Chapter III

Measuring the dynamics of organisations and work : employer-level survey

Contributors

The preparation of this chapter was co-ordinated by Amelia Román, OSA Institute for Labour Studies, the Netherlands.

Other contributors to the chapter were as follows (in alphabetical order):

• Anthony Arundel (University of Maastricht-MERIT, the Netherlands)
• Eva Bejerot (Stockholm University, Sweden)
• Adriana van Cruysen (University of Maastricht-MERIT,the Netherlands)
• John Forth (NIESR, United Kingdom)
• Nathalie Greenan (CEE, France)
• Annika Härenstam (University of Gothenburg, Sweden)
• Eva Kirner (Fraunhofer ISI, Germany)
• Edward Lorenz (University of Nice-Sophia Antipolis, France)
• Peter Nielsen (Aalborg University, Denmark)
• Monique Ramioul (Catholic University of Leuven, Belgium)
• Oliver Som (Fraunhofer ISI, Germany)
• Giorgio Sirilli (CNR, Italy)

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I. Introduction

This chapter proposes indicators and a questionnaire for measuring organisations and organisational change at the employer-level. The chapter further develops the concepts presented in Chapter I and takes into account the elements of the general survey framework presented in Chapter II. It is complementary to Chapter IV which proposes indicators and a questionnaire for the employee-level survey.

Focus of the employer level survey

The MEADOW Guidelines consider a survey that links the interview of an employer with the interviews of his or her employees as the richest survey setting for measuring organisational change and its social and economic impacts. As discussed in Chapter I, there are a number of reasons for this recommendation. A linked survey can enrich information derived from one level with information from the other. For example, employer-level information provides useful contextualisation to the description of work provided by employees, whilst employee-level information can be used to compute indicators at the employer-level on topics that cannot be easily observed by an employer, such as the degree of work-related stress or the nature of intrinsic rewards. A closely related motive for using linked surveys is that people in various positions may view the organisation and how it has changed very differently. For example, earlier research has shown that perceptions of the impact of organisational change are very different depending on who the informant is (Härenstam et al., 2006; Härenstam, 2007; Worall and Cooper, 2003). When exploring what is meant by organisational change, employees often refer to negative aspects, such as downsizing, while managers tend to refer to organisational development and investments in new technology.

Organisational surveys at the employer-level can provide information on how organisations use policies, apply management practices and organise work, as well as how they approach and cope with change. Questionnaires may be addressed either to the workplace-level or to the company or enterprise-level. As discussed in Chapter II, there are advantages and drawbacks to each level in terms of the quality of the information collected. The Guidelines recommend the workplace when there is no linked employer/employee register available because it is easier to draw up lists of employees at the workplace level. But when a linked register is available, as is the case in some EU nations, arguments in favour of the workplace or the company level are more balanced. As stated in chapter II, the best of both worlds could be sought implying a flexible view on the employer sampling unit, as long as the same primary sampling unit is applied across Europe.

Structure of the chapter

The following sections of this chapter are structured according to the measurement framework presented in Figure 1 of Chapter I. The core concepts introduced in Chapter I are further developed into definitions which form the basis for identifying indicators for measuring organisational forms and organisational change. Many of the indicators are relevant to multiple concepts reflecting the basic interconnectedness of different parts

of the organisation. Capturing the initiation of change, the momentum carrying it throughout the organisation, and its effects is an ambitious goal. Much of what intersects or overlaps points to a need for greater *flexibility* in organisations, and *flexibility* is a key underlying theme in the way organisations are structured and in the changes they introduce. In section II, core concepts are developed and relevant indicators are proposed. Section III provides a discussion of the key background establishment characteristics which need to be measured to set the scene where organisational dynamics take place. The employer questionnaire is included as an appendix to the chapter.

II. Concepts and indicators

The MEADOW employer survey is designed to cover the topics identified in the measurement frame developed in chapter I. The following seven concepts are included in the indicators to be described in sections II.1 through II.7: drivers of organisational change, management techniques and practices including the use of ICT, organisational structure and the organisation of work, types of organisational designs, employment relations, and outcomes of organisational states and change in terms of social and economic performance.

Box 1: Structure of the employer survey questionnaire

Employer survey questionnaire sections		Chapter III sections
Section A	Demographics and workforce characteristics	II.4, II.5, II.6, III
Section B	Organisational structure and change	II.1
Sub-section 1)	Work organisation	II.2, II.3, II.4
Sub-section 2)	Management practices	II.2, II.3, II.4
Sub-section 3)	Use of ICTs	II.1, II.2
Sub-section 4)	Outsourcing and collaboration	II.3
Section C	Human resources	II.4, II.5
Section D	Economic context and strategic objectives	II.1, II.6
Section E	Establishment	II.6

These concepts and indicators are developed into questions in the employer survey questionnaire, which is included as an appendix to the chapter. Box 1 presents the general structure of the questionnaire. Sections A through E of the questionnaire reflect

concepts developed in sections II.1 through II.6. In the following, boxes will provide lists of indicators associated with each concept and the acronyms of the corresponding questions which start with the section letter. For example, questions from the section on organisational structure and change will start with a B. Of course, some questions can be related to different concepts. They will only appear in one section of the questionnaire, but they can be referred to in different boxes.

The MEADOW Guidelines propose an economy-wide approach developing indicators applicable to both public and private sector organisations and to all groups in the labour force. One consequence of this is that some organisational features specific to public sector organisations are not addressed through the development of appropriate indicators. Section II.7 identifies organisational features specific to public sector organisations that could be measured through the use of a specialised module.

As far as gender issues are concerned, indicators in the employer questionnaire are limited to identifying the proportion of women in the workforce and to the proportion of managers that are women. This provides a basis for measuring differences in the use of management practices, forms of work organisation, types of coordination mechanisms and authority relations according to the importance of women in the workforce. Further, these measures provide a basis for collecting information on the gender composition of the workforce that is stratified according to such factors as sector, occupation and establishment size. However, this approach is inadequate for capturing many key aspects of gender in organisations. In particular, power relations between men and women and gendering processes are both central in gender theory and relevant to empirical studies of organisational change. While special purpose survey modules could be developed to address these issues, they arguably are inadequate and should be complemented by other empirical methodologies including qualitative case study approaches that can be designed so to facilitate the discovery of gender-relevant structures and processes in the organisation.

II.1 Drivers of organisational structure and change

The umbrella terms 'globalisation' and 'internationalisation' are often used to characterise fundamental changes which have taken place in the spatial distribution of economic activities and there is an extensive literature on how firms have been affected by the rise of global markets, global production and knowledge flows, and global streams of finance.

Other important drivers of organisational change are the general dynamics of the economy resulting in economic downturns or booms. While organisations have to cope with fast growth processes involving the development of new markets and growth in the number of employees during periods of boom, they also need to be able to flexibly react to economic crises accompanied by decreasing demand, difficulties in raising capital or increased competitive pressure.

Enterprises are embedded in wider social and political systems and government policies and regulations in such areas as education, health and safety, the environment, and labour markets will affect organisational change. Organisational design and decision-making will also be affected by pressures associated with citizens' changing demands regarding work-life balance or access to training and education.

While wider economic and institutional changes form an essential backdrop to accounting for organisational change, employer-level surveys are poorly placed to provide measures of them, except as they are perceived by respondents. The MEADOW employer survey focuses mainly on capturing employers' perceptions of how changes in market conditions and technology have impacted on their operations. Box 2 gives the proposed indicators for drivers of organisational structure and change and their links with the employer survey questions.

Box 2: Indicators for drivers of organisational structure and change

Indicators	Survey questions
Globalisation	DMRKT, DMRKTPUB
Economic and market pressure	DMRKTCHNG, DMRKTCHNGPUB
Technological change	DOPCHNG, B3ITUSE
Government policies and regulations: norms and regulations	DOPCHNG

II.2 Management techniques and organisational practices

Collecting and analysing data on management practices and techniques have several advantages for studying change and innovation in organisations. When a manager implements a new practice based on a management concept, he or she has the intention of changing the organisation and the implementation itself is a measure of organisational change. However, these questions have a high obsolescence rate (Abrahamson and Fairchild, 1999) and this may require some replacement of questions on successive waves of an employer-questionnaire. Moreover, questions on managerial practices are somewhat blurred since in implementing new managerial concepts managers interpret and adapt them to the local context. For instance, quality circles and business process reengineering may take on different meanings across firms and over time. Some management concepts may lead to techniques or practices with slightly different names at a later date. In the MEADOW survey, design problems linked to ambiguity in the meaning attached to labels are handled by using questions which describe the practice rather than simply naming it. From one survey wave to the other, some fieldwork and the analysis of the management literature could also prove useful for identifying new management concepts and their translation into emerging management practices and techniques. For instance, the use of the Internet by employers was emerging in the early 1990, but by the beginning of the new millennium it had become a standard, with the implication that information about the employer's use of the Internet was no longer useful for discriminating workplaces according to their use of ICTs. Such phenomenon

creates a need for the renewal over time of indicators about management techniques and organisational practices.

As discussed in Chapter I, since the mid-80s there have been large reforms in how the public sector is managed in all the countries of OECD. Part of these reforms have been named New Public Management (NPM) (Hood 1991). During the 1990s the reforms focused mainly on marketisation of the public sector, but in the 2000s there has been an increasing focus on internal governance within state, municipal and county organisations. According to Pollitt (2003) NPM of the third millennium is characterised by the following :

• A shift in focus from administrative systems, resources and processes to outputs and impacts
• Increased importance of performance measurements
• Contracts and contract-like relationships between the levels of purchasers and providers
• Increased use of market-like mechanisms in various forms of service production.
• Emphasis on quality and customers' views

The emphasis on performance, output measures and quality implies a certain convergence in the objectives of management practices across private and public sector organisations and this trans-organisational feature underlies the MEADOW choice of a common survey questionnaire for both public and private organisations. Some relevant features of public sector organisations may not be adequately captured in this manner and they could be the focus of a separate module as discussed in Section II.7 below.

The Guidelines focus on the management techniques and organisational practices identified in chapter I because they contribute to strategies for greater organisational flexibility and innovativeness: Total Quality Management, lean production, ICTs and Knowledge Management.

1) Total Quality Management

Total Quality Management (TQM) emphasises the importance of involving all the organisation's employees in processes of quality control and improvement. Each step or job process is seen as an opportunity to eliminate error or waste, and to improve the output of the organisation (Morgan and Murgatroyd, 1994). The core of TQM is the customer-supplier interface, both internally and externally. At each interface there are processes which convert inputs to outputs. There is a focus on the internal details of work processes, and on assuring that all quality-related decisions are based on quantitative measures and not on subjective impressions.

The MEADOW Guidelines propose indicators for measuring quality monitoring, quality-related problem-solving and customer satisfaction monitoring (Box 3). Questions are designed to describe these processes rather than using labels in order to minimise problems of obsolescence or ambiguity associated with differences in the meanings attributed to organisational labels across nations and over time.

2) Lean production techniques

Lean production may be defined in different ways. Womack and Jones (2003, p. 10), who initiated the lean wave, define lean principles as being designed to, "precisely specify value by specific product, identify the value stream for each product, make value flow without interruptions, let the customer pull value from the producer, and pursue perfection." MEADOW proposes a single indicator to capture the organisation's use of systems to minimise inventories, supplies, or work-in-progress. As Kochan *et al*. (1997) have observed, the effective use of lean methods is connected to wider changes in work organisation and employee relations, including greater organisational flexibility, employee participation, investment in skill development, and reductions in employment security associated with downsizing. The MEADOW employer survey included questions which can be used to capture this broader understanding of lean production.

3) Information and Communication Technologies

The harmonisation of ICT indicators has been a major policy issue. On March 2007, the UN statistical Commission endorsed the core list of indicators on information and communication technologies (ICT) which was developed by the UNCTAD (United Nations Conference on Trade and Development) XI Partnership on Measuring ICT for Development. The UNCTAD questionnaire for enterprises uses a basic and an extended core of indicators. With only slight modification, almost all the indicators can be adapted for use at the establishment level. This has already been done in the METI ICT Workplace Survey in Japan[1].

Europe's information society policies are based on a harmonisation of ICT indicators for EU-member nations. Key policy objectives include the completion of a 'Single European Information Space' which promotes an open and competitive internal market for electronic communications, media and content, and the strengthening of innovation and investment in ICT research to promote growth and jobs through a wider adoption of ICT. The i2010 benchmarking strategy aims to monitor progress in achieving these objectives on the basis of indicators covering 22 different areas of ICT adoption and use including broadband take-up, the availability and use of on-line services, ICT adoption within businesses and households, e-business, e-government, and macro indicators of growth and employment in the ICT sector [2].

The OECD's Directorate for Science, Technology and Industry has adopted a similar approach proposing 15 key indicators divided between specialised ICT survey based measures of ICT use by households, ICT penetration in business and e-commerce, and aggregate measures based on national accounts measuring R&D in the ICT sector and ICT's share of national employment and trade[3].

[1] United Nations Report : CES/SEM.52/CRP.1 p. 4.
[2] See : i2010 High-level Group, The i2010 Benchmarking Framework, European Commission, 2006.
[3] See : OECD, "Information Technology Outlook", 2008.

The MEADOW employer-survey aims to capture ICT as an integral component of new business practices or in cases where ICT facilitates organisational change. ICTs then take the status of tools among others that are adopted by employers with the intention of changing the way the organisation operates. As discussed in Chapter I, the empirical literature on organisational complementarities shows that the impact of ICT on performance is not guaranteed, but depends on complementary investments in skills and on the use of specific organisational practices. Existing EU surveys focus on the diffusion of ICT and on e-commerce but they do not open the black box of ICTs to identify different uses in relation to managerial practices and forms of work organisation. The proposed MEADOW indicators of ICT provide a basis for exploring these complementarities in the organisation.

The MEADOW Guidelines propose two general questions to be included in the core questionnaire on the provision of on-lines services as a measure of e-commerce and on the percentage of the workforce that use computers as part of their normal work duties as a measure of ICT skills. The Guidelines propose a series of questions on the use of specialised forms of software to be included as a separate module and not be included in the core questionnaire except in cases where the ICT manager is the main respondent. This recommendation is based on the results of cognitive testing which showed a high level of non-response for questions on the use of specialised ICT software for such activities as workflow or collaborative work (See the appendix on the synthesis of cognitive testing). Section II.7 discusses further ICT related issues that could be addressed in an extended ICT module.

4) Knowledge Management

There is considerable policy interest in the competitive advantages that knowledge may provide for organisations and in the significance of knowledge workers, organisational competencies and knowledge-intensive firms. Knowledge Management (KM) is seen as a core dimension in bringing about organisational change. KM is a method for getting control over an important non-material resource of the organisation – the knowledge of employees – through collecting and systemising this knowledge in order to make it transparent and available for the organisation, including to other employees. The MEADOW employer-survey includes a question focusing on the benchmarking and diffusion of good working practices within the organisation, and a question pertaining to the monitoring of external knowledge on technical developments which also serves as an indicator of the development of a learning organisation (see section II.4 below).

Box 3: Indicators for management techniques and organisational practices

Indicators		Survey question
Total Quality Management	Customer satisfaction is continuously monitored	B2CUSAT
	Quality circles	B1CIRCLE, BCIRCLEPER
	Quality monitoring	B1DLGQLT, B2QUAL
Lean production	System to minimise inventories	B2JITP
ICT	Advanced on line services	B3IWEB, B3WEBSERV
	Client or customer relationship software	B3ITUSEa
	Performance tracking software	B3ITUSEb
	Enterprise Resource Planning software	IB3ITUSEc
	Collaborative work software	B3ITUSEd
	ICT skills	B3EMPL
Knowledge Management	Data bases documenting good work practices	B2KMDBASE
	Monitor external ideas and technical developments	B2KMEX

Up to now, questions about the use of a set of management techniques and organisa-tional pratices at the date of the survey have been presented. As discussed in chapter II, the Guidelines recommend measuring change through the identification of states at two different points in time: the date of the survey and the same date two years before, captured with a retrospective question. Most of the variables on management techni-ques and organisational practices follow this guideline (Box 4). Retrospective questions are only asked to employer representatives belonging to establishements with at least two years of existence. Because of its multi-item structure, the question on who is res-ponsible for quality control is an exception (B1DLGQLT). The question on quality circles goes further in the measurement of change as an additional question is asked about the evolution of the percentage of employees participating in such groups (B1CIRCLCHG). This complements the information about the percentage of employees participating at the date of the survey (BCIRCLEPER).

Box 4: Indicators of changes in management techniques and organisational practices

Indicators		Survey question
Total Quality Management	Customer satisfaction is continuously monitored	B2CUSAT2007
	Quality circles	B1CIRCLE2007, B1CIRCLCHG
	Quality monitoring	B2QUAL2007
Lean production	System to minimise inventories	B2JITP2007
ICT	Advanced on line services	B3WEBSERV2007
	Client or customer relationship software	B3ITUSE2007a
	Performance tracking software	B3ITUSE2007b
	Enterprise Resource Planning software	IB3ITUSE2007c
	Collaborative work software	B3USEd
	ICT skills	B3EMPL
Knowledge Management	Data bases documenting good work practices	B2KMBASE2007
	Monitor external ideas and technical developments	B2KMEX2007

II.3 Organisational structure and work organisation

The way organisations are designed is crucial in understanding both organisational performance and employee outcomes. The concept of organisational design refers both to work organisation and organisational structure: how work is divided into job tasks, bundling of tasks into jobs and assignments, interdependencies between workers in job performance, and how work is coordinated and controlled in order to fulfil the goals of the organisation. Organisational structure also includes considerations of the international division of labour, where production process may be divided between companies, regions and nations by increased use of subcontracting and outsourcing as well as by various forms of partnership and alliance.

In much of the recent literature the organisation, rather than being described in terms of its structure, is characterised in terms of systems of managerial practices. Typical terms for describing the organisation include 'the flexible organisation', 'high performance work systems' and 'learning organisations'. However, it is possible to describe such organisational systems and the direction of their change in terms of the traditional organisational dimensions of the division of labour, authority relations and control strategies (Robbins and Barnwell, 2002; Child, 2005; Mintzberg, 1983).These three dimensions are treated as core concepts in developing indicators for organisational structure and work organisation.

1) Division of labour

The division of labour concerns the division of work activities into specialised units, as well as the specification of roles in the organisation (Pugh et al., 1968; Robbins and Barnwell, 2002). The division of labour can range from highly specialised to highly integrated. The horizontal division of labour refers mainly to job specialisation or to the extent to which jobs are split into small, repetitive tasks, thereby decreasing the number of tasks included in a role (Mintzberg, 1983). Lesser degrees of horizontal specialisation are accomplished by integrating work tasks in flows or processes and assigning them to teams, or individuals working in projects. Multi-skilled employees then replace the specialised worker by so called functional flexibility (Atkinson, 1984). The vertical specialisation of work refers to the extent to which the responsibility for planning and follow-up of work is separated from the job performance. High levels of vertical specialisation lead to deskilling of the workers. In such contexts jobs tend to be highly specialised and skills narrow (Braverman, 1974; Thompson, 1984).

The new international division of labour resulting in a broader division of labour between companies and nations has been the focus of much literature over the last decades (Ackroyd, 2005). This process results in increased specialisation of activities by organisations and in greater interdependencies among them. Some research has pointed to larger organisations being deconstructed into smaller business units/firms through subsidiarisation, franchising, sub-contracting and forms of alliances (Ackroyd, 2005; Giertz, 2000). In this respect, the business function approach is promising (Sturgeon, 2008; Huws et alii, 2009). In a globalised economy, firms reorganise business functions through outsourcing and offshoring in an effort to provide the right mix of intermediate goods and services to larger networks of firms.

Employer surveys can provide a variety of information on the division of labour and notably are suited for capturing the use of subcontracting, outsourcing and alliances for different types of business functions. Employer surveys can provide some information on the internal division of labour through questions on the use of such practices as multi-skilling or autonomous team organisation and questions on the relations of control between different departments or divisions of the organisation. Detailed information on the degree of specialisation and repetitiveness of tasks is best collected at the employee level.

2) Authority

Authority refers to the structure of decision-making in the organisation: whether decision-making is centralised (i.e. concentrated and executed by top management) or decentralised (i.e. executed by the employees performing the actual job) (Robbins and Barnwell, 2002). Decentralisation can also be achieved by delegating authority to teams, groups or projects. From an inter-organisational perspective authority relations are particularly difficult to study. It may be difficult to determine where the most decisive power is executed in a context where transnational agencies and large multinational companies operate all over the world (see e.g. Ackroyd, 2005). Conflicting trends may be observed, where the flattening of the hierarchy at the local unit level is combined with increased hierarchy and centralisation at the inter-organisational and international levels (Alvesson and Thompson, p 500, 2005).

The MEADOW employer-survey develops basic measures on the nature of authority relations within the organisation by asking questions on whether it is the organisation's policy to delegate responsibility for specific types of tasks or operations to the employee involved. Detailed information on the extent to which an employee exercises control over such features as work pace and task order are best collected at the employee level.

3) Coordination and control

As work is divided vertically and horizontally it has to be coordinated and controlled. Mintzberg has identified five coordination mechanisms: direct supervision, standardisation of work, standardisation of outputs, standardisation of skills, and mutual adjustment (Mintzberg 1979). One main characteristic of an organisation is how these mechanisms are combined and exercised. Control aims at ensuring that a predictable level and type of outcome (performance) is accomplished and maintained (Child, 2005, p.112). Control by means of formalised rules and standardisation is one strategy (Pugh and Hickson, 1993). Another strategy is control by 'soft' systems which refer to more qualitative methods, such as internalisation of norms and values by dialogue, employee discretion, motivation and creativity (Child, 2005; Maravelias, 2002; Peterson, 2005).

A considerable body of research identifies trends towards the functional decentralisation of managerial structures (Alvesson and Thompson, 2005, p 489). The increased use of project teams and other forms of self-governance goes hand-in-hand with relatively decentralised systems of horizontal coordination. However, this type of decentralisation can be combined with centralised forms of control, such as the use of quantitative norms regulating work pace or standardisation of tasks imposed though the use of specific forms of ICT for regulating work flows. Consequently, it is important to measure both centralised forms of control and non or post-bureaucratic forms.

There appear to be both similarities and differences in the management of public organisations compared to private firms. Organisations in public sector are exposed to a transformation pressure emanating from the political system aiming for more efficiency in serving the needs of citizens, customers and clients at low costs and, as noted above, this results in some overlap with the management practices applied in the private sector. However, the public sector has a tendency towards more 'administrative orthodoxy' than in the private sector, believing that sound management requires strict accounting and control. Transparency laws are seen as means of increasing public trust in government and the optimistic view is that they will produce a culture of openness (Hood and Heald, 2006). Such issues might be addressed in a separate module as discussed in Section II.7 below.

Box 5: Indicators for organisational structure and work organisation

Indicators		Survey question
Internal division of labour	Multi-skilling	B2CUSAT2007
	Autonomous teams	B1CIRCLE2007, B1CIRCLCHG
	Vertical specialisation	B2QUAL2007
	Horizontal specialisation	B2JITP2007
External division of labour	Alliances and inter-firm collaboration	B3WEBSERV2007
	Subcontracting/outsourcing	B3ITUSE2007a
Authority	Centralisation and decentralisation of authority	B3ITUSE2007b
	Individual responsibility for performance	IB3ITUSE2007c
Coordination and control	Monitoring through management practices	B3USEd
	ICT monitoring	B3EMPL

As far as organisational structure and work organisation are concerned, changes are captured using retrospective questions for most of the indicators given in Box 5. Exceptions are the variables on horizontal specialisation (B1DIVTYPE, B1NDIV, B4ACTV) and the variable on decentralisation of decisions about planning and execution of daily work tasks (B1STRUC). The multi-item structure of these questions makes the formulation of restrospective questions more difficult in a unimode questionnaire. The question on time discretion for non-managerial employees (B1DLGSCHD) goes further in the measurement of change as an additional question is asked about the evolution of the percentage of non-managerial employees concerned (B1DLGSCHDCH). This question complements the information about the percentage of employees exercising time discretion at the date of the survey (B1DLGSCHDPER).

Two synthetic questions on change are included in section E of the questionnaire: EINNOVORG and EBASKET. EINNOVORG defines an organisational innovation, even though it uses the term 'change' instead of the term 'innovation'. 'Change' is used because the term innovation is not defined in the questionnaire and the word 'innovation' is used only once (Question AEMPCH-CAUSE in reference to the causes of a decline in employment). EINNOVORG prompts the respondent to think about the issue of organisational change and provide a relevant reply in EBASKET which is a synthetic open-ended question that collects the views of the respondent about the most important organisational change that has marked the life of the establishment over the previous two years. It is formulated as follows: "Could you please describe the most important organisational change introduced to your establishment over the past two years". The description is recorded verbatim.

Box 6: Indicators changes in organisational structure and work organisation

Indicators		Survey question
Internal division of labour	Multi-skilling	B1MULTSK2007
	Autonomous teams	B1TEAM2007
	Vertical specialisation	B1HIE2007
External division of labour	Alliances and inter-firm collaboration	B4COLB2007
	Subcontracting/outsourcing	B4SUB2007
Authority	Centralisation and decentralisation of authority	B1DLGSCHD2007, B1DLGSCHDCH
Coordination and control	Monitoring through management practices	B2JITP2007, B2QUAL2007
	ICT monitoring	B3ITUSE2007
Synthetic indicator	Organisational innovation	EINNOVORG
	Organisational change	EBASKET

II.4 Types of organisational designs

1) Bureaucratic and post-bureaucratic forms of organisation

Specific work systems and management models, such as flexible organisations and learning organisations, are often presented in the organisational literature as being non or 'post-bureaucratic'. While a considerable body of literature has focused on the increasing adoption of these forms, the MEADOW employer survey is not limited to capturing them. Many organisations in both the public and private sectors are characterised by bureaucratic dimensions and it is also a common feature to combine bureaucratic and non-bureaucratic struct res (Alvesson and Thompson, 2005, p 497). The main characteristic of bureaucracy is predictability of organisational performance by standardisation and regulation of employee's work. The work content in positions is formalised to guarantee that the outcome is independent of the individual holding the position.

Many terms have been used for describing post-bureaucratic organisational forms, such as 'network enterprise' (Castells, 2000), 'postmodern organisation' (Clegg, 1990), 'adhocracies' (Mintzberg, 1983), 'the flexible firm' (Volberda, 1999; Atkinson, 1984), and the 'learning organisation' (Senge, 1993). The main characteristics which differ from bureaucratic organisation are the use of non-hierarchical, flattened, integrated and flexible work systems (Child, 2005; Alvesson and Thompson, 2005).

While it is difficult to design specific questions to capture whether an organisation is bureaucratic or post-bureaucratic, different designs can be characterised in terms of a

mixture of features of the organisational structure, management techniques and practices, and forms of work organisation. Sets of indicators can then be used to measure the extent to which a particular design has been adopted. In this section indicators are proposed for measuring high performance work systems, flexible organisations and learning organisations. There is some overlap in the proposed indicators as these different designs share a 'post-bureaucratic' orientation.

2) High Performance Work Systems

High Performance Work Systems (HPWS) are characterised by a holistic organisation featuring flat hierarchical structures, job rotation, self-responsible teams, multi-tasking, a greater involvement of lower-level employees in decision making and the replacement of vertical by horizontal communication channels (Appelbaum et al., 2000). HPWS emphasise the importance of decentralisation of problem-solving and decision making. This requires three basic components: 1) opportunity for substantive participation in decisions, 2) appropriate incentives and 3) training and selection policies that guarantee an appropriately skilled workforce. Autonomous teams and quality improvement teams contribute to improve the organisational performance, as well as communication with actors outside the employees own work group. The employees in HPWS thus have a substantial autonomy in their work, and they are also able to call on resources when needed. However, while evidence for organisational benefits continue to accumulate, evidence for employee outcomes are increasingly polarised, varying from higher intrinsic reward to work-home spill over and work stress.

Box 7: Indicators for High Performance Work Systems

Indicators	Survey questions
Flat hierarchical structure	B1HIE, B1STRUC
Job rotation/multi-skilling	B1MULTSK
Autonomous teams	B1TEAM, B1DLGSCHD
Training	CRTNON, CRTNOFF
Employee consultation/participation	CBRFANY, CBRIEFN

3) Flexible Organisations

Flexibility is a widely used notion despite the lack of a generally accepted definition (Fellenz, 2000; Volberda, 1999). The meaning of flexibility differs considerably according to the specific area of interest. Flexibility in the area of organisational theory generally refers to an organisation's ability to change or to vary in certain aspects in order to cope with environmental uncertainty (Fellenz, 2000).

Flexibility can be understood as an increased ability to adapt to varying internal or external requirements (Zhang and Luo, 2005). Feibleman and Friend (1945) define organisational flexibility as the ability of an organisation to sustain limited change without severe disorganisation. There are other models of organisation which are built around

the core concept of flexibility and aim at increasing the organisation's ability to operate responsively in a fast changing environment. Such models of organisation include: Burns and Stalker's (1961) organic structure (as opposed to mechanistic structure), Emery and Trist's (1960) socio-technical system, Walton's (1980) high commitment systems, and some forms of decentralised, divisionalised, project management, and matrix structures (see, e.g., Child, 1972). Preece (1986) has proposed the concept of structural flexibility, which is concerned with the extent to which the structure of an organisation enables or hinders responsiveness of members of the organisation to change. This change could be initiated from within the organisation itself or it could be a reactive change in response to changes in the environment of the organisation (see Sethi and Sethi, 1990).

Different studies have established the distinction between two basic kinds of flexibility: functional and numerical. Functional flexibility is designed to increase the possibilities for re-deploying employees between activities and tasks by empowering workers with greater decision-making responsibility and assigning them a greater scope of different activities. This form of flexibility is generally associated with teamwork, autonomous work teams and flat hierarchies (Chadwick and Cappelli, 2002). Since firms aiming for a high degree of functional flexibility need to offer incentives to their employees to mobilise their knowledge and skills, flexible firms often employ financial incentives based on group or company performance (Macduffie, 1995). Further, since functional flexibility requires workers to acquire complex and firm-specific knowledge, firms tend to resort to highly qualified in-house staff. A number of empirical studies have found that functionally flexible firms are both more productive (Black and Lynch, 2004; Zwick, 2004) and more innovative (Hujer and Radic, 2003). Numerical flexibility, in contrast, aims at reducing fixed costs by contracting out jobs or through the use of temporary employment agencies (Gramm and Schnell, 2001). Such policies help to shift the burden of risk associated with demand fluctuations onto external suppliers. Outsourcing can also play an important role.

Flexibility arguably has to be combined with elements of stability. The performance and even the survival of an organisation depends to some extent on its ability to adapt to changing external conditions without implementing changes that transform the basic organisational structure. Earlier studies of the consequences of change for working conditions have showed that such structural stability is more common in core companies and central public administrations than among subcontractors and peripheral production units. The more powerful the position in the production chain, the more stable is the organisational structure (Härenstam and the MOA Research Group, 2005). In addition, there is research showing that working conditions tends to be better in organisations where structural changes are less frequent and extensive (Härenstam et al., 2004).

Box 8: Indicators of the Flexible Organisation

Indicators		Survey questions
Numerical flexibility	Share of employees with temporary contracts	ATEMP
	Share of employees with part-time contracts	APARTPC
	Share of employees from employment agencies	AAGENCY, AAGENNUM
	Subcontracting/outsourcing	B4SUB
Functional flexibility	Flat hierarchical structure	B1HIE, B1STRUC
	Job rotation/multi-skilling	B1MULTSK
	Autonomous teams	B1TEAM, B1DLGSCHD

4) Learning Organisations

The general definition of learning organisations proposed by Senge (1993, p. 3) is, "organisations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continuously learning to see the whole together" (p. 3).

Yang, Watkins and Marsick (2004) identify seven interrelated dimensions of a learning organisation at the individual, team and organisation or system level, and they propose a set of instruments for capturing these dimensions. They conclude that the learning organisation is a multi-dimensional construct involving a complex set of interrelations between individuals, teams and the organisation as a whole. Jensen et al. (2007) distinguish science and technology based learning (STI) from informal processes of learning based on doing, using and interacting (DUI) and explore their impact on the company's innovative performance using DISKO survey data. Learning organisations are defined as those with a high probability of using a range of managerial practices designed to foster learning and problem-solving on the part of their employees. These include the use of autonomous groups, quality circles, integration of functions and a high degree of interaction with clients.

Despite the disparate nature of the literature on learning organisations and its largely normative focus, it is possible to identify some common definitional ground beyond the obvious point that learning organisations are those with a capacity to adapt and compete through learning. First, most of the research sees the learning organisation as a multi-level concept and defines the learning organisation in terms of the interrelations between managerial practices, team organisation and individual behaviours. This implies that a linked employer-employee survey design, as proposed in MEADOW, is especially suited for developing measures of the learning organisation. Secondly, the managerial practices identified are multi-dimensional and concern policies in the areas of work organisation, communication and information exchange, and human resources. This implies the need for multiple indicators that could be used by researchers in order to identify the extent to which a particular enterprise or establishment displays the characteristics of a learning organisation.

Box 9: Indicators for learning organisations

Indicators	Survey questions
Autonomous teams	B1TEAM, B1DLGSCHD
Quality circles	B1CIRCLE
Training/skills	B1MULTSK, CRTNON, CRTNOFF
Employee consultation/participation	CBRFANY, CBRIEFN
Performance-based pay	CINCENPAY
Monitoring external technical developments	B2KMEX

II.5 Employment relations

1) Employment security

There is evidence of increasing variations in the employment conditions since the mid-1980s, mirrored in larger inequalities in real wage, skill levels and job security. These trends have been linked to a decline in the trade union movement in many countries, even if the evidence on job insecurity is mixed and varies between countries and sectors. A factor often cited as an explanation for increasing levels of insecurity is the growing use of non-standard employment contracts including part-time and temporary contracts. From a longer-term perspective, it appears that while levels of employee concern about job security rise and fall with the level of unemployment, they are higher today than in the early 80s (Bryson & McKay, 1997).

Perceptions of employment security are best captured at the employee level. The MEADOW employer survey includes indicators for the use of non-standard employment contracts. By linking the two survey levels, it will be possible to relate differences in the use of such contracts across sectors or nations to differences in the level of perceived employment security.

2) Human resources management

HRM was developed initially in the United States non-union sector. Subsequently, in both the US and Europe, HRM has often been adopted as a complement, if not an alternative, to established collective bargaining arrangements (Katz, 2005). HRM involves management decisions and actions that affect the nature of the membership of the employee to the organisation. The rising interest in HRM has been seen as a response to increasing international competition, increasing complexity and size of organisations, increasing levels of education of the work force, changing values concerning authority, and more concern with career and life satisfaction (Beer et al., 1985). These pressures create a need for more institutional attention to employees, and a consideration of people as a potential asset rather than merely a variable cost. The goal of HRM is thus to tackle the external and internal pressures with strategies and practices for unleashing people's energies and creativity. The human resource dimension is considered to be of strategic importance for the organisation, and thus should be an integral component of strategic management.

HRM is often described as having two sides: a soft side that emphasises commitment and influence, and a hard, practical side, which treats people like any other asset of the organisation (Guest, 1987; Storey, 1992; Legge, 1995; Truss et al., 1997). Using the terminology of Beer et al. (1985), there are four areas that are of major strategic importance for HRM policies. They are human resources flow, employee influence, reward systems, and work systems. 'Human resource flow' deals with the flow of people into, through and out of the organisation. Recruitment, internal staffing, performance appraisal and outplacement are examples in this area. This area also includes policies on career development, advancement and employment security. The area of employee influence deals with the key question on how much responsibility, authority, and power the organisation should delegate to the employees so as to increase their commitment and creativity. Through reward systems, the organisation sends signals on what kind of behaviour and attitudes management seeks from the employees. The rewards may be individual or based on group performance, and reward may compensate attitudes, performance, as well as flexibility. Internal equity in rewards and pay is seen as central to attracting, motivating and retaining employees. The area of work systems is concerned with skills development and training in relation to the division of labour and task attributes.

Box 10: Indicators for employment relations

Indicators		Survey questions
Contractual arrangements and employment security	Share of employees with temporary contracts	ATEMP
	Share of employees with part-time contracts	APARTPC
	Share of employees from employment agencies	AAGENCY, AAGENNUM
Human Resource Management	Recruitment policies	CRCTSK, CRCTUN,CRTN
	Investments in training	CTRNOFF, CTRNOFFPC
	Investments in skills enhancement	CTRNON, CTRNONPC
	Reward systems for individuals and/or work groups	CINCENPAY
	Performance appraisal and individual career development	CAPPPC, CAPPPRO
	Employee consultation/participation	CBRFANY, CBRIEFN

II.6 Outcomes of organisational change: measuring economic and social performance

The MEADOW employer survey includes indicators on both economic and social performance. Indicators on social performance are limited to measures of employment growth and absenteeism. Other indicators of social performance pertaining to the quality of jobs are best developed at the employee level.

One reason why performance measurement at the organisation level is necessary is to clarify the mission of an organisation and translate its strategies for achieving goals into measurable objectives. Thus performance measures allow the organisation not only to measure its progress towards goal attainment, but also to understand which factors improve its results. Due to the increased need of cost efficiency and privatisations they are also more and more deployed in organisations in the public sector (Salem, 2003). Thereby performance measurement ("How are we doing") and its evaluation ("Can we do better?") serve also as a way of legitimating initial organisational change by aligning operational activities and resources with strategic objectives of the organisation and external requirements. Thus, the measurement of organisational performance needs to be considered just as multidimensional as organisational strategies and activities are (Devinney et al., 2005). In order to address this multidimensionality, the use of broad performance measurement systems is necessary. The best known example of a broad performance measurement framework is the 'Balanced Scorecard' (Kaplan and Norton, 1992), based on four different perspectives from which performance can be evaluated: the financial perspective, the internal business perspective, the customer perspective and the innovation perspective. Another differentiation is suggested by Venkatramen and Ramanujam (1986) who distinguish between measures of 'organisational performance' and 'organisational effectiveness'.

The complexity of performance measurement applies to organisations in both the private and public sectors. However, while the need of performance measurement has widely been acknowledged in the private sector, this issue is relatively new to public sector organisations. Increasing budget constraints, the need for a more efficient use of resources or the increasing international competition and harmonisation (i.e. in the case of national education systems) has stressed the relevance of a systematic performance monitoring in public organisations in the context of New Public Management practices.

1) Challenges for measuring organisational performance

Following the overview of Devinney et al. (2005) and Armbruster et al. (2008), there are several aspects which should be taken into account when measuring organisational performance. In the following, different types of measurement problems are identified and possible solutions are presented.

Different performance claims of the organisation's local stakeholders:

Problem: different stakeholders are supposed to have different claims to the organisation's performance which have to be balanced and satisfied by the organisation's management.

Solution: various aspects of performance dimensions according to the different expectations of different stakeholders should be taken into account (i.e. financial performance, economic performance, social performance)

The organisation's individual strategic positioning in relation to its competitive environment:

Problem: different performance measures gain their relevance and importance from the

organisation's specific goals which in turn are based on the market position and the individual internal pool of resources, competencies and capabilities. Given that each organisation pursues different goals by many different types of strategy, this results in a multidimensional relationship between the organisation's goal and the various forms of organisational change. Thus, to measure the consequences of various dimensions of organisational change it is necessary to trace back the variety of performance measures to performance dimensions, which are closely linked with the underlying goals of organisational change. By referring only to overall performance measures of accounting or financial market performance, the analysis runs the risk to lose its focus as these variables are affected by the total sum of organisational activities.

Solution: as different goals of organisations aim at the optimisation of different performance dimensions, it is important to consider different performance measures (i.e. innovative performance quality of products/processes, flexibility) and to identify applicable objective and/or subjective performance measures which are best linked to the goals of organisational change.

Different time frames of organisational performance measures:

Problem: hardly any organisational change is directly reflected in a measurable change in the organisational performance as there is a certain 'time-lag' between stimulus (organisational change) and reaction (increased performance). This time-lag varies across different kinds of organisational change. While a change in the distribution channel might lead to a quickly improved turnover ratio, the implementation of a new organisational concept like TQM will probably take much longer time to show its performance effects. Different forms of organisational change are therefore supposed to have different temporal associations to performance measures (Jacobson, 1987).

Solution: the best solution to allay this problem would probably be to conduct a panel survey in which different forms of organisational changes can show their effects over time.

Bias in subjective performance measures:

Problem: like all types of subjective measures, subjective measures of organisational performance might also be subject to bias arising from the cognitive availability of events, problems or activities (Tversky and Kahnemann, 1973). Furthermore, retrospective recalls of informants are likely to reconstruct the past to make it consistent with subsequent performance expectations and current beliefs (March and Sutton, 1997).

Solution: whenever possible, subject performance measures should be supplemented by objective questions about facts and figures.

Cross-sectional correlations between performance measures:

Problem: in general, performance measures are commonly conceptualised as the dependent variable of organisational change (March and Sutton, 1997). But by aggregating different performance measures to a single performance construct of 'organisational performance', many studies tend to ignore positive cross-sectional correlations between them. For example, high process performance of an organisation might lead

to an above average innovation performance which in turn results in superior financial performance (Venkatraman and Ramanujam, 1986).

Solution: when assessing organisational performance, it is important to take into account possible structural relationships and interdependencies of the deployed performance measures. As these relationships reveal over time it is recommendable either to operationalise performance measures according to a defined point in time or to conduct panel studies which allow for ex post analysis of such inter-relationships of performance measures.

Difficulties in identifying distinct cause-and-effect relationship between organisational change and organisational performance:

Problem: activities of organisational change are often related to specific components of organisational performance. Due to the complexity of organisational change, it is obvious that a single organisational action will more or less impact other aspects of performance as well (Devinney et al., 2005: 10). In addition to the described general problem of time-lags between change and performance, this multidimensionality of causalities between organisational performance measures lead to some difficulties in deducing the performance of an organisation in different points in time. The short-term effects of organisational activities might be different from their long-term outcomes (March, 1994). For example, a poor process performance might cause managers to tighten controls and place a higher priority on formalisation in order to increase efficiency. But in the long run, this probably turns out to damage the organisation's flexibility to adapt to unforeseen changes in the external environment (Staw et al., 1983; March and Shapira, 1987).

Solution: at the moment, there is no real solution to this problem as the research on this issue is still at its very beginning. But nevertheless, such aspects and restrictions should always be taken into account analysing organisational performance. Therefore, it is not applicable to suggest any theoretical linkage or causalities between drivers of organisational change, forms of organisational change and performance outcome in the questionnaire *a priori*. Instead, such linkages between the constructs should be conducted through statistical methods in order to be able to grasp the whole range of probable causalities according to the behavioural heterogeneity of firms.

2) Performance indicators

Performance, as stated previously, is a multi-dimensional concept that covers very different aspects in which a company or public organisation may be doing well or not. The narrower definitions tend to refer to economic aspects like profits, turnover or market shares or efficiency of resource use. Broader definitions might also be related to growth potential, quality of products and services, the work climate, reaction time, potential for innovations, ability to attract high quality workers, labour turnover, absenteeism, et cetera. Integrating both strands of definition, the guidelines distinguish between economic and social dimensions of organisational performance.

Economic performance measures are related to ratios and indicators at the organisational level and encompass all areas of the organisation's production of goods and services like finance, product and service performance, process performance (i.e. quality,

flexibility, productivity) etc. In contrast, the dimension of social performance is much broader. Such social performances include for example the provision of new jobs through employment growth, the provision of 'good' working conditions or the support of public infrastructure. But it is important to mention, that economic and social performance cannot always be clearly differentiated from each other as they might be mutually dependent from each other.

For performance measures along these lines, one may generally distinguish between quantitative measures, sometimes referred to as 'objective', and qualitative measures, referred to as being 'subjective'. Each offers different opportunities and complications for questionnaire design and the two types are therefore considered separately below. The main decision to be taken is how performance can be measured in the MEADOW employer survey in relation to change. This section provides some theoretical and practical considerations.

Quantitative measures

The most direct measures of the economic performance of a company are profits, turnover or value added (turnover minus non-labour input costs). Commonly, these are used as per capita figures, where profits are also expressed as percentage of turnover. Experience demonstrates that such numeric questions usually yield relatively high percentages of unit non-response – be it because the respondent does not have the exact figures at hand during the telephone interview, be it because this information is considered confidential and is therefore not revealed even in an anonymous scientific survey. A problem that is specific to establishment surveys is that these figures are often not available for the individual establishments of a multi-site organisation. Another limitation of this type of economic key figures is that they are not fully comparable across sectors, size classes and regions, since the same turnover numbers or per capita value added may be indicative of good performance in one case and of relatively bad performance in other cases. Experience from the OSA Labour Demand panel – the Dutch establishment survey that currently uses both telephone interviews and a written questionnaire – indicates that questions about turnover and profits should, for the reasons mentioned above, not be asked in a telephone interview with general managers or HR managers. On the other hand it proves very possible to ask for other quantitative information in the telephone interviews, such as the vacancy rate, personnel growth or the absenteeism rate.

Qualitative or subjective measures

Productivity and performance indicators can also be collected by asking for 'subjective' or qualitative indicators, such as the assessment of productivity as compared to competitors, development of productivity in the past, and future expectations. The same applies to indicators for the economic situation of the establishment (very profitable / profitable / not profitable; profitability as compared to competitors; development of profitability over time). In order to capture the various aspects of firm performance, indicators could also refer to experienced and expected growth of the personnel size and perceived or expected bottlenecks with respect to worker motivation, recruitment, labour turnover and absenteeism. Such indicators are usually found to be more suitable for telephone interviews than the more detailed numerical information of quantitative

measures, as they can more easily be reported by the respondents, resulting in more reliable information and less non-response. Although qualitative indicators are usually less refined than quantitative indicators – particularly if these are measured as conti-nuous variables – they may provide the more relevant and reliable information and allow better comparison across very different establishments. The self-assessments and perceptions may reflect a specific dimension of performance better than the financial key figures and similar measures can be used that relate to a wider range of perfor-mance issues.

According to Forth and McNabb (2008), there are obvious drawbacks and advantages to both objective and subjective performance measures. It is also important to remember that they measure performance differently. Subjective measures ask for a comparison most commonly with competitors, using more broadly defined measures. Alternatively, it may be considered to add direct 'quantitative' questions about personnel growth, the vacancy rate and the absenteeism rate.

Whether quantitative or qualitative measures are the most appropriate depends on the interview method, on the research questions that are studied, and on the performance dimensions that are considered. In the literature on performance measurement in rela-tion to HRM, innovation or the organisation of work, the dimensions given in box 11 are thought of as particularly relevant.

Box 11: Indicators for Organisational performance

Indicators		Survey questions
Economic perfor-mance	Labour productivity	ELAB
	Product or service innovation	EINNOVPRD, PRDMRKT
	Process innovation	EINNOVPRC
	New marketing methods	EINNOVMRK
	Market growth	DMKTCHNG
Social perfor-mance	Absenteeism	AABSENT
	Employment growth	AEMPCHG
	Reasons for decline in employment	AEMPCH-CAUSE, AEMPCDOT

Except for very specific production processes, productivity of individual workers or divisions is difficult to measure. At the level of establishments, productivity is usually measured in terms of the value added per worker. Defined in this way, productivity is closely related to the financial key figures. For most of the dimensions listed above, both quantitative and qualitative measures can be used and information may refer to the current situation, development over a period of time, expected future developments, or an assessment relative to other similar establishments or regional or sector averages.

Linking performance indicators to external information

Additional sources of information on performance may be acquired by linking interview data with register data or other publicly available information (e.g. company reports). However, access to this information is often restricted (as far as possibilities to link interview data with register data is concerned) or labour intensive (as far as individual research in company reports or other publicly available information is concerned).

Based on earlier experiences with linked external information in establishment surveys, some methodological issues are pertinent. One is that information may be linked that is related to different entities: survey data often relates to the local establishment while registers and other publicly available data are normally related to the company, which makes a difference in the case of multi-site organisations. Also, available register data might differ in terms of content (turnover, value added, and profit) and in terms of reference period (available data might be outdated). As long as these limitations are taken into account, linking survey data with register data can only enrich the available information about the establishments.

A question asking permission to link the data collected to other data sources is included at the end of the questionnaire (JADMRECR). This question could be adapted to meet national regulations about data linkaging. Of course, complete confidentiality should be guaranteed [2].

II.7 Modules

The principle of a core questionnaire plus modules has been established in chapter II of the Guidelines. Two possible areas for module development are considered: public sector reform and the use of ICTs.

1) Public sector reform

In using the same questions for the public and private sectors, the survey implicitly focuses on dimensions that are comparable between the public and private organisations. The adoption of this approach in MEADOW is linked to the fact that with the New Public Management ideology many practices and techniques developed in the private sector have been imported to the public sector. However, this does not exhaust all the perspectives on organisational structure and change in the public sector and specific public sector modules could be designed to cover them.

One factor which appears to differentiate the public sector is a tendency towards more 'administrative orthodoxy'. Underlying this is the belief that sound management requires a strict hierarchy of accountability, strict accounting and control, elaborated reporting requirements and so on. The MEADOW core survey does not develop measures for these features and they could be addressed in a separate module. Another area where there are important differences concerns performance measures. While reforms based on the new public management have seen the introduction of private sector type

[2] See experience in WERS www.blackwell-synergy.com/toc/irj/39/2 recommending measurement based on both types of measures.

performance measures into the public sector, there are dimensions of performance with no obvious private-sector counterparts. These include the scientific output of public research organisations, the level and quality of education and training, and the quality and level of coverage of healthcare. Public administration may also be evaluated on the criteria of transparency as related to democratic principles. Transparency laws are thus seen as means of increasing public trust in government and the optimistic view is that they will produce a culture of openness in public organisations.

2) Information and Communication Technologies

The introduction of new ICT in enterprises is an important driver of organisational change and the complementarities that exist between ICT adoption and the organisation of work have an impact on the performance advantages that can be derived from ICT use. ICT can be an integral part of more effective knowledge management and it can be used in such areas as product design and market research. The MEADOW Guidelines propose a short ICT module that could be included in the core employer survey in instances where the respondent is the ICT manager. The module includes questions on the use of electronic data interchange with external clients or suppliers and on the use of specialised software in the following areas: client or customer relationship software, performance tracking software, enterprise resource planning software, and collaborative work software. This far from exhausts the areas of ICT use that are relevant to a survey on organisational change, and an extended module could be developed to include additional questions covering related areas of ICT adoption or use: data storage or automated search software as part of document management or knowledge management tools; data analysis software or tools for data mining or statistical analysis. As a measure of e-business a question could be included on the use of a website or extension of the intranet that is restricted to business partners (usually called an extranet). An extended module could also provide further information on e-commerce by explicitly asking whether the enterprise has sent or has received orders for products or services via the internet.

III. Background establishments characteristics

The employer questionnaire identifies key establishment characteristics that are necessary to set the scene where organisational change takes place.

1) Ownership structure, age and size of the establishment

Ownership includes a number of related dimensions including whether the organisation is owned publicly or privately or under joint public-private ownership, whether it is part of a larger organisation such as a group or conglomerate and whether it has international ownership. Several studies have shown differences in working conditions between public and private establishments. Moreover, employer units organised in larger groups or networks may be subject to control from other levels. This control may be exercised through economic and financial means or through technical and administrative measures. The increasing incidence of splits and take-overs of establishments seems to have

resulted in a dispersion of employer's responsibility over working conditions and human resources management across different organisational levels (Larsson, 2000). It seems likely that the ability to integrate various aspects of leadership not only varies due to the size of the organisation but also due to ownership and control. The age and size of the establishement are important background characteristics, connected with the life cycle of the establishment and which affect organisational design as has been shown by contingency theory.

2) Position of enterprise and business activity

The position of an organisation in the public sector or in the private sector has a significant impact on the design of work systems. Further, it is important to know the position of an organisation in relation to larger networks (public enterprise) or production chains (private enterprise) and their market position including their use of outsourcing. Trade conditions are a measure of the organisation's external conditions, its degree of competition, the importance of local, national, or international markets, and the degree to which its products or services are standardised or customer-tailored. It can be assumed that trade conditions have an impact on the organisation's decision-making latitude and thereby on the possibilities for achieving good working conditions. Questions about the company's trade position and core business activity can easily be surveyed at either the enterprise or establishment level.

3) Types of trade and operations

Work environment is settled to some extent by what is done, that is by the product or service produced. The nature of the product or service provided is also an indicator of the organisation's external borders. There are reasons to believe that organisations producing industrial products differ from organisations providing services (Kohn, Miller, and Schooler, 1983; Marshall, Barnett and Sayer, 1997). While some earlier research has focused on the relation between organisational structure and production technology (e.g. Woodward, 1958), the role of what is actually produced in determining work organisation has received surprisingly little attention in the literature.

Earlier classifications of types of trade focussed on industrial production and more recently categorisations covering both industry and services have been developed that address questions of what is produced and their requirements in terms of knowledge and technology (Giertz, 2000).[5]

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[5] Giertz (2000), for example,has recognised that there are differences in contextual and inter-organisational factors between different types of industries, and has developed a classification scheme on this basis encompassing 6 large groups: A) Raw material production, B) Manufacturing, C) Distribution of goods, D) Basic common services, E) The service sector, F) Spidering. These groups are divided into 24 types of operations. The approach has been operationalised in an MOA-study focusing on 'good' and bad' jobs (Härenstam and the MOA Research Group, 2005).

4) Personnel structure

Lastly, the structure of the workforce in terms of age, sex and occupation are important background information to know about the establishment. The nature of interactions between the employer and employees around organisational changes is influenced by the demographic and occupational structure of the organisation. Critical outcomes of organisational changes are also likely to vary according to workforce composition.

Box 12: Indicators for establishment demographics and workforce composition

Indicators		Survey questions
Ownership, establishment, age and size	Public/Private	APUB, ACUSTM, ACUSTIMP
	Part of a larger organisation	AINDP
	Domestic/foreign ownership	AOWNDM
	Workplace size	AEMP, ATEMP, APARTPC, AAGENCY
	Workplace age	AWPAGE
Position and business activity	Sector Industry (Code using NACE rev. 2)	ASECTOR
	Type of product or service	ATYPE
Personnel structure	Age	AAGEY, AAGEO
	Occupation	AOCC
	Gender	AGNDR, AGNDRM

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