie voor Strategisch Arbeidsmarktonderzoek (Organisation for Strategic Labour Market Research)	Katholieke Universiteit Brabant, Instituut voor sociaal-wetenschappelijk beleidsonderzoek en advies	The Netherlands
Osterman		MIT-Sloan School of Management, Institute for Work and Employment Research	US
SEPT	Survey of Employer Provided Training	United States Department of Labor, Bureau of Labor Statistics	US
Trend Study	Sociaal-organisatorische herstructureringen in het bedrijfsleven (Socio-organisational restructuring in trade and industry)	Katholieke Universiteit Leuven, Vakgroep Sociologie van Arbeid en Bedrijf	Belgium
WERS	Workplace Employee Relations Survey	Department of Trade and Industry, Department: Employment Relations, Employment Market Analysis and Research	UK
WES	Workplace and Employee Survey	Statistics Canada, Business and Labour Market Analysis Division	Canada

Comparing surveys

The sixteen selected surveys are compared to one another in six consecutive stages. The order of the stages is as follows: description of the population, definition of research units, description of the sampling plan and sampling, choice of respondents, questioning method and response and, finally, periodicity or continuity.

Description of the population

One initial question which arises when developing an organisation survey is how to describe the population. The population is the well-defined empirical field of validity for which the statements made on the basis of the survey will apply. Describing the population is important, given that population limits also determine to what extent statistical generalisations will apply. In the second stage, a sample is taken from this population, although this is not always the case. For instance, in the Trend Study, the empirical field of validity was described in such a restrictive way that it was possible to involve all units of this population in the survey research.

The surveys listed in Table 1 are all broad in scope. Nonetheless, the population rarely covers all organisations active within a national economy. Based on their population description, most of the surveys can therefore be described as *restricted* surveys. This is evident from the following summary, in which we illustrate how the surveys deal with the two most frequently used inclusion criteria – the number of employees and the activity of the organisation.

Table 2. Population restrictions used. Limits based on number of employees and activity.

	Minimum number of employees	Type of activity
IAB	1	Whole economy
NOS	1	Whole economy (including self-employed)
WES	1	Whole economy (excluding mining, government administration)
OSA	5	Whole economy
WERS	10	Whole economy (excluding farming, mining)
COI	20	Industry
DISKO	20 (industry)/10 (services)	Only private sector (excluding farming)
ISI	20	Only investment goods industry
NES	20	Only private sector
EPOC	25 (small countries)/50 (large countries)	Whole economy
NUTEK	50 (target for 1999: 5)	Whole economy (excluding public administration, education, health care)
Osterman	50	Only private sector (excluding farming)
SEPT93	50	Only private sector (excluding farming)
Trend Study	50	Chemicals, mechanical engineering, clothing, car manufacture
Huselid	100	Whole economy
Fortune 1000	Fortune 1000 companies	Whole economy

One population limit which occurs frequently is the limit by size of the research units. NOS, IAB and WES are the exceptions to the rule. The restriction can take place based on turnover (e.g. Fortune 1000 Companies). Usually, however, a limit is defined based on the number of employees. Often, financial reasons are given for this limitation. The cost to question a small organisation is similar to that of questioning a large organisation in most surveys. However, questioning a large unit covers a larger proportion of jobs. Confinement to larger organisations therefore makes it possible to chart a large proportion of jobs based on research into a relatively small number of units. A second argument is the unavailability of a database which also includes (qualitatively adequate, reliable information about) small organisations. Thirdly, operationalisation problems are also quoted. In this context, it is pointed out that variables related to organisation structures, teamwork, industrial relations, etc., are more difficult to uncover in small organisations, due to a lack of formal and sufficiently stable structures and forms of work (Neumark & Cappelli, 1999). Finally, it is often more difficult to identify a respondent in small organisations. In most surveys, the questionnaires are addressed to the head of personnel. In small organisations, this kind of separate post is often missing.

Confining the research population to larger organisations produces a good 'input/output'-ratio. Statements can be made about a large proportion of jobs at minimum cost price. However, this limitation can have a serious influence on the score for many variables and thus misrepresent the observation of trends in organisation concepts. Smaller organisations, for example, are much less

departmentalised than large organisations, but can also demonstrate a higher level of centralisation (Kalleberg et al.,1996). If they are excluded, descriptive statistics then give a distorted picture about the occurrence of such features in trade and industry. Moreover, by excluding small organisations, much of the dynamism in the economy is overlooked. In this category, many organisations 'enter' and 'exit'. Many rapid-growers are also found among the smaller organisations. If the survey is restricted to large organisations, these smaller ones will only come into the picture at a more mature stage in their life cycle. In panel studies, in particular, this type of limitation has major consequences. The panel nature allows dynamics at micro-level to be better analysed, but if only larger organisations are targeted, successful growers are not monitored from their birth, which means that the precedents for dynamic growth cannot be examined. It is then more difficult to identify predictive indicators for high performance. An additional problem with panels is the higher drop-out between successive rounds. Those organisations close to the inclusion threshold in the first round (e.g. 21 employees when the threshold is a minimum of 20 employees) run a high risk of falling just below this threshold and, therefore, out of the population in the next round of questioning. Drop-out will therefore be lower in panels without strict inclusion criteria, assuming all other conditions remain the same.

A second, frequently used inclusion criterion (also recorded in Table 2) concerns the *type of activity*. The exclusion most frequently used relates to (sections of) the services or public sector. The reason for this can partially be found in the difficulty of achieving generic operationalisation from the research variables. This is also related to the topics dealt with. Questions about the influx and outflow of employees, their contract types, working hours, etc., are more generic in nature than questions about the level of automation, for example. The identification of research units is often more difficult in the services and public sector. Production companies are often geographically concentrated around a physical production process at an identifiable address. Service-providers are often 'concealed' in various locations and are more difficult to demarcate organisationally.

In other respects, it is striking that no single organisation survey was found which is targeted exclusively at the services sectors or the public sector, while the reverse – confinement to industry or the private sector – is more often the rule. This is all the more surprising given that services and the public sector absorb a larger proportion of jobs in many countries and are responsible for the growth in employment.

Research unit and sampling framework

One the population has been defined, the question arises of research units about which information has to be obtained. The aim of an organisation survey is, of course, to chart the reality in organisations. But at what level of the organisation is questioning to be carried out? Are we talking about head offices, companies, workplaces or units? One closely-related question is that of the most appropriate sample frame. Table 3 shows, per survey, for which research units information is gathered and which source forms the basis of the sample frame.

Table 3 Sources for the universe of research units

Survey	Research unit	Source for universe of research units
EPOC	Company	N/A (administrative data)
Huselid	Company	Compact Disclosure (list of publicly held firms on US stock exchanges)
Fortune 1000	Company	Fortune
COI	Workplace	N/A (administrative data)
IAB	Workplace	Employment statistics register of the Federal Employment Services
ISI	Workplace	ISI address list based on previous questioning Projektträger Fertigungstechnik und Qualitätssicherung (PFT) addresses ABC industry databank / Arbeitgeberverband Gesamtmetall Verband Bayerischen Metall- und Elektroindustrie (VBM) NC-Gesellschaft
NES	Workplace	SSEL file Bureau of the Census
NUTEK	Workplace	Central Register of Enterprises and Local Workplaces: Statistics Sweden
OSA	Workplace	Chamber of Commerce Bodies register of the Algemeen Burgerlijk Pensioenfonds CASO list of schools (Ministry of Education) State directory (national government, provinces, water boards and municipalities) VWS address list (for hospitals, old people's homes and nursing homes)
Osterman	Workplace	Dun & Bradstreet establishment file
SEPT93	Workplace	Bureau of Labor Statistics Universal Database
WERS	Workplace	Office for National Statistics: Interdepartmental Business Register
WES	Workplace	Business Register Statistics Canada
Trend Study	Workplace/plant	Sectoral lists, employers' federation
NOS	Organisation	Respondents in General Social Survey
DISKO	N/A	N/A

Ideal research unit. Generally speaking, research units must be defined which are as homogeneous as possible in terms of the questions used in the survey. The ideal level can thus vary, depending on the topics which are central to the research. For instance, in a discussion of the WERS results, Marginson (1998) emphasises that, for studying industrial relations, the company or wider organisational settings are often more suitable as research units. However, most surveys choose to use the workplace as the ideal research unit. In this context, the terms used include '*arbeidsorganisatie'* (labour organisation), 'establishment', 'workplace', '*Betriebseinheit'* (operating centre), '*Dienststelle'* (office). These terms all refer to the same geographical entity. The emphasis is then on the geographical concentration of the (core) activities of the organisation. A number of descriptions can explain this:

> *"A workplace is the activities of a single employer at a single set of premises." (WERS)*
>
> *"A workplace is a geographical location where a company runs a persisting activity. A company has at least one workplace. If the company has several buildings clustered together closely (e.g. in a fenced area), this is considered as one workplace." (NUTEK)*

> *"The establishment is the local unit which in fact performs the activities of a company, i.e. the manufacture of products or the provision of services." (IAB)*

Only a limited number of surveys concentrate – at least for part of the questionnaire – on part of the research unit. In this case, the questions only relate to the core process of the organisation or the key employees (EPOC, Osterman). Other surveys make a distinction in the questions between different categories of employees in the organisation. Nonetheless, such differentiation is often very concise, in order to keep the questionnaire short. The emphasis in the analysis is therefore on the differences between organisations and – insufficiently – on the differences within organisations. Marginson thus notes (1998, 377): "Interestingly, given debates about workforce segmentation, there has been little analysis of within-unit differences across the non-manual divide or as between bargaining or occupational groups". One possible way of compensating for this is to supplement organisation questioning with questioning of a number of employees within these organisations (see below).

Suitability and completeness of sample frames. One problem with which many surveys wrestle is that workplaces are often difficult to identify. Research teams rarely have databases with workplaces as units. The quality of the databases available determines the quality of the *sample frame*. By sample frame we mean an existing register of all the basic units which together make up the population. This framework is the source for sampling. The reliability of generalisations based on a sample therefore depend on the accuracy and completeness of this sample frame. Deviations between population and sample frame are permissible, provided they are known and therefore correctable. Most of the teams performing organisation surveys, however, provide little information about the differences between sample frame and target population.

The critical problem is that a sample frame from which a sample of workplaces can be extracted is rare. Some organisation surveys therefore choose (often tacitly) different research units which are listed in administrative databases. Moreover, the description of the units in the above databases is linked to the specific administrative guidelines in the various countries and is, as a result, not very transparent. The description of units is therefore under-reported by most surveys. Particularly when comparing the results of similar surveys, this then poses a major problem.

Several surveys claim that they have no problem finding a suitable sample frame at workplace level. Other surveys compile their universe from various files (OSA, IAB, ISI). Owing to the lack of reliable databases at workplace level, the precise demarcation of the research units in many surveys is, however, one important task of the interviewer (WES, IAB). The IAB questionnaire provides the interviewers with an extensive set of guidelines which should allow them to check whether they are approaching the correct research unit. This is one important advantage of face-to-face questioning. Since information gathering takes place on the spot, more adequate supervision can also be carried out regarding the demarcation of units. This leads to more reliable data collection.

It is important, particularly in organisation panels, to keep the research units as small as possible. In order to make longitudinal analysis possible at micro-level, as many organisations as possible must be included in successive rounds. Panels have to cope, however, not only with drop-out between rounds, but also with research units which have changed dramatically (i.e. as a result of mergers, contracting out). For instance, in the OSA panel, the number of fundamentally different units over two years is estimated at 9%, which means that only 91% of the organisations which actually respond in the second round can be regarded as genuine 'panel organisations'. The

greater the scope of the research units (e.g. companies rather than workplaces), the greater the likelihood that these units will change fundamentally and therefore leave fewer panel organisations.

The NOS offers an original approach. In identifying research units, this survey is not based on administrative lists, but on a representative sample of employees. The employees selected are asked in which organisation they are employed. The organisations traced in this way form the final sample. This individual-based approach circumvents the difficulty or impossibility of putting together a sample frame of organisations and can use existing methods to draw a representative sample of employees. Moreover, this individual-based approach is ideally suited to compiling a sample where the chance of selecting an organisation is in proportion to its size (PPS sample or Probability Proportionate to Size) (Sudman, 1976), as is often usual in organisation surveys. A selection of organisations by questioning a representative sample of working people produces a PPS sample of organisations. The chance of selecting an organisation is after all proportionate to the number of employees in that organisation. The degree of cover provided by this sampling method is also ideal. After all, no single organisation is excluded, while organisations to be included in data files always have to meet a number of criteria. If organisations are questioned soon after employee questioning, the information is also up to date. This method is also suitable if the intention is to link the questioning of organisations to questioning an employee in this organisation. After all, in the first stage of sampling, we always 'pass over' employees who could be questioned about their work situation.

The advantage of a PPS sample of organisations can also be an obstacle if a PPS sample of organisations is specifically not required and a stratified sample is intended, which includes other criteria (sector or region). One additional problem is posed by the potential difference between the place of residence and place of work of employees. A random sample of the working population based on place of residence produces a number of people who work outside the territory of the organisation survey. One other major problem with the PPS approach is the cumulative drop-out at both stages of the sampling. In order to compile a sample of organisations, people are first approached (some of whom are non-responses), some of whom will not or cannot answer the question about the organisation they work for (additional item non-response) or for whom the data prove to be inadequate. Once the sample of organisations has been compiled, an additional non-response is also seen at this level, so that the cumulative non-response from organisations is considerably higher than if a sample of organisations had been taken directly.

Sampling plan and sampling

Once the sample frame has been defined (and its suitability and completeness examined), a sampling plan has to be drawn up. The sampling plans for the organisation surveys differ from one another chiefly at the level of (1) the method of stratification and (2) whether or not they have a two-stage sample.

Stratification. Not one survey goes for an entirely simple random sample. This type of sampling plan would mean that organisations with many employees are hardly ever included in the sample. The sample of organisations is then representative but, given that the population of organisations includes primarily a large number of small organisations, the final sample covers a particularly small proportion of jobs. For this reason, the sample is stratified in virtually all surveys. The NOS PPS alternative is an exception to this rule.

In the stratification, account is always taken of the size of the organisation (in terms of the number of employees). One alternative is to combine a sample from small organisations with a census of large organisations (for example, all organisations with more than one hundred employees are questioned). Most surveys add additional variables to the stratification model, such as the activity of the organisation and/or the region where it is based. This should enable reliable pronouncements to be made at the level of the regions, for example, including for regions where a random sample would not provide sufficient observations. The following table presents a summary.

Table 4 Information about sampling plan

	Stratification variables (number of classes)	Two-stage sample
Fortune 1000	No stratification (census)	
Huselid	No stratification (census)	
ISI	No stratification (census)	
NOS	No stratification (PPS sampling technique)	Two-stage sample 'in reverse'. Based on information from employees, organisations are questioned
Trend Study	No stratification (all companies with over 50 empl.)	
Osterman	Size (unknown number)	
IAB	Activity (16) and size (10)	
OSA	Activity (9) and size (5)	
SEPT	Activity (9) and size (5)	SEPT95: random sample of 2 employees per workplace
WERS	Activity (12) and size (6) Fixed number of 250 observations in category 10-24 employees	Random sample of 25 employees per workplace (if fewer than 25 employees, all employees are questioned)
EPOC	Activity (unknown number), region (10 countries) and size (unknown number)	
NUTEK	Activity (5), region (3) and size (6)	
WES	Activity (14), region (6) and size (variable number of categories depending on spread in the activity/region combination)	Random sample of 6 employees per workplace (if fewer than 6 employees, all employees are questioned)
DISKO	Not available	
COI	Not available	Employees' sample is not compiled via the organisation, but directly
NES	Not avaiblable (over-representation of large workplaces and manufacturing establishments)	Objective for 2000: additional sample of employees per workplace

Based on a combination of the stratification variables, a sampling table can be compiled, showing a minimum number of observations for all cells. In some surveys, this minimum number of observations is corrected for the expected rate of non-response. Achieving the sampling plan is, however, difficult in most surveys because the non-response is usually not the same in all cells. Even if non-response units are replaced in each cell, the sample achieved usually differs from the sampling plan. This deviation can usually be attributed to mistakes in the sample frame or to the

time lag between registration in the sample frame and the time of questioning. The longer this time lag, the greater the likelihood that research units will shift to another cell in the sampling table (e.g. because of growth or a reduction in numbers of employees). This once again emphasises the importance of recent, accurate and complete sample frames.

Two-stage sample. Table 4 shows that several surveys use a two-stage sample. In this case, the sampling of organisations is followed by a sampling of employees in those organisations. Organisations are questioned in combination with a questioning of employees. Consequently, characteristics of the two levels can be linked to one another. A two-stage sample allows the perspectives of various stakeholders to be taken into account. The importance of two-stage sampling is illustrated as follows by Greenan & Mairesse (1999, 12; COI): "Firm representatives generally describe formal organization, whereas workers can be asked about what they really do and how they adapt assignments to the context of their work. Topics like empowerment, worker involvement and greater autonomy on the shop-floor cannot only be investigated through what management knows about it. It is even more true for considerations about intensification of effort, stress or all types of adjustment costs caused by organizational change". The WERS also records striking differences in the answers from managers and employee representatives concerning the level of collective action within the organisation (Marginson, 1998).

We note the increasing popularity of combined organisation and employee questioning. Inspired by the success of its Australian counterpart the AWIRS (Morehead et al., 1997), the WERS switched to an additional employee questioning for its most recent measurement. From 2000 onwards, the NES is carrying out an additional employee questioning in the organisations. The IAB is also considering this option. In most surveys working with two-stage samples, a fixed number of employees is randomly selected from personnel lists made available by the organisations, regardless of the size of the staff (see Table 4). COI is an exception to this rule. In this survey, the employees are approached directly, separately from the organisation. The organisation is however informed of this method, but without an identification of the people questioned.

Respondent(s)

Once the research unit has been established, the question arises of who best represents this unit as a respondent. The answer to this depends partly on the research topics. If the emphasis is on topics such as automation, production or work organisation, it is appropriate to question the line management. However, if the emphasis is on personnel data, personnel policy or industrial relations, it is better then to approach the head of personnel. The correct selection of respondent is important to the collection of reliable data. All too often, the head of personnel is approached with questions which concern topics about which he is insufficiently involved. Osterman (1994, 174) says, in this respect, "Years of open-ended interviews with firms suggested to me that too often HRM staff, even at the establishment level, are not in touch with work organization".

A detailed description of the respondent is not established in advance in many organisation surveys. After all, interviewers often do not have the name and position of potential respondents. Many surveys are therefore confined to vague descriptions along the lines of "a representative from the workplace" (Fortune 1000, NES, Osterman, SEPT93). Face-to-face interviewing has the advantage, in this context, that the interviewer can determine on the spot who is the most suitable

respondent. Most questionnaires explicitly ask about the position of the respondent, so that any distortion produced by this variable can be controlled.

Some surveys explicitly provide the possibility (or obligation) of talking to several respondents (COI, NES, Trend Study, WES). For instance, the Trend Study uses at least two different questionnaires per research unit, one of which is intended for the production manager and one for the personnel manager. This can lighten the load on respondents and improve the quality of the answers. However, the risk involved in this strategy is that questionnaires remain incomplete (non-response from one of the respondents). With face-to-face interviewing, the use of several respondents does also lead to higher costs. For this reason, this method was abandoned in the WERS. OSA offers an original solution to this, by using different questioning methods for different sections of the questionnaire. Face-to-face interviewing is supplemented by a written questionnaire, which asks for a number of "hard facts". This written questionnaire is subsequently collected by the interviewer locally. The SEPT uses a similar procedure. In this survey, a training logbook is left behind, which is completed by the respondent.

It is necessary to talk to various respondents if various levels of the organisation are being questioned, such as in combined organisation/employee questioning. In this case, the respondent is not only questioned about content, but he usually also acts as an informant for selecting respondents among the employees.

Questioning method and response

One of the crucial evaluation criteria by which organisation surveys are judged is the response ratio. A low response jeopardises representativeness. In a panel, a high non-response leads to an overly limited panel section for the dynamic analysis. Generally speaking, it can be said that the extent of the response depends partly on the chosen questioning method. For this reason, the questioning method is placed next to the response in Table 5. Some comments are pertinent for correctly interpreting the table.

An initial comment concerns the combination of questioning methods. Several questioning methods are applied in a number of surveys, not always with the same respondents. Face-to-face questioning can be supplemented, with the same respondent, by a written questionnaire which has to be sent by post or which is collected by the interviewer (OSA). In two-stage samples, face-to-face questioning at organisation level can be interspersed with telephone (WES, COI) or written (WERS) questioning of employees.

Secondly, it should be noted that the difference between the three questioning methods (face-to-face, telephone and written) is not always clear. Written questioning is not necessarily a postal survey. The questionnaires can be delivered and/or collected by an interview in person. In this case, response ratios can be achieved which come close to those of face-to-face questioning (Trend Study). A telephone survey can be supplemented or backed up by a written questionnaire. The questionnaire can be given to the respondent in advance for use during the telephone interview, or it can be sent if the respondent requests this method. For instance, the NOS carried out telephone questioning of organisations in which over 41% of respondents asked to have the questionnaire sent to them so that they could complete it in writing (although only 29% did actually complete the questionnaire). In face-to-face questioning, too, it is sometimes possible for the respondent himself to complete the questionnaire wholly or partially and then to give it to the interviewer (IAB). All these variations produce varying response ratios (see table).

Table 5. Summary of questioning methods and response
(in multi-stage sampling: ORG=establishment, company or organisation level; EMP=employee level)

	Questioning method (duration)	Sample size	Response (response ratio)
IAB (1993)	Face-to-face	N=6 923	N=4 356 (*71%*) Panel 1994: N=3 900 (*89%*)
WERS	ORG: face-to-face (100') EMP REP: face-to-face (45') EMP: written	ORG: 2 694 Panel ORG: 1 030 EMP REP: 1 155 EMP: N=44 120	ORG: 2 191 (*80%*) Panel ORG: 882 (*85%*) EMP REP: 947 (*82%*) EMP: 28 237 (*64%*)
NES	Telephone (28')	N=4 625 (1994)	N=3 173 (*69%*)
NOS	Telephone	N=1 127	N=727 (*64%*)
Osterman	Telephone	N/A	N=694 (*52%*)
COI	ORG: written EMP: telephone	ORG: N=N/A EMP: N=9 000	ORG: N=N/A (*88%*) EMP: N=N/A (*71%*)
DISKO	Written	N=3 958	N=1 900 (*48%*)
EPOC	Written	N=33 427	N=5 786 (*18%*)
Fortune 1000	Written	N=985 (1993)	N=279 (*28%*)
Huselid ('92)	Written	N=3 477	N=968 (*28%*)
ISI ('97)	Written	N=10 193	N=1 329 (*13%*)
NUTEK	Written Aim *1999: telephone + written*	N=2 064 *Aim 1999: 5 700*	N=707 (*34%*)
Trend Study	Written	Chemicals: N=150 Clothing: N=54 Car manufacture: N=5	N=76 (*50%*) N=48 (*90%*) N=5 (*100%*)
OSA ('97)	Face-to-face + written	N=2 536	N=2 537 N=2 168 (written part) (*85%*) Panel 1995: N=1 718 (*63%*)
SEPT95	ORG: face-to-face + written EMP: face-to-face + written	ORG: 1 433	ORG: 1 062 (*71%*) EMP: 1 074 (of 2 124) (*51%*)
WES	ORG: face-to-face + written EMP: telephone (25')	ORG: 1 311 EMP: 3 468 Aim *1999: 7 500 workplaces and 40 000*	ORG=748 (*57%*) EMP=1 960 (*57%*)

Thirdly, we must note that several surveys provide very incomplete information about response. Specifically, a response ratio does not say everything. What about the item non-response? Was the response calculated with respect to the 'gross' or 'net' sample (this means after leaving out all observations which could not be identified or no longer exist)? Which sample was originally taken and what section of it was used, if replacement was used? If several questioning methods were used, several response ratios also have to be given. If two-stage sampling was used, a distinction has to be made between the non-response in the second stage and non-response cumulatively with the non-response in the first stage. With panels, not only the response from a given round is important, but also and in particular the response from organisations which answered in a previous

round. In this context, a distinction must be made between organisations which now no longer exist or now fall outside the sample frame, those which could not be found and those which did not respond. Only the last type of drop-out can genuinely be regarded as 'non-response'. To the extent that the surveys already make this distinction, Table 5 can be read as the ultimate response to a net sample. Where several respondents are present and in panels, several ratios are indicated in so far as available. Where the sample has several stages, only the response ratio within one stage was indicated.

We now summarise some of our observations. The most striking is that the questioning method does indeed seem to correlate with the response ratio. Written questionnaires produce the lowest response if they are seen as a postal survey (average approx. 25%: see Fortune, DISKO, NUTEK, ISI, Huselid, EPOC), even if reminders are used or if the questionnaires are sent twice. COI and Trend Study are exceptions to this rule. The explanation for COI is that the questioning is compulsory by law for companies. A partial explanation for the trend study is that the completed questionnaires are collected in person. Telephone questioning scores fairly well (average approx. 65%). It is also much cheaper than face-to-face questioning and therefore seems an attractive alternative. However, this questioning method places a restriction on the duration of the interview. Telephone interviews have to be kept short (NES: 28', WES: 25', NOS: 41'). The leader as far as response is concerned is face-to-face questioning. The highest score is achieved by WERS (80% and 85% for the panel section). This is probably the most established survey, with a long tradition, which means that questioning can systematically be optimised. The WERS also has an extensive research group, pursues an active policy of making databases [1] available for research and spares neither time nor money in training interviewers.

Our second observation concerns the importance of non-response analysis. Attempts can be made to correct non-response using a comparison of the characteristics of non-response organisations with characteristics of the response organisations or the population (for an excellent study of this problem, see Groves & Couper, 1998). Some surveys draw up non-response weighting factors on the basis of these comparisons, in particular to correct the deviation in the sample obtained with respect to the sampling plan. Other surveys dispense with this because it is possible to correct for a number of known organisation characteristics, but it is not clear to what extent the answers to the questionnaire actually correlate with these features. Following a very low response (13%) and having to work with a sample which differs considerably from the sampling plan, the ISI decides not to allocate weights based on a non-response analysis because "the influence of such weights on other variables depends on a multiplicity of other, non-controllable factors which can just as easily produce the reverse effect" (Lay, 1997, 5). There is then little alternative but clearly to explain the deviations in the sample compared to the intended sample and the universe.

Some surveys make a differentiation in response by the characteristics of the organisations. This division makes it possible to concentrate efforts in subsequent measurements on the critical groups. It is striking that a link is seldom reported between the response and the size of the organisations. Small organisations do not respond noticeably less than large organisations. Some surveys refer instead to a U-shaped link. In small organisations, the manager (jack of all trades) has no time to answer the questionnaire. Large organisations have to battle with over-questioning.

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1 For a summary of over one hundred publications based on a secondary analysis of the WERS databases, see Millward et al. (1998).

Consequently, the highest response comes from the middle category. OSA does report a higher drop-out rate among small organisations between two panel rounds (Bernasco et al. 1998). This does not necessarily indicate a higher non-response rate. It has more to do with the fact that smaller organisations are more likely to fall outside the sampling framework or cease to exist.

A third conclusion concerns to the notable success of two-stage samples. Employers do not seem hesitant when it comes to making personnel lists available or allowing employees to be interviewed. Employee questioning always takes place outside working hours. Nonetheless, cumulative failure at both stages of the sample continues to plague researchers.

Continuity

Although only a limited number of surveys consist wholly or partially of a panel, most are still periodic in nature. This implies, in the best case scenario, that the same or a similar questionnaire will be used for a similar, but new sample. In this case, we talk of periodic cross-sectional surveys. In such surveys, comparisons in time are only possible at population level. The questioning method often makes it unfeasible to develop a panel. Thus, the response from postal surveys is often so low that it is scarcely possible to work with a panel. If higher response ratios are obtained, the failure to make use of a panel is in fact a missed opportunity, not only because many possibilities for analysis at micro-level are overlooked, but also because of cost considerations. In a cross-sectional approach, the sample must be reconstituted from scratch each time. With a panel it is possible to build further on the response from the previous round (supplementing depending on the failure rate).

Table 6 indicates, per survey, whether and in what way a longitudinal approach is pursued.

Table 6. Panels versus cross-sectional surveys

	Time of questioning	Longitudinal character
IAB	1993, 1994, 1995, 1996, 1997, 1998, (1999)	*Panel* Monitoring organisations which took part in the original survey (1993) i.e. 4,356 organisations. Replacements made depending on drop-out rate
OSA	1989, 1991, 1993, 1995, 1997	*Panel* Monitoring organisations which took part in the original survey (1989). Replacement depending on drop-out
WES	1996, (1999)	*Panel (as objective)* 1996 was the pilot questioning. The aim is to start in 1999 with a company panel of 7,500 organisations and 40,000 employees. It is striking that the employee questioning should also have a strong panel character.
NES	1994, 1996, 1997, 1998, (2000)	*Partial panel* Part of the sample is questioned again. For example, in 1997 and 1998 1000 organisations which participated in 1994 were questioned again
WERS	1980, 1984, 1990, 1998	*Partial panel* A (separate) section of the sample in a given year consists of organisations from the previous round. This panel section is separate from the actual sample and is approached using a shorter questionnaire. The questioning of employee representatives and employees is not of a panel nature
COI	Organisation: 1993, 1997 Employees: 1987, 1993, 1997	*Successive cross-sectional measurements with identical sampling plan* The employer and employee questioning are a combination of two individual surveys carried out earlier
Fortune 1000	1987, 1990, 1993, 1996, (1999)	*Successive cross-sectional measurements with identical sampling plan* Ex-post longitudinal analysis is possible for part of the sample (e.g. of 279 organisations which answered in 1993, 130 belonged to the Fortune 1000 companies which answered in 1990)
Huselid	1992, 1994, 1996	*Successive cross-sectional measurements with identical sampling plan* Ex-post longitudinal analysis is possible for part of the sample (of the 740 organisations which answered in 1994, 294 had answered in 1992)
ISI	1987, 1990, 1993, 1997	*Successive cross-sectional measurements with identical sampling plan* No panel character in view of low response
NUTEK	1995, (1999)	*Individual samples* Both questionnaire and sample were considerably expanded in 1999
SEPT	1993, 1995	*Individual samples* Two different samples, two different questioning methods
DISKO	1996	*Once only*
EPOC	1996	*Once only*
NOS	1991	*Once only*
Osterman	1994	*Once only*
Trend Study	1992-1994	*Once only* Duplication planned for chemical industry (2001)

The interval with which both panel and successive cross-sectional surveys carry out questioning varies from one (IAB) to four (WERS) years. It is important to keep this period as short as possible, particularly with panels, so as to keep the number of drop-outs within certain limits. For instance, WERS – which is held every four years – has only one panel section. In addition to a new sample from the research population, part of the sample from previous questioning is also contacted once again. This combination also occurs in NES. It produces two separate data files: one with a panel and one with two (similar) samples which allow for cross-sectional analyses.

The periodicity of questioning depends on the research topic. If the questions are aimed at charting organisational structures, a longer interval is appropriate so as to register changes – including in the case of panels. Data relating to the influx and outflow of employees and their characteristics fluctuate more quickly and require a shorter interval.

The panel character in combined organisation/employee questioning applies only to the organisation. The employees are drawn anew each time on a random basis from the participating organisations so that only cross-sectional analyses are possible at employee level. In view of the mobility of employees, the formation of a panel within these organisations is perhaps difficult to achieve. The most ambitious project currently underway is the Canadian WES, which is not only building up a panel of 7,500 organisations, but is also monitoring the list of 40,000 employees within these organisations, including one round in which they have disappeared from the organisation.

Conclusions

A total of 16 major organisation surveys have been subjected to a methodological benchmark in this comparative study. The aim of the paper has been, on the one hand, to detect good practices at the level of survey design and, on the other hand, to chart current methodological diversity. This last stage is important, with a view to strengthening cross-national research into the dissemination and effects of new organisational concepts. Below we present the most important conclusions of this comparison of survey designs:

1. We observed a lack of organisation surveys which include small organisations and organisations in the services and public sector in the research population. In the future, attempts must be made to hold more unrestricted diverse (or multiple sector) surveys.
2. The lack of availability of databases based on which a universe of the research units can be compiled is a thorny problem in most of the surveys. This problem pushes the surveys into an occasionally undesirable restriction of the research population. Depending on the quality of these files and the intention explicitly to include all possible organisations in the survey, an individual-based approach provides a good alternative, especially if the intention is to obtain a PPS sample of organisations. In this case, however, particular care should be taken to minimise the non-response at the various stages of the sample.
3. A sample frame based on strata by size and activity of the organisation is the most common. In this case, a fixed number of observations to be obtained per cell is determined in order to be able to make reliable statements about the various size/activity categories. A

complete database of correct information about the research units is indispensable to a good sample frame and the extrapolation of research results.

4. Two-stage samples which combine questioning at organisation level with information collection at employee level produce surprisingly good results and are rich in possibilities for analysis. Changes at organisation level can after all be linked directly to their effects on employees. The surveys which aim for this combination report few difficulties in obtaining details about members of staff. The response from these employees is quite considerable. The objection of confidentiality does not therefore seem to play a role, at least not when the selection of employees can also take place on the spot, employees are not questioned during working hours and have complete freedom to choose whether to answer or not.

5. Accurate identification of the respondents is usually not possible, based on the available databases. A face-to-face interview has the advantage that this identification by the interviewer can take place on the spot. If the interviewer has been well-trained in this respect, this can improve the reliability of the data collection. In any case, it is a good idea to include the position of the respondent in the questioning, so that monitoring for any distortions based on position is possible. In order to limit the duration of face-to-face questioning (based on high response and low cost), the face-to-face questioning can be linked to a written questionnaire which concentrates on a number of objective details concerning the organisation. In this case, it is also wise to collect the written questionnaires on the spot so as to keep partial non-response to a minimum.

6. Telephone questioning can produce a good response, but can only be used for short questioning. When setting up an organisation panel, a face-to-face interview seems the only possible alternative for ensuring a good response. All organisation surveys with a panel character therefore use face-to-face questioning.

7. If rapid periodic questioning is planned, the obvious method is to set up a panel. This offers more possibilities for analysis without incurring a higher cost. For research into topics which only evolve slowly (e.g. organisational structures) a longer interval can be used. In order to be able to understand the dynamics of this at organisation level, a new sample with a panel section can be supplemented after a longer interval.

8. Further encouragement of panel studies is indispensable. Based on cross-sectional surveys, one of the most important questions can of course not be answered: do changes in organisational concept precede higher performance or are only high-achieving companies in a position to implement new organisational concepts? Here, only panel data can offer a solution, where periodic data about the organisation concept are linked to performance indicators. The OECD (1999, 182) illustrates this same comment with a different but certainly no less salient example: “when studies are based purely on cross-sectional information, it is difficult to control for the reasons why the practices were introduced in the first place. If firms only began to experiment with new forms of working practices when they faced dire trouble, the existence of practices might be associated with poorer performance, at least over the short term.” Moreover, it is important to be able to monitor a panel for sufficiently long a period, given changes in the organisational concept which progress only slowly.

With a view to strengthening the possibilities for cross-national organisation research, closer alignment of the survey designs used in the various countries must be urgently pursued. The above recommendations can form a guiding principle for starting up the discussion. Obviously, this is just an initial step. One additional factor which makes cross-sectional comparisons at the level of the dissemination or effects of new organisational concepts more difficult is the diversity of the organisation surveys in terms of content. Although the surveys do indeed have a sizeable common denominator, they differ in terms of the key question or the central theme.

Some surveys are aimed chiefly at the *training* policy of organisations (NES, SEPT) and link training efforts to other organisational characters. Other surveys concentrate in particular on personnel flows, the characteristics of employees and their employment conditions (IAB, OSA). One topic which takes pride of place in several surveys is that of the dissemination of new production concepts and their impact on organisation structures (ISI, Trend Study, DISKO, NUTEK). Again, industrial relations form the focal point of WERS and EPOC. Finally, American research in particular is geared towards analysing the determining factors for successful organisations (Huselid, Osterman). This research examines a whole range of organisational practices which go hand-in-hand with new technologies and, together, form consistent bundles (High Performance Work Practices) which are also linked to the organisation's performance indicators (High Performance Organisations). In this field of research, use is often made of additional information about the organisations, which is not included in the questionnaire. A connection is then made with information from other files, which produces additional possibilities for analysis.

For the purposes of international comparative research, it is very important to perform comparative research in the future into the conceptual frameworks used (if available), the variables included in the surveys and, in particular, the way in which these variables are operationalised in questionnaires. The problem arises in this context that the questionnaires are not always available. One additional problem is that some questionnaires change significantly in subsequent questioning. Whether or not it is possible to conclude, based on the various organisation surveys, that new organisational concepts are being widely used, cannot therefore be unequivocally stated at present. This is a consequence of the highly diverse forms of operationalisation used in the surveys. Depending on operationalisation, one survey detects few signs of new organisational concepts, another many signs. Comparisons between these results are virtually impossible because no agreement exists concerning the questions, question formulation, the answer categories offered or the construction of variables which act as indicator for the organisational concepts.

International organisations in particular, such as Eurostat (1995) and the OECD (1996) are constantly insisting on the need for consensus in operationalisation. "Work is needed to evaluate the different approaches to measurement of different variables and to further test the power of alternative definitions in current use to arrive at useful results" (Vickery & Wurzburg, 1998, 17). In Scandinavian countries, such consensus is growing in the development of organisation surveys. Danish, Norwegian, Swedish and Finnish surveys are all using the shared concept of 'flexible organisation'. The joint programme goes by the name of Nordflex (Nordflex: Flexibility matters – flexible organisations in the Nordic countries; Stockholm: NUTEK). Closer alignment is also the objective of collaboration between IAB, OSA, CEPS/INSTEAD (Luxembourg) and an organisation panel to be launched in Belgium (Sels et al., 2000).

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Shortlist of publications related to the most important organisation surveys

COI

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