



Restructuring across value chains and changes in work and employment

Case study evidence from the Clothing, Food, IT and Public Sector

Deliverable 10.1: WP 10 Organisational Case Studies – Synthesis Report

works
CHANGES IN WORK

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1 Introduction

JÖRG FLECKER

Since the early 1990's, there has been a general trend in corporate restructuring towards a 'concentration on core activities' and outsourcing of tasks in a range of business functions. Companies seeking to focus on what they define as their core business tend to outsource non-core activities to other companies that are specialists in those areas (OECD, 2004: 32). Apart from costs, this is motivated by considerations relating to management capacities, human resource and knowledge management and quality aspects. More recently, the re-location of work and the emergence of global value chains in more and more industries triggered a vivid debate on 'offshore outsourcing' in particular of service activities and high-skilled work (Huws, Flecker & Dahlmann, 2004; WTO, 2005; OECD, 2005). These processes of restructuring involve a decomposition and re-composition of sectors, companies, workplaces and jobs. They obviously have far-reaching consequences for employment levels, job security, work organisation and the quality of work life. The restructuring may also intensify the segmentation of labour markets and lead to a fragmentation of employment both in the private and the public sector (Marchington *et al.*, 2005). Moreover, the growing complexity of governance and control of the new organisational relationships results in an increased instability, unpredictability, and insecurity of power relationships at the level of the value chain or network, the organisation, the workplace and for the individual (Gereffi, Humphrey & Sturgeon, 2005; Huws, 2006). While subcontractors or supplier companies are often SMEs that are in a dependent position vis-à-vis their clients, it is also true that outsourcing is part of a structural shift in the economy that led to the emergence of large scale, global service provider and supplier companies (Faust, Voskamp & Wittke, 2004; Flecker, 2007).

The WORKS project aims to shed light on these issues by looking at the relationship between changes taking place at the level of the European and global economy and changes taking place at the workplace level. To analyse this relationship the concept of the global value chain is used because it makes it possible to examine the interactions between the different levels. To investigate current restructuring processes, the concept is extended beyond manufacturing to cover the service and the public sectors. On this basis, the division of labour along value chains and changes in work flows were analysed that directly impact on employment relations and day-to-day work practices. Organisational case studies were conducted to provide windows into the restructuring of value chains at strategic points to illuminate changes in the organisation of work within and between organisations. The data capture the effects of restructuring by going beyond the boundaries of individual companies and sectors. The WORKS project selected a range of business functions in particular sectors for investigation. A business function is defined as the ensemble of specific tasks or activities which contribute to the overall process of producing goods and services. Typical business functions include research and development, design, production, marketing, financial processing, customer services, logistics, human resource management, training and data processing. These are generic, in the sense that they apply across many different industries. The increasing standardisation of business processes ac-

companying the introduction of information and communication technologies makes it easier to separate the performance of business functions into separate units and either relocate them geographically or outsource them to another company or both (see WORKS Glossary).

A central focus of the research was the impact that restructuring had on the quality of work life as indicated by contract types, time use, work-life balance, training and equal opportunities. In detail, the aim of case study research in Work package 10 of the WORKS project was to analyse:

- the networked organisation, the global division of work within the value chain, the inter-organisational division of work;
- drivers of change and shaping factors, *e.g.* technological innovation, economic factors, liberalisation and rationalisation due to cuts in public spending;
- (new) forms of work organisation, division of work, and workplace design at the establishment level;
- co-operation, control, autonomy, time use, learning and working conditions in new forms of work organisation;
- impact of organisational changes on internal labour market structure, personnel policies, learning and skills;
- use of organisational temporal and contractual flexibility;
- industrial relations and participation issues;
- how, in the cases under investigation, the (national and regional) institutional frameworks shape work organisation and the quality of work.

The research is based on the assumption that value chain restructuring, by changing the position of companies or units in the value chain and by impacting on the power relations along the chain, directly affects both the quality of work and quality of workers' lives. One reason is that the boundaries between countries, sectors, companies and workplaces also constitute differentials in terms of basic employment conditions such as job security, wages, working hours, access to training, *etc.* Both labour market segmentation and industrial relations research suggest that the exploitation of these differentials is one driving force behind restructuring in the first place, with companies seeking access to cheaper, more flexible or differently skilled labour forces. Direct effects of restructuring on work organisation and work processes can be assumed because changes in the division of labour along the value chain influence workflows, skill needs and control strategies and this directly impacts on day-to-day work practices with possible consequences for all dimensions of the quality of work. In addition, the very dynamics of restructuring may increase the level of insecurity and enhance competition. This, in turn, may affect work-life balance, stress levels and career options.

In addition, there are not only direct, but also indirect, effects on employment conditions and work organisation. Quality of work is not only affected by actual shifts of boundaries or changes in functional relations: The mere existence of differentials also impacts on the bargaining position of actors within countries, sectors and companies because potential outsourcing or relocation can be used as a credible threat by management. Power relations between management, employees and other stakeholders thus change as management's range of strategic options increases. The impact of such changes can be seen most clearly in processes of 'concession bargaining' (Marginson & Sisson, 1996), but they may also become evident in extended working hours and flexibility arrangements.

The organisational case studies within the WORKS project covered a number of generic business functions that represent a wide variety of activities and labour processes in the 'knowledge society' ranging from highly skilled 'knowledge work' to semi-skilled manual tasks. The research also aimed to focus on those business functions that feature prominently in the external restructuring of companies and thus in the restructuring of global value chains. The selected business functions are:

- *research and development;*
- *production;*
- *logistics;*
- *customer service;*
- *information technology.*

To study the restructuring of value chains these business functions need to be located in specific sectors. The selection of sectors reflects the emergence of global value chains in different historical stages: sectors where vertical disintegration and internationalisation is already a rather old fact, and sectors where these have developed only very recently. The sectors under study are:

The *clothing industry* is an example of an 'old' industry where restructuring of global commodity chains was already an issue in the 1970's. Recently, the integration of Central and Eastern Europe in pan-European production networks and the phasing out of the Multi-Fibre Arrangement and the WTO Agreement on Textiles and Clothing considerably changed the trade regimes and resulted in a new wave of restructuring mainly affecting production in Southern Europe and the CEE countries. Finally, the sector provides interesting examples of 'head and tail'-companies which focus on high-skilled work within Europe.

The *food industry* is the largest manufacturing sector in terms of employment in the EU. It was subject to major restructuring after the completion of the single market in the European Union in the early 1990's which allowed companies to replace their country-by-country organisation with a pan-European structure. In contrast to parts of the clothing industry, food production is by and large highly automated. Both industries are interesting as examples of buyer-centred value chains in which the demands of the retail trade play a pivotal part.

The *IT industry* is a growing industry that saw a major wave of restructuring during and after the boom years in the late 1990's and around 2000 partly resulting in off-shoring. Internationally, this has contributed to the emergence of a 'new breed of TNCs', global companies that supply services to other companies. To a large extent the IT service provider companies have grown through large outsourcing contracts that included the transfer of personnel from the client company or public sector organisation, a tendency highly relevant for the research questions of WORKS.

Public sector organisations and services of general interest are currently subject to far-reaching restructuring because of liberalisation and privatisation policies and of budgetary constraints. In these sectors the lengthening of value chains through large scale outsourcing is a most recent phenomenon. The consequences for the quality of work are highly influenced by the traditional differences in the regulation of work between the public and the private sector.

Each business function located in a particular sector has been studied in a range of countries with diverse employment and welfare regimes (liberal, conservative, socio-

democratic etc). This makes it possible to analyse the influence of institutional frameworks on the consequences of restructuring. Overall, 58 case studies were conducted in 13 countries. The following overview shows the distribution of case studies.

Table 1.1 Sample of case studies

	R&D/Design	Production	Logistics	Customer Service	IT
Textiles/ Clothing	BE; FR; DE; PT; IT	BE; IT; PT; HU; GR	FR; DE; NL; PT; HU		
Food		GR; BG; IT; NO; DK; UK	BE; NO; BG; GR; UK		
IT	DE; AT; UK; BE; FR; NO	DE; AT; HU; BG; SW			
Public Sector Administration				AT; BE; BG; HU; IT; UK; SW	BE; NL; UK; FR; DE; NO; SW; PT
Services of General Interest: Post and Rail				DE; AT; SW; NL; GR	

8-10 interviews with management, key employees, and shop stewards (in the selected business functions) were conducted for each case study. The interviews were complemented by company documents and other material that made it possible to produce a comprehensive picture. Researchers in the respective countries synthesised the individual case studies from the interview data. On the basis of the individual case study reports, comprehensive comparative analyses were carried out to compose this report. The authors of the report are deeply indebted to the researchers who carried out the case studies in the various countries and to the respondents who devoted their time to our research and helped us to understand the developments in their companies and sectors. For the presentation in this report, all company names have been changed to assure anonymity.

2 Changing fashions of work organisation

The clothing industry

JÖRG FLECKER/URSULA HOLTGREWE

2.1 Value chain reorganisation

From early on the clothing industry has been highly internationalised and characterised by highly fragmented value chains and cost-driven competition. Nevertheless until quite recently trade barriers have been in place. During the 1990s, the Multifibre Arrangement (MFA) and the liberalisation of EU trade with CEE-countries shaped the development of the industry in EU and the neighbouring countries in Eastern Europe and the Mediterranean Rim specifically. Outward processing trade (OPT) arrangements allowed for export of materials to these low-wage countries by European producers and re-import of finished garments with minimal trade tariffs charged on the value-added abroad (Smith *et al.* 2002; Smith, 2003: 13). This led the East-Central European clothing industry to increase its clothing exports to the EU from 3.710 million USD to 8.824 million USD (+237 *per cent*) in between 1990–1999 (Smith, 2003: 29). In the EU, the industry downsized considerably while sustaining higher value-added functions. However, in the EU-25, still some 2.7 million workers are employed in the textile and clothing sector (European Monitoring Centre for Change, 2004b). After the phasing out of the MFA and the WTO Agreement on Textiles and Clothing in 2004, current global competition is putting considerable pressure on EU clothing companies (Lane & Probert, 2006), but also opens up new markets for them. Outsourcing to CEE countries that in the 1990 was characterised by wage-cost sensitive, short-term and arm's length relationships with customers, has resulted in upgrading processes due to Western European companies' business models favouring proximity of production and speed before cost reduction (Faust, Voskamp & Wittke, 2004; Pickles *et al.*, 2005).

The concentration process in the retail industry and the development of own labels and brands by retail companies further weakened the market position of clothing producers. They increasingly relocated and outsourced production to low-cost countries which often meant a vertical disintegration of the companies. The 1990's saw the triumph of the 'new verticals' that followed the textbook example of Benetton (Belussi, 1987), *i.e.* companies such as Hennes&Mauritz and Zara that completely control the entire value chain. Because of their success and the competitive pressure they have exerted on European clothing companies they became an industry model: Others followed the strategy of forward (or backward) integration, and some manufacturers are now considering the establishment of their own sales outlets. Value chain restructuring has thus been at the core of company strategies of adaptation and competition during the last decades.

The value chain of the clothing industry includes several links that represent different activities (Lane & Probert, 2006; Faust, 2005)

1. Planning and development of collection
2. Design and prototyping of models
3. Production design, planning, monitoring
4. Manufacture and assembly of garments
5. Marketing
6. Distribution, logistics
7. POS Marketing
8. Sales

These activities or functions can be carried out by one company at one or several regions or countries (vertical integration). The value chain may be fragmented so that the various functions are carried out by separate companies often in different regions and countries (vertical dis-integration). Individual clothing or fashion firms may cover different steps of the value chain and they may hold different strategic positions within it. This is often depicted in typologies (Faust, 2005). Lane and Probert (2006) distinguish between five types ranging from branded marketers to retailers with backward integration.

Faust (2005) adapted the typology on the basis of a study of the German fashion industry and describes the following types in relation to the above mentioned steps of the value chain they cover:

Table 2.1 Typology of clothing and fashion firms

	1. Collection development	2. Design and prototyping	3. Production planning & monitor- ing	4. Manu- facture	5. Mar- keting	6. Distribu- tion, lo- gistics	7. POS Mar- keting	8. Sales
Branded producers	X	X	X	(X)	X	X		
Private label producers	X	X	X	(X)	X	X		
Manufactur- ing sub- contractor				X				
Backward verticalis- ing retail- ers	X	X			X	X	X	X
New Verti- cals	X	X	X	(X)	X	X	X	X

The difference between the types not only lies with the functions or steps in the value chain the company covers, but also with its relative power position. 'Private label producers' cover the same steps as 'branded producers' but lacking the brand reputation or not offering complete collections they are in a weaker position vis-à-vis the retailing companies.

In the description of the findings from the WORKS case studies we can take these typologies as a starting point. Because of our focus on value chain restructuring we emphasise both the dynamic aspect of the types and the relations between the different players. In fact, the value chains in the clothing industry are highly dynamic as companies constantly try to improve their competitive position by outsourcing or insourcing, by forward integration ('verticalisation') or disintegration. Power relations are key to the understanding of these dynamics: For example, in order to escape from the dependence on powerful retailers producers aim at creating strong brands and establish their own sales outlets.

Some of the types described in previous research are illustrated by WORKS case studies. Some of the cases however do not fit that neatly into these typologies: Fashion companies with a background in logistics, for example, that organise whole value chains on behalf of their clients who may be retail companies or brand holders. Faust (2005) already mentions the emergence of specialised logistics companies, covering several steps of the value chain, but does not include them in his typology.

In the following we summarise the WORKS case study findings on the value chain restructuring in the clothing industry using typologies from previous research to structure the presentation.

2.1.1 The branded producers: outsourcing and forward-integration

2.1.1.1 *Adele: Forward-integration, backward disintegration*

The French medium-sized family-owned company produces and distributes medium to high-fashion women's clothes. As many French clothing companies did, *Adele* closed its factories in France in the 1980's. They only kept a small pilot production unit with strong technical skills. Half of the products are sourced from subcontractors in central and eastern Europe (Hungary, Romania, Bulgaria and Ukraine) and, to a much lesser extent in France, half from Asia, mainly China. The *Adele* brand is established in 30 countries, the chain store operates in many European countries but also in North America and Russia (Muchnik, 2007b).

From the 1980's onwards already *Adele* has moved from a production orientation to a marketing and retail orientation. In the second half of the 1990's the company transformed its distribution system from franchising to its own chain store system. *Adele* now has 100 chain stores, 50 affiliate stores (independent traders but *Adele* owns the stock) and 50 shop-in-shop corners in department stores. However, the company has not fully integrated sales but also sells its products to retail companies. In contrast to the traditional two-season-cycle, *Adele* has moved to constant replacement of items in the stores.

To be better able to adapt to constant replacement *Adele* tends to partly outsource the design process. The design function was reorganised in the sense that besides internal creation 'trade models' are sourced from abroad. Almost half of the collection is thus not created by the internal design department but by foreign fashion agencies that are linked to foreign manufacturers. 'According to one of *Adele's* designers, instead of being designed, models can also be found on place' (Muchnik, 2007b: 7). However, the reorganisation implied the establishment of a strong internal purchasing department who buy end products for the *Adele* shops. This shows that the company not only takes 'verticalisation' seriously but seems to move further towards retailing.

2.1.1.2 *Green S.p.a. – branded marketer as network enterprise*

The Italian company *Green S.p.a.*, employing some 1,200 workers, mostly women, is a key player in the underwear and swimwear industry in particular at the top end of the market. For the high quality product lines design is carried out in-house, but the production of samples is often outsourced to Italian subcontractors, while for lower quality lines subcontractors not only produce samples but also carry out large parts of conception and modelling. International competition and the saturation and instability of demand made it necessary to increase flexibility and to lower costs. This is why the outsourcing of design and prototyping accelerated after the year 2000 (Pedaci, 2007b).

As far as manufacturing is concerned only 6 per cent of products are made within *Green S.p.a.*, while the majority is produced by subcontractors and subsidiaries with subsidiaries accounting for approximately 60 per cent of production according to trade union estimates. More than half of the subcontractors and subsidiaries are located in Italy. Some 40 per cent of the production occurs in other countries, mainly in central and eastern Europe (Croatia, Serbia, Slovenia, Romania, Bulgaria), but also in Portugal, Tunisia, Mexico and China. Logistics is seen as strategically important to the company and is therefore kept in-house. *Green* has invested in a sales network and now operates 20 single-brand-stores in Italy and others in several European capitals. Time is key in the business as the demand for swimwear in particular lasts only a few months in a year. This impacts on the selection of suppliers and on the workflow in the value chain.

Green S.p.a. has strongly invested in information and communication technology as a base for further outsourcing of various functions including the strategically important collection development and design. The subcontractors are in a weak power position vis-à-vis the brand owner *Green*. The supplier company *NewWear*, for example, is in a position of dependence because *Green* provides most of its turnover. The asymmetry of power is mitigated by the long-term character of the relationship and by the high degree of specialisation and the competencies of *NewWear* that manufactures high quality product lines for *Green*. Nevertheless, time pressures are high for *NewWear* and they even increase if delays occur at *Green* that have to be made up in production at *NewWear*.

2.1.1.3 *Wonderwear – a ‘head- and-tail’ company growing shoulders*

The Belgian company produces underwear and employs some 1,500 workers in several countries. *Wonderwear* is a major player in the high end of the market and has a number of well established own brands. Growing production volumes and increasing product variety led to the outsourcing of production to a Chinese company in the 1980's already. In the 1990's *Wonderwear* established production plants in an Eastern European and a North African country as full subsidiaries. The reasons for the relocation were the labour costs but also the shortage of skilled workers in Belgium. Design was seen as a core function which was therefore kept at the headquarters in Belgium (De Bruyn & Ramioul, 2007c).

The demand of retailers for earlier delivery times and the shortening of innovation cycles enhanced the importance of prototyping. Therefore, management decided to turn the production unit in Belgium into a prototyping department. This restructuring completely changed the tasks of the stitchers. Overall, design, planning, purchasing, quality control, distribution and sales are located in Belgium while production is split: Cutting and putting together kits of cut fabric for each single product is done in Belgium, while stitching

is done at the subsidiaries or subcontractors abroad. In spite of capacity shortages due to growing production volumes management is reluctant to relocate cutting because they want to keep control of the quality of the cutting of delicate fabrics. In contrast, the production of standards that are used for sale to retailers was moved to the two subsidiaries abroad.

Wonderwear runs its own distribution centre in Belgium from where the products are sent to customers and its own outlets. There is a network of some ten stores in a neighbouring country. Most of the sales are done through independent multi-brand-stores. In contrast to other branded marketers in the fashion industry who attempt to verticalise by forward-integration, the main move of *Wonderwear* was to strengthen design capacities and become a 'head/shoulder and tail'-company.

These cases obviously do not simply follow the model of the 'new verticals' although as brand owners the companies would be in a rather good position to do so. Rather, they pursue different strategies that partly include further fragmentation. One path seems to be forward integration by developing or strengthening own retail units while outsourcing core functions such as collection development. The other path is the strengthening of design and prototyping without forward-integration. Production can be both relocated in-house to low cost regions and outsourced. A common feature of the cases is the tendency of acceleration of business processes and the significance of ICT in particular for organising fragmented value chains.

2.1.2 The private label producers' response to competition and retail power

2.1.2.1 *Menswearco – specialised producer strengthening logistics*

The family-owned German business employs some 150 workers and specialises in men's suits. It had outsourced the production to Poland and Romania in the 1990's. Since then the focus has been on design, logistics and marketing. The company not only internationalised on the production side but also with regard to sales: Its export share is now over 60 *per cent*. Both the outsourcing and internationalisation of production and the strengthening of logistics rely heavily on information and communication technology. For example, patterns are sent from design to spatially dispersed production units electronically and a new highly automated logistics centre makes just-in-time delivery possible.

Respondents called the recent restructuring of the company 'partial verticalisation': 'We take over functions that used to be performed by retail, in parts we have totally taken over these functions', the manager says (Bechmann, Krings & Nierling, 2007: 8). The company carries out large parts of the storage for the retail companies and consequently has also taken over the risks involved. A huge storage capacity was recently built with an advanced computer system that makes it possible to deliver every product within less than 24 hours. Not only logistics but also marketing has become more important: A variety of marketing strategies for different national markets need to be followed, and adequate market information has to be given to product development. The marketing department also runs an outlet store and are building-up a shop-in-shop system at retailers.

In contrast to the situation some 20 years ago, the value chain has become rather fragmented: the fabrics are no longer produced in-house, the garment production was fully

outsourced. However, while the company focuses on design, logistics and marketing, it actually controls large parts of the value chain. First, it has a strong power position vis-à-vis fabrics suppliers because of the high volumes needed. Second, it controls the production at the subcontractors in central and eastern Europe more or less directly by having access to their computer system and by employing a coordinator on site.

2.1.2.2 *Texport – a private label producer relocating all production*

Texport is a Portuguese shirt-maker company that reduced employment from 140 to 12 through outsourcing. While previously *Texport* designed, manufactured and distributed shirts in Portugal, it started to outsource in the late 1990's, set up a production facility in Romania in 2000 and discontinued all production activities in Portugal in 2005. Now the Portuguese company focuses on the creation of samples, the negotiation of orders, the preparation of production, quality control and the distribution of garments to the retailing or brand companies. *Texport* organises production that takes place in the Romanian subsidiary but also at subcontractors in Portugal, Honduras and Morocco. Production costs, tariffs and flexibility guide locational decisions and thus production units compete with each other for *Texport*-orders (Vasconcelos da Silva, Woll & Moniz, 2007).

There is no forward integration. Rather, there is backward integration because the parent company of *Texport* is a textile producer that provides most of the fabric *Texport* processes. However, *Texport* depends on retail companies and branded marketers who mainly decide on the terms of the contracts. In spite of somehow moving up the value chain the position of the company remains weak.

2.1.2.3 *Trousers Company – verticalisation or serving the retailers?*

A German company producing clothes for men and women with a specialisation in trousers and employing some 1,300 workers, '*Trousers Company*' has been in a process of both forward and backward integration. This includes the establishment of an own production site in Romania in 2002, the strengthening of the logistics function and engaging more and more in retail activities. Also widening the product range and producing different collection lines for men and women fits the role model of the 'new verticals'. In spite of starting its own retail activities according to the 'shop-in-shop' concept, however, the company is still very dependent on retailers and has to fulfil their demands. This is mainly felt in the logistics function where *Trousers Company* has had to make considerable investments in order to be able to take over tasks previously performed by retail such as storing and labelling (Nierling, Bechmann & Krings, 2007).

In addition to the Romanian production subsidiary the company has long-term relationships with 40 to 50 subcontractors in the Mediterranean region, in central and eastern Europe and in Asia. While the importance of production in Asia is declining, the CEE countries play the most important role in the *Trousers Company* value chain. Quality, flexibility, small batch sizes and short delivery times, but also geographical proximity, are criteria for the selection of subcontractors. Therefore eastern European companies are often chosen as suppliers although they are more expensive than their Asian competitors. Supply-relations are usually long-term because it takes 2 to 4 years until a subcontractor meets the quality demands of *Trousers Company*. Quality is secured through the presence

of own employees at the production plants of the eastern European subcontractors and through infrequent controls in Asia.

The logistics function controls the workflow along the whole value chain until the products are handed over to the retail customers. In doing so it strongly relies on information and communication technology. The demands are particularly high because the company maintains two separate logistic chains for 'hanging goods' and for 'lying goods' since the retailers may choose the form of delivery. The significantly growing speed of business processes increases time pressures which make it crucial to guarantee trouble-free transportation.

In these cases as well, production has been relocated partly to companies' own subsidiaries, partly to formally independent suppliers in low cost countries. The taking over of functions of the retail trade was termed 'verticalisation' by respondents but, on the one hand, powerful retail companies have managed to unload tasks onto their suppliers and, on the other, suppliers increase their influence over logistics and sales. Either way, the interdependence between retail and manufacturing increases. Again, acceleration and implementation of IT are common developments coinciding with the restructuring of the value chain.

2.1.3 Manufacturing subcontractors on the way to outsource production

2.1.3.1 Co B. – manufacturer relocating some stages of production

The Greek company employing some 250 workers focuses on the production of underwear. The main activities are cutting, stitching and packaging and, partly, knitting. Other stages of the production, such as producing the threads, parts of the knitting, dyeing and printing are done by suppliers. To reduce production cost the company has established a plant in Romania as a fully owned subsidiary where 45 *per cent* of the stitching and packaging has been moved. By way of relocating labour intensive, low-skill tasks *Co B.* takes advantage of the Romanian wage level which is only one eighth of the Greek one. In addition, the company outsourced a further 10 *per cent* of stitching and packaging to subcontractors in Bulgaria.

Co B. not only fully controls the operation in Romania but also has secured a strong power position vis-à-vis the Bulgarian subcontractors by maintaining, among others, unused capacity in the Greek plant 'that it can reactivate if the suppliers do not accept its terms' (Gavroglou, 2007: 6).

Fluctuations in demand are answered by a storage system that acts as a buffer. But there is also a need for temporal flexibility in the form of overtime. These demands on flexibility were passed on to the subsidiary and the subcontractors so that Saturday work could be reduced in the Greek plant.

2.1.3.2 Copy Fashion – a manufacturing subcontractor relocating production

The previously state-owned Hungarian company producing clothes for women and men was taken over by a German brand marketer to perform the cutting and sewing stages of clothes manufacturing. In 2004 however the German company withdrew and *Copy Fashion*

continued production as a subcontractor. The German customer however still controls the production process through the introduction of standards, the integrated computer system and through technicians who are still on its payroll.

The previous German owner underwent a far-reaching process of restructuring from 2001 onwards which included the merging of companies, the centralisation of warehouses, the reduction of the number of brands, the complete stop of production in Germany and the outsourcing of logistics. It turned from a production-centred into a marketing-centred company. Production is now carried out in Hungary, Romania, Bulgaria and China. However, in the view of respondents at *Copy Fashion*, not keeping any production at the main sites of the company resulted in a loss of knowledge: *'We cannot communicate with their company. There are no professional tailors there, so they just do not understand what we ask them'* (Makó *et al.*, 2007: 8).

Copy Fashion itself has also outsourced production, mainly for the US and UK markets, to Romania, Bulgaria, Ukraine and Turkey. The initial outsourcing attempt, however, was not entirely successful as it collided with customers' increased demand for quality, especially in the case of products manufactured in Ukraine. In addition, coordinating a delocalised production was problematic. In the middle of the 1990s, heavy losses in relation to the production in Ukraine led the (then) German management to terminate that relationship and consolidate locations. Hence, the main challenges for *Copy Fashion* are increasing quality levels, growing product diversity and smaller batch sizes in production. The company also consolidated the previously separated production lines for women's and men's clothes and enhanced internal temporal and functional flexibility. *Copy Fashion* has managed to keep high-quality production in Hungary while low-quality products are now manufactured in Romania and Bulgaria. Because of the short order-to-delivery times demanded by the customers the Hungarian manufacturer is not competing with Asian companies but with those in neighbouring countries. However, even in Hungary the decreasing level of workforce skills contrasts with the increasing demands.

The manufacturing companies are under pressure to reduce costs and as a consequence follow the model of their customers and relocate parts of the production to countries with even lower wage levels. Again, relocation of production can mean outsourcing or the establishment of own subsidiaries. This leads to a further fragmentation of the value chain.

2.1.4 The fashion logistics companies and intermediaries

2.1.4.1 *Eco Clothing – takeover and turnaround*

The German mail-order company produces and distributes clothes for women, men and children. After a crisis, *Eco Clothing* was taken over by a major retailing and mail-order company in 2001, and an emergency plan was drawn up that included the reduction of employment, a rationalisation programme based on the implementation of new technology and a cutback of the variety of products. Within two years the company was economically successful again and employed some 300 workers in 2006 (Krings, Bechmann & Nierling, 2007b).

The functions management, logistics and partly design are located at the headquarters in Germany. The geographical focus of production is Europe but to some extent the mate-

rials are sourced from development and 'fair trade' projects in all continents. In these projects, small cotton and alpaca producers and co-operatives are enabled to build their capacities for organic production through contracts and purchase guarantees over ten years. Generally, *Eco Clothing* has long-term relationships with its suppliers and is known for its high ecological and social standards. The logistics function, which is at the core of the mail-order company, was profoundly reorganised after the takeover: Computer and documentation systems of the new parent company were adopted, the workflow redesigned and transport was integrated into the parent company's transport system. This resulted in considerable savings.

In spite of the takeover and the strong influence of the parent company on the restructuring process *Eco Clothing* was able to maintain its identity as a company to a large extent. The reorganisation was organised as an open and participatory process and the changes did not follow the model of the parent company in all respects. For example, de-skilling and standardisation of tasks on the base of IT in the logistics department could be prevented. Still, the productivity in logistics doubled. Regarding the overall value chain the ecological and social standards in sourcing were maintained and the development projects were taken up again.

2.1.4.2 *GLog – a fashion-logistics company*

The Portuguese logistics company *GLog* has a specialised division for the storage and distribution of clothes and fashion goods. *GLog* is part of a major Portuguese transport and logistics group of companies who started logistics activities in the fashion industry in the 1980's. The company focuses on the business function logistics; the transport of clothes is outsourced to subcontractors *GLog* has long-term relations with. In recent years the group of companies insourced the computing centre because of the increasing importance of information and communication technologies for the logistics business. Restructuring is decided at group level; regarding suppliers a centralisation is aimed at so that all companies use the same suppliers (Woll, Vasconcelos da Silva & Moniz, 2007a).

As far as the workflow is concerned *GLog* stores and distributes clothing and textile products, for its customers. These products are mostly manufactures abroad for the Portuguese market. This includes unpacking of goods and sometimes labelling. Work in the warehouses is still mainly manual work although the implementation of ICT already had its impacts. It is planned to partly automate the storage. The customers demand faster services and high levels of flexibility that have been reached by teamworking in the warehouses.

2.1.4.3 *WW-DK – offering the service to organise the value chain*

The company 'WW-DK' used to be a wholesale company in the clothing industry which supplied garments to retailers and brand owner companies and as such never had any production capacities. In the 1990's it responded to the changes in the industry by offering an increased range of services to its customers and thereby attained a central position in the fashion value chain. These services are consulting, research, design, sample development, sourcing of material, production sourcing, lab testing, fitting, quality control and order tracking. *WW-DK* in turn outsources some of the functions, such as lab testing and

pattern making. Outsourcing, which is a declared policy of the company, is facilitated by its location within a traditional Portuguese textile and clothing region. The company employs 24 workers, mainly women (Woll, Vasconcelos da Silva & Moniz, 2007b).

Regarding the sourcing of production *WW-DK*, on behalf of their customers, co-operate with manufacturing subcontractors in Portugal, Brazil, India, Turkey and Egypt. Because of the need to react quickly the company tends to prefer production sites that are located closer to its main markets in Europe. Developing collections for and with customers and taking decisions on material sourcing and on contracts with manufacturing subcontractors, *WW-DK* has an important position in the value chain. They can strongly influence work processes at the manufacturing companies that are dependent on them. This means in practice speeding up the manufacturing process, reducing costs, investing in skills and implementing *WW-DK*'s order-tracking system.

But with the proprietary order-tracking system *WW-DK* also tries to capture the customers through the full integration of IT solutions. Nevertheless, customers exert considerable pressure on *WW-DK* in particular regarding flexibility. It is necessary to respond to customer demands and requests within 24 hours which for employees often means overtime and also night-work at home.

These cases illustrate that the background of clothing companies can be quite different: production, trade, logistics, *etc.* Restructuring may also include the changing relations with the parent company or the integration into a new parent company after a takeover. Logistics is a crucial function within the clothing value chain, all the more so when fashion speeds up and innovation cycles become shorter. It can be organised separately and carried out by specialised service providers or it can be combined with the organisation and control of several steps within the chain.

2.1.5. ... and a textile company fighting the dragon

2.1.5.1 *Geisha – flexibility and forward-integration*

The Dutch textile company '*Geisha*' specialises in cotton prints and produces high quality 'wax prints' by using a patented mechanical technique that makes the prints resemble the hand-made Indonesian Batik cloths (Hoogenboom, Bannink & Trommel, 2007). The main market for these textiles is West-Africa where *Geisha* established subsidiary plants that produce cheaper versions of the prints. Recently, Chinese competitors have entered this market and pushed aside the two African subsidiaries of *Geisha*. What is more, they also threatened to take the market for the more expensive original 'wax prints' still produced in the Netherlands.

Geisha responded with a restructuring plan which included increasing flexibility to preempt Chinese competitors' copying motifs and selling of fabrics before *Geisha* would be able to produce and distribute a second delivery. In addition, *Geisha* plans a forward-integration by opening 'flagship stores' in West-African capitals. The company also aims to establish a marketing and market research apparatus in West Africa and to intensify advertising in order to establish *Geisha* as a brand. Interestingly, the plant in the Netherlands is more likely to survive the competition than the African plants because production in the Netherlands can be used as a selling argument for the high quality of the products.

2.2 Employment

All companies in the sample have gone through considerable downsizing, with the exception of *Wonderwear*. The Belgian company has increased employment over the last ten years, with fairly constant headcounts in Belgium and considerable expansion in its two subsidiaries abroad. German *Eco Clothing*, after a crisis also has started expanding again. Offshoring has taken place since the 1980's and 1990's throughout the industry and moved further East in the process. This means companies have shrunk, often in line with the decline of the whole industry in regions in France, Italy, Germany, Greece, Hungary or Portugal and that in the sample, we have rarely caught the bottom end of the value chain in repetitive, pressurised production work. It also means that workers in several companies make up a small community of 'survivors' of previous downsizing who have had to accept considerable work intensification and no increases in pay for years. It also means that workers generally have been with the companies for a long time and few have been newly recruited.

Mostly, employment in the observed cases is characterised by long-term standard employment relationships with fulltime employment. In between two thirds (*Menswearco*) and 90 per cent of workers are women, with technical functions and some warehouse work covered by men who are also overrepresented in management functions. However, women are also found in management and highly skilled positions. Workers have an average age of 40 in most cases. However, as from the beginnings of a clothing 'industry' or proto-industry (Phizacklea, 1990), some companies also outsource work to homeworkers or very small businesses which is the case for the subsidiaries of Italy's *Green S.p.a.* but not for *Green S.p.a.* itself. Here, there is more non-standard work in the retail subsidiary, and it is possible that other branded producers' moves into retail will increase the proportion of part-time and short part-time work in line with the practices in the retail sector.

Otherwise, in the companies investigated there is little atypical employment. Shiftwork is common but not used everywhere, part-time work tends to be an exception but occasionally is made to fit in with shiftwork ('housewife shifts' in German *Trousers*). Companies use temps rarely and in emergencies only or in the case of the strong seasonal shifts in workload that for example the mail-order logistics of German *Eco Clothing* have. New hires receive fixed-term contracts in Germany and Portugal where managers deem employment protection on permanent employment too high.

The downsizing mostly has taken place with few actual redundancies. Attrition has been used, and in France, Italy, Greece and the Netherlands, early retirement packages have been offered that compensate for losses in pensions. Indeed, the Greek *Co B.* upon the initiative of the union managed the whole downsizing process 'completely bloodlessly' through offering an attractive early retirement package, and the remaining workers feel their jobs to be safe. Italian *Green S.p.a.* uses a somewhat paradoxical combination of public support for restructuring and flexitime. They draw on the 'cassa integrazione' for not having to lay-off workers. The suspended workers receive 80 per cent of the wages from the state. The workers of *Green S.p.a.* asked for, and were granted, to be suspended all by turns, just for 15 days a year. On the other hand the company uses temporal flexibility with longish workweeks of nine hours per day and work on Saturday.

Wages generally are set by the collective agreements for the clothing industry in each country, but nevertheless are not very high. In Portugal (*Texport* and *WW-DK*) and Greece (*Co B.*), they are somewhat above the minimum wage, whereas in *Adele* in France and

Copy Fashion in Hungary, they are close to the minimum wage and in addition have not been increased for years. In Italy, *Green S.p.a.* benefits from outsourcing to a range of small companies in a specific way. Companies with 15 or fewer employees are exempt from some taxes and social security contributions and also from some employment protection. In addition the employees of *NewWear*, *Green's* subsidiary, are covered by the collective agreement for handicraft enterprises. All of this results in some 20-25 *per cent* lower pay for a similar job description and rank at *NewWear* than at *Green S.p.a.* and presents an institutional incentive for this type of small-scale subcontracting in the region.

2.3 Work Organisation

The interpretation of the case study material clearly shows that changes in work organisation depend on the position of the company in the value chain. While companies that have outsourced production and have only kept pattern making, for example, report an enlargement and enrichment of tasks, their subcontractors usually organise production in assembly lines with highly repetitive work. While at the higher end of the value chain functional flexibility is based on high skills and long tenure, at the lower end flexible allocation of workers is made possible through the simplification of work. Good examples for this dualism are the 'branded marketers' *Wonderwear* and *Green* and their subcontractors. At *Wonderwear* mass production was relocated and outsourced, while cutting and pattern production expanded. The workers who were transferred from the abandoned mass production in Belgium to pattern production experienced pronounced enrichment and enlargement of their jobs. At *Green* the move from production to service had the same results for workers moving into sample production. In contrast, work organisation at *NewWear*, one of *Green's* manufacturing subcontractors, is characterised by assembly lines and repetitive work. As a trade unionist comments: '*At New Wear there is not only a massive exploitation of the workforce but exploitation of the classical kind: workers are required to produce so many pieces in a given period of time*' (Pedaci, 2007: 9). On top, working hours are highly flexible because *NewWear* not only has to react very flexibly but also has to catch up delays that occurred at *Green S.p.a.*

Developments in work organisation are also influenced by general trends of business and industry processes. The most conspicuous feature here is the overall acceleration of business activities and workflows. Across the industry, the traditional pattern of seasonal collections has dissolved, and collections are continuously modified and updated. Thus fashion markets change faster, and retailers and distributors demand increasingly rapid responses. Even *Wonderwear*, who have managed to stay with the two-season model, face increased demands by retailers for earlier delivery. This often results in a speeding up of work processes, in longer working hours, in high demands on temporal flexibility and in increased stress. Taking into account this acceleration, the overall picture about the situation of companies with different positions in the value chain presented above needs qualifications. The case of *Adele*, a branded producer of high fashion women's clothes, shows quite clearly that a rather strong position in the value chain does not necessarily coincide with favourable working conditions. On the contrary, it seems to suggest that acceleration is a general tendency the consequences of which cannot simply be passed on to subcontractors: The move of the company towards trading clothes or logistics lead to an acceleration of working pace, because transport becomes increasingly critical for timely delivery.

In design, the re-actualisation system leads to a multiplication of tasks. Muchnik shows this for *Adele*: 'For example, when I visited *Adele* in November 2006, they were working simultaneously on re-actualisation for winter collection 2006 (delivering of new pull-overs), on the winter collection 2007, and representatives had just finished sales of past summer, so they had to analyse best sales to prepare the next summer collection which had to be started at the end of January. Obviously, for model builders, designers and RDP, who have to work on several seasons at the same time, there is a task multiplication. They have today to respect three end dates: for production (the classical internal collection is done in three months), for normal re-actualisation (they work one month to one month and a half in advance, to send prototypes and stores to East European contractors) and for speed re-actualisation (in this last case, for very short term restocking, production is done at *Adele's* manufacture unit, and it can take only fifteen days).' (Muchnik, 2007b: 9f.). This pressure has two types of consequences: a redistribution of tasks between the different workers of the creation department and a simplification of the working process with some stages of the process being shortened or removed. Especially, iterations of improvements and corrections are cut: 'And if we make too many corrections, we'll never see them at the end, we have to launch production directly so we have very little time available to react, so we have to be very self-confident' (Muchnik, 2007b: 12)

WW-DK, the Portuguese clothing intermediary that specialises in organising and controlling the value chain on behalf of brand owners and retailers, is another interesting example in this respect. Its central position in the value chain does not appear to translate into improvement of working conditions. The designers report very short development times and a constant need for speed. 'The pressure is of course much more than it was before. (...) We have to work with quick dates, and it is always a lot of pressure in our back. You can't relax in that department. Everything is very fast and if we have a problem we have to solve it very quickly. I never relax.' (Designer) (Woll, Vasconcelos da Silva & Moniz, 2007b: 12). In addition, high levels of temporal flexibility are required: Customers can expect answers within 24 hours. This means that some employees work from home in the evenings to guarantee this and to communicate with customers in other time zones, while others start earlier in the morning (*ibid.*, 13).

The case study on *Menswearco*, a private label producer in Germany, yielded similar findings regarding the working conditions of designers: 'Generally, speed of production, work hours and stress have increased. (...) The high workload also has consequences on the gender dimension. The female designer pointed out that it is impossible to combine a job as designer and career with family planning: 'The designers I know that are of my age are all not married. Mostly they are women, and the women who have got a child don't work anymore, none of them ...', she said.' (Bechmann, Krings & Nierling, 2007: 15). Design thus tends to increasingly become a full-time-plus occupation, and 'Flexibility means that we sit and discuss also at night', as a Portuguese fashion designer puts it (Woll, Vasconcelos da Silva & Moniz, 2007b: 12).

Intensification of work and higher demands on flexibility are not limited to the design function. Remaining production personnel often finds an enrichment or change of tasks. The Belgian stitchers at *Wonderwear* are the prime example who moved from plain production to demanding prototyping work, but *Trousers* moved its seamstresses into quality control in the warehouse when it expanded its logistics function, and *Adele* does so for part of the time when necessary.

The case studies on *Eco Clothing* and *GLog* show the significance of flexibility for the logistics function. The acceleration of the business in general makes logistics more pivotal and it is necessary to organise transport as efficiently as possible. In addition, the power position of retailers results not only in additional tasks for clothing companies who have taken over warehousing and labelling but also in high demands on flexibility. Delivery dates may be changed on short term. The strategy of companies to offer more than two collections a year and to continuously update collections multiplies demands to get smaller collections to the stores as quickly as possible (Woll, Vasconcelos da Silva & Moniz, 2007a: 7). However, there is a variety of ways of organising work in logistics. *Eco Clothing*, after recovering from the crises of 1997 and 2000 and having been bought by a large mail-order company, pursues a strong human resource concept of empowerment and employees' self-responsibility and has successfully refused to implement the mother company's more standardising approach to rationalisation in logistics and call centres. Instead of introducing a fully automated logistics system, new technology was introduced in a participative process and restricted to improvements in workflow and documentation which render work more effective and less exhausting for logistics workers. *'Yes, well, the technology insofar, that we aren't on the highest level of technology. Simply we said no, we also like to consider, where it makes sense to introduce new technologies, but for us it is very important, that the employees are regarded as employees, with other words that they keep their own responsibility. That means not only bring one product from A to B, but also to feel their own responsible part in their working processes. That they consider what they can improve from their perspective, but not only from a technological perspective...'* (Head of department of logistics, cited in Krings, Bechmann & Nierling, 2007b: 8). However, *Eco Clothing* which has sustained its orientation towards high ecological and social standards through its takeover, is the only case where high standards for work and participation apparently are maintained across the value chain and include producers of fibres and fabrics to some extent. This is contingent upon its fairly specific market segment of 'ecological' clothing where consumers are willing to pay higher prices and where retail is integrated to reach and inform this segment.

2.4 Skills, knowledge and learning

Overall, with the offshoring and relocation of the more standardised and repetitive functions there is rarely any deskilling to be observed in our cases. Instead, the remaining production workers' skills have been upgraded and expanded. The clearest example is *Wonderwear*, where stitchers now cover the whole range of prototyping work. In addition, the fragmented value chains require new generic skills across the board: Communication with customers, including English (and in the case of Hungary's Copy Fashion, German) language skills, at least basic IT skills in a working environment that increasingly makes use of integrated ERP (enterprise resource planning) systems across departments and even companies, and international co-ordination and management skills. Fashion designers also note a change of the knowledge base and base for creativity they employ in their work. They still take up aesthetic input from travel and observation of street life and fashion: *'We always keep our eyes open, for instance when we are travelling. We sometimes just take an hour to sit in a café and look at the people and make notes'* (Woll, Vasconcelos da Silva & Moniz, 2007b: 14). This, however, increasingly collides with the general speed-up of work

and multiplication of tasks that is likely to leave little time for pursuing inspiration. In addition, design is increasingly driven by commercial data as Muchnik's interviewees point out (Muchnik, 2007b). Sales figures are analysed closely and they inform the next season's designs. Thus it is less artistic flair than the capacity to process an expanding range of information under tightened time pressures that translates into a talent that cannot be trained in this manager's view: *'It isn't something you can educate yourself. Either you are the type of person or you are not. Speed has to do very much with flexibility, and taken yourself not too seriously'* (general manager WW-DK, *ibid.*, 15).

In countries with an institutionalised apprenticeship system such as France, Germany, Italy or Hungary, skills are acquired through apprenticeships and technical college educations. Production work, however, where it still exists, is mostly unskilled or semi-skilled, and here workers learn by doing but gather company-specific skills through long tenure with the firm. In countries with less developed vocational training such as Portugal or Greece, designers and technical workers tend to acquire their skills 'by doing' as well. However, the available infrastructure to develop skills in the clothing industry is apparently eroding with the shrinking of the industry (cf. European Monitoring Centre for Change, 2004a). Hence, skill shortages occur and are exacerbated through offshoring, and then require further relocations of production: For Belgium, De Bruyn and Ramioul report: *'In the last decades, schools have closed down courses and training in stitching and related fields. Wonderwear experiences the same problem with regard to stitchers. It is actually a vicious circle: As a consequence of the steady decrease of employment in textile and confection due to relocation of industrial activities that is going on since the 1980s, less and less women can be motivated to go to dressmaking schools because they fear unemployment. For Wonderwear this is problematic because the evolution of the company is one of growth, related to a fundamental shift of the market strategy into high-fashion luxury lingerie'* (De Bruyn & Ramioul, 2007a: 13). In a similar way, *Copy Fashion's* cooperative relationship with the local training school eroded, and for both reasons of cost saving and the turnover of skilled workers, *Copy Fashion* tried to internalise training – with limited success: *'In the past one needed to take a degree at a foreign trade college, at present there are only two employees who have it, the rest of them lack a degree, they only did some course. (...) Those who graduated from the foreign trade college don't usually stay employed here for long because salaries in the clothing industry aren't high enough, so many of them have left mainly because of financial reasons.'* (Commercial and Export Manager, Makó *et al.*, 2007c: 16). In Italy's *Green*, the outsourcing of production to some extent is beginning to erode the base for both formal and informal on-the-job training: *'According to some, the outsourcing of most productive functions has cut down opportunities and led to a loss of professional skills. Newcomers apparently no longer can move around within the organisation, losing opportunities of socialising and of fully understanding the productive cycle. Consequently, opportunities for knowledge exchange between departments are increasingly fewer, as manufacturing, sampling and design no longer interact with each other as they used to. This opinion, however, was held by some respondents and definitely not shared by others, especially by the management which, on the contrary, firmly believed that exchange among workers and departments were brisk and that professional skill levels constantly on the rise.'* (Pedaci, 2007b: 12f.).

Thus, with the downsizing of the industry, its regional bases and the training institutions that could be supposed to sustain them in the region erode as well (Piore & Sabel, 1984). Publicly-funded training schemes do not necessarily compensate for this. In *Co. B.* in Greece interviewees regarded them as 'woefully inadequate and pointless' (Gavroglou,

2007a: 12). This may imply that the prerequisites for a high-road, high-quality strategy, a skilled labour base and a 'critical mass' of training and development opportunities disappear in the regions. In some cases, interviewees note new, networked training opportunities. *Copy Fashion* apparently benefit from close collaboration with customers who also have staff on site: *'I'm pleased to work together with them because they are not infected by professional short-sightedness. We also try to make scales fall from our eyes, but they call our attention to many things. First of all to quality matters, secondly to organisational questions, and finally to production preparation points. So we can learn a lot from them.'* (Technical Director, Makó *et al.*, 2007c: 23). In this manager's view, this has already improved the company's problem-solving capacities and he readily embraces a solution-oriented stance: *'Formerly I was quite upset whenever we were just standing helplessly expecting the customer to solve the problems. This is not a market-oriented reaction. If we have a problem now, the preparation unit needs to sort it out. There are still some minor hiccups, but it's a lot smoother process now. And that's why many customers like Copy Fashion, because we are not pointing our fingers backwards, blaming them for the problems (e.g. saying: 'Why did you send it like this?'), but instead when there is a problem, we indicate it to them, assuring them that we are working on it. Of course, there are some problems that we can't solve.'* (*ibid.*, 19).

In German *Menswearco*, one occupational group has established their own networks of skill enhancement and knowledge exchange in a crafts-based way that is reminiscent of Benner's IT 'guilds' (Benner, 2003): Patternmakers have a professional association that meets at trade fairs, provides training and organises excursions: *'We were in Italy ... In Italy, Portugal, Spain we have friends whom we meet and visit companies. How do they work, what do they do? Last year, we were in China, for example. Got to know China, the Far East, also visited companies. How do they work, what motivates them?'* (Pattern Maker, cited in Bechmann, Krings & Nierling, 2007: 17).

2.5 Industrial relations

Overall, in the clothing industry, unionisation is comparatively high with union density above 50 per cent in many cases. Many are also covered by the industry-specific collective agreements and have works councils representing workers in the company. Only Portugal's two cases, *WW-DK* and *Texport* are non-union companies. In Hungary, about 20 per cent of workers are union members and the union apparently concentrates on social aid to its members, and 'lacks initiative' (Makó *et al.*, 2007c: 13) with regard to other issues. In the second Portuguese case, *Texport*, the downsizing and relocation of production led to disproportionate redundancies of union members who were concentrated among older workers and production workers. Hence, the company became non-union. This has brought HR management to an individualised small-business approach *'Nowadays, because of the reduced number of workers at Texport and because they don't have manufacturing, they don't need representation. They can talk directly to the human resources manager or the head manager'* (HR Manager, cited in Vasconcelos da Silva, Woll & Moniz, 2007: 17). Here, instead of official interest representation an informal commission has been established to deal with workplace issues.

Unions' bargaining power is very limited in a sector characterised by continuous restructuring, overall downsizing and the day-to-day experience of global competition. Outsourcing and relocation decisions tend to fall under management's prerogative with

works councils being informed rather than participating. The consequential downsizing in several cases has been negotiated with works councils and local unions who have been able to establish 'social plans' or early retirement packages in the Netherlands' *Geisha*, Italy's *Green S.p.a.*, and Greece's *Co B*. In Greece especially, in a small family-run company, downsizing was carried off 'completely bloodlessly' (Gavroglou, 2007) upon the union's initiative by offering settlements well above the state pension. With speeded-up work and downsized companies, there is also some manoeuvring space in the use of the legal provisions of interest representation. French *Adele* is strongly unionised, but not all seats on the works council are filled, and in Germany's *Menswearco* negotiations and consultations of management with the works council take place less frequently than legally required.

Interest representation thus is shaped by the overall feeling of being 'in the same boat', a certain gratefulness of workers to still have a job with the company, and also by companies' strategic use of legal provisions in the case of *Green's* outsourcing to small businesses and *Copy Fashion's* status of being in liquidation. In this context, negotiating favourable conditions for redundancies and generally staying in the game of interest representation are the most obvious strategies of weakened unions. Their frequently cooperative stance is owed to the immediate experience of global competition, but also to a certain communal feeling in adverse circumstances: "*You can't be unaffected by the fact that the company's founder, an old man in his nineties, comes to work every day*", a unionist of Greek *Co B*. said' (Gavroglou, 2007a: 14). However, union activity appears somewhat locked into the respective regions with their dwindling resources and social capital. In the case studies, there is little activity across countries, and we find few (if any) attempts to coordinate union activity along the value chain.

2.6 Conclusions

Overall, in the countries participating in the study, we are observing the restructuring of the 'higher end' of the value chain. This includes the transformation of former outsourcing destinations, manufacturing and retailing companies in Southern Europe into providers of higher value-added functions covering design, co-ordination and/or logistics. However, this development does not necessarily shift power to companies who are upgrading their business in Europe, and it may be temporary: Smith (2003) for example also shows how in the case of Slovakia, Eastern European companies were able to act as intermediaries to provide access to even lower-cost labour markets but then were replaced by more immediate collaborations of local entrepreneurs and transnational companies.

Even when clothing value-chains are not exclusively driven by large buyers and retailers (Gereffi & Korzeniewicz, 1994) and some companies are making inroads in retail or services for retail themselves, the pressures of the market increase across the board. Fashion becomes more short-cycled and the availability of ICT-based merchandise information systems allows for feeding sales information immediately back into the production and design function (Muchnik, 2007b). Indeed, value-'chains' thus contain loops of information feedback and knowledge circulation between customers and suppliers (cf. Smith *et al.*, 2002).

However, regional and cultural proximity still plays a part in companies' selection of subcontractors, as fashion cycles are shortening and reliability and responsiveness continue to matter in addition to cost considerations. Hence, Eastern European countries,

Turkey, Egypt, Tunisia and Morocco figure as outsourcing destinations, and in addition to India and China manufacturers in Brazil and Honduras produce clothes for our case study companies. However, we are not sure that these inter-firm relationships are likely to evolve from cost-based competition to more trust-based, longer-term collaborations as Kalantaridis *et al.* suggest for the case of Transcarpathia in Ukraine (Kalantaridis, Slava & Sochka, 2003).

Intensified competition, the acceleration of business and the resulting demands for flexibility lead to increased pressures being put on the subcontractors carrying out manufacturing and logistics. There are still clear differences in employment and working conditions between companies with different positions in the value chain even though our research has not covered the low end of production workshops for example in Turkey. But the companies further up the value chains cannot simply externalise the pressures downstream along the value chain. Working conditions become increasingly pressurised even though work is being upgraded in Europe. Most employment after the downsizing of production is full-time and permanent, but pay is on the low side and working times can be long or even excessive. In the case studies themselves, we rarely find any of the more precarious employment contracts of low wages, hiring and firing, temporary work and homeworking that characterise work in the clothing industry abroad (Phizacklea, 1990; Hearson & Moser, 2007), except for subcontractors in Italy and Portugal.

All in all, the case study companies' moves up the value chain may not be sustainable over time. Upgraded, more skilled and knowledge-intensive work requires an institutional environment that provides training and innovation facilities, as the literature on industrial districts has argued and a 'critical mass' of skill in the region. Such regional infrastructures erode in Hungary, Greece and Belgium while they apparently remain in place in Portugal. Companies in eroding environments face skill shortages that eventually lead to further relocation of work.

3 Bringing research to the market

IT Research & Development

URSULA HOLTGREWE/PAMELA MEIL

3.1 The companies and the value chain

R&D in software development is not necessarily already a business function and part of a value chain, since a considerable part of it is to some extent academic. However, restructuring in these cases is *about* tying research closer to possible commercial innovation and the market for products and services, speeding up the transfer of technology or generally changing the sequence from basic research to commercial application to ‘a non-linear, recursive interaction between theory and practice, academia and industry ...’ (Etzkowitz, 1998). This, however, is not a mainly economic activity but one in which companies, universities and politics interact (Etzkowitz *et al.*, 2000). The organisations investigated hence seek to connect themselves to software development value chains by finding industry collaborators, applying research findings to ‘practical’ problems, and eventually contributing to the creation of marketable products and services.

In a corporate context, software research covers initial conception of products/systems; design and prototyping; and software development (the process of building the product using the outcomes of the research phase), which includes understanding and enumerating the requirements, translating the specifications into instructions for the computer, testing the software to make sure the specifications and translations are correct, fixing problems and bugs, documenting the system, and modifying it to customer requirement (Barr & Tessler, 1996).

Research appears specifically embedded with the institutional environment since it often takes place at the boundaries of publicly-funded and for-profit activities, somewhat remote from the ‘immediate’ market. In our sample, two and a half cases, *A NOR* (Norway), *VR2* (Germany) and *Lab 1* in the *Austrian IT Research Labs* were originally university spin-offs aiming for the commercialisation of research findings, which in the cases of *A NOR* and the main customer of *Lab 1* were bought up by US-based IT multinationals. Indeed, the Austrian spin-off company had sourced their own R&D group back to the partly publicly-funded *Austrian IT Research Labs*. The *Austrian IT Research Labs* in general and *CharleTIC* (Belgium) are research organisations originating in the public sector with increasing proportions of private-sector research funding. Indeed, they represent new intermediaries between academia and start-ups or other businesses. *Comtel* (France) is the R&D division of a large telecommunications company that has been privatised, and *UK Lab* (UK) is one of three research units of a Japanese multinational technology company which has been located close to a university centre of expertise in its field.

Hence, even in formerly publicly-funded or cross-subsidised organisations, market pressures and organisations’ attention to the market increase, and new units are established in order to find or to construct markets for the intended products and outcomes. The fully or partly publicly-funded organisations do not necessarily experience immediate market pressure, but being proactive with regard to the marketisation of research is

also an issue of institutional legitimacy and policy here. From the side of potential customers, we find both some integration of innovative start-ups by large IT companies and some outsourcing of innovation and R&D: large companies' concentration on core competencies and products also opens up some space for smaller organisations in areas that are not deemed 'core' as in the case of *VR2*. Research departments of companies that generally allocate some time and resources to 'basic' research, also observe an increased proportion of product development work, and closer ties to marketing.

Thus, customers have moved closer to IT researchers across the cases, but the value chains, where they exist already, are quite complex in internet-related software R&D. Customers are companies that develop and sell products, but frequently these products are bundled with others into complex configurations of goods and services that may be produced or sold to final users by, again, other companies, and/or finally may be cross-subsidised or paid for by advertising.

All our cases are active in key technologies and expertise such as search engines, artificial intelligence, virtual reality, geo-informatics or language processing. Research in these contexts takes more fields into account than just the 'state of the art'. It is increasingly about identifying marketable products and niches, staying ahead of competition, and thus market and technology observation becomes part of research. Hence, even research organisations that are (partly) funded publicly, add new functions such as marketing and customer contact, and generally, boundary-spanning functions multiply (Marchington, Vincent & Cooke, 2005). With R&D as a transnational activity and also with companies internationalising and the public sector under some cost pressure, consolidation of R&D activities is frequently a threat on the horizon. In France's *Comtel*, R&D units are being centralised while in the case of *A NOR* the company could fend off an attempt by the buyer to transfer it to the mother company's location in the US.

Three of our cases represent R&D units within larger companies that acquire their projects from other units within the company, mostly through a combination of contracting and professional negotiation that gives them some influence over their own research agenda. The other three are independent units.

3.1.1 The cases: R&D as internal service and cost centre: NO, FR, UK

All internal company R&D units move closer toward market or product development. For their situation and the spaces of negotiation they have, the location of funding sources matters: business units, verticals, marketing departments may contract more or less explicitly with the R&D unit.

3.1.1.1 *A NOR Norway*

The Norwegian case, *A NOR*, formerly the internet business unit of *NOR-SEARCH Search and Transfer*, is located in Trondheim and has some 35 employees, mostly software developers with backgrounds in computer science (Torvatn, Anthun & Dahl-Jørgensen, 2007). It specialises in search engine technology, was originally a start-up from the university which built its own search engine and afterwards, when this market became too narrow, specialised in internal searches and was sold to *Adventure* (pseudonym), another internet company, in April 2003. In October the same year, *Adventure* was acquired by *Comp A*,

one of the large global internet companies who had previously bought other search engine providers. While *Comp A* meant to consolidate their R&D activities in the US, the group of ca. 30 engineers in Trondheim resisted and successfully stayed where they were. From November 2003 the R&D unit was incorporated as an engineering/product development/ group of *Comp A*. It is now a Norwegian Stock holding company owned 100 *per cent* by *Comp A*. *Comp A* has ca 11,000 employees and in 2005 reached half a billion internet users on a monthly basis. It is organised around the range of services it offers such as mail, travel, music, questions and answers, *etc.* each of which forms a semi-independent unit. 'The value production of *Comp A* seems to be more of a *value network* than a *value chain*. The value creation in *Comp A* is the *network* it creates by linking its costumers and end users and allowing them to exchange goods (selling) and information.' (Torvatn, Anthun & Dahl-Jørgensen, 2007). *A NOR* now concentrates on 'category (vertical) searches' in structured data. Their main product is called SCOOTER, a 'brand name' for a category search platform architecture which is developed into specialised search engines for vertical searches and makes them available to the rest of *Comp A*. Any unit or service (known as a 'vertical') of *Comp A* that wants to employ a search engine can integrate it into their own tasks. In turn, *A NOR*'s work is funded by various verticals, and there is a continuous discussion between *A NOR*, funding verticals, other parts of *Comp A* management and SCOOTER users on what tasks *A NOR* should work on in the future which evolves into a roadmap for the next 18 months. Thus, there is an internal 'customer' relationship with the verticals which, however, is mitigated by professional consensus-building. In this case, the changes in ownership and in technological focus has had limited effects: The unit with its very specific expertise has been able to maintain its location and its standing in the firm, to keep considerable autonomy over the directions of its research, and somewhat 'normal' working times and conditions in line with the increasing family commitments of hackers reaching their 30's.

3.1.1.2 Comtel France

Comtel France is the R&D division of a large, privatised French telecommunications company (Muchnik, 2007a). It consists of eight research centres around France that employ some 4,000 research engineers. Centres are divided in 6-7 laboratories which in turn consist of 4-6 R&D units with 10-20 people each. In addition there are centres abroad (in San Francisco, Boston, London, Warsaw, Peking, Seoul, and Tokyo). The privatisation of its mother company has led to considerable reorganisation: The proportion of research and development has shifted towards product development, although some 30 *per cent* of research is still focused on basic research and intellectual rather than commercial value. Units that used to be organised around technologies and research themes have been reorganised along the lines of products and markets and now are distributed spatially over several sites. Since 1997 both general functions and power have become centralised in the capital. R&D centres have become internal subcontractors who work for the respective business units and have become part of the marketing division. They still may propose their own projects and find backing for them, but are generally in a matrix organisation with product development and marketing that is supposed to speed up time-to-market and put marketing issues on the research agenda at an early point in time.

3.1.1.3 *UK Lab, UK*

UK Lab is one of three R&D units of *Japtech*, a Japanese technology company, that specialise in speech technology which is used, for example, in car navigation systems but also in general human-machine interaction (Gosper, 2007). *UK Labs* has 16 employees few of whom have fixed-term contracts, and additional short-term contractors who take over language-specific work. In addition, *UK Lab* subcontracts some of the time-consuming language specific work such as the preparation of language-specific data to 'train' speech recognition software. From 2001 *Japtech* decentralised its speech technology research from Japan to Cambridge UK and Beijing, China since the company planned to internationalise its products. *UK Lab* was originally intended to do basic research in addition to its work in European languages, and the Cambridge location was chosen for its proximity to a world-leading speech group at the university with whom it collaborates.¹ However, both basic research and development work have been redistributed across sites in 2006 since Japanese research staff were dissatisfied and perceived their research possibilities to dwindle. This reorganisation has led to an increase in collaboration between locations, both virtually and sometimes face-to-face. On the other hand, the Cambridge-based group leader for speech technology feels somewhat remote from the European market since all business decisions are taken in Japan. Research planning decisions are taken by joint committees of lab and project leaders and representatives from *Japtech*. 70 per cent of *Japtech's* research budgets are assigned from the headquarters, and only the rest is funded by the respective business units which allows for considerable discretion of the research units.

3.1.2 R&D as specialised units and external contractors: AT, BE, DE

The Austrian and Belgian cases are research institutions with a considerable proportion of public funding and close connections to universities but with the explicit mission to transfer technology, increase the proportion of third-party funding and move research closer to the market. The German case is a former university spin-off and has ongoing relations with the university but operates as an independent business.

3.1.2.1 *IT Research Labs, Austria*

IT Research Labs is part of a large Austrian research organisation that pursues research in a range of high-tech fields (Holtgrewe, 2007). *IT Research Labs* have been established as a separate unit in 2003 and fully integrated into the *Mother Organisation* in 2005. It is a decentralised group of five small research *Labs* (in between 4 and 17 researchers) in various areas of internet-based IT applications. Their mission is to bridge the gap between academic research and industrial innovation and to speed up technology transfer through software development technologies such as rapid prototyping and iterated development cycles. Hence, the chief process of restructuring IT R&D consists in the establishment of a new intermediary between academia and industrial innovation. The *Labs* receive ca. 40-50 per cent of their funding from the Ministry of Economic Affairs and need to raise the

¹ Previously, *Japtech* had also collaborated with a research group at Edinburgh university, where it helped fund a spin-off company from that group.

rest through funded projects, some of which are publicly funded by regional, national or EU sources, while others are funded by companies. Each *Lab* has a specific technological focus such as intelligent agent systems, digital archives, human-computer interfaces, *etc.*² The *Labs* are (mostly) located at or close to university chairs specialising in the respective area. They share a central administrative unit which handles personnel and HRM tasks and general co-ordination and representation. The case study investigated two exemplary *Labs* which were selected on the basis of having private-sector customers. *Lab 1* with 13 employees, had its roots in the R&D department of one of the start-up companies that merged into *Fusion*, its largest customer. It can be described as the result of outsourcing from a private-sector company who took the opportunity to hand over their research to a partly publicly funded unit. *Fusion* provides the technology for value-added mobile phone services to a range of well-known mobile manufacturers and providers. It was sold to the US-based multinational *WebServ* early in 2006 which has not changed the collaboration much. *Lab 2* has ten employees and was established in close collaboration with the university chair in geo-informatics at its location. It develops applications of geo-informatics to regional planning, energy supply and security. Its collaborations are mostly based in the city of T. where it is located and the transborder region around it. The energy supply group also collaborates with a regional provider and has indeed hired a former manager of that company on a part-time consulting basis as liaison to the customer side.

3.1.2.2 *CharleTic, Belgium*

CharleTIC is a research centre specialising in IT R&D and located in Charleroi, Belgium with 25 employees (Vandenbussche, 2007). It was created in 2001 on the initiative of three Belgian universities with funding from the Objective 1 European structural funds. Currently, its activities are funded by the Walloon Region, the European Commission, and by companies and since 2005 it has pursued an increasingly commercial orientation. Indeed, the centre has increased its proportion of contractual research from 9 *per cent* in 2004 to 44 *per cent* in 2007. It started out as a virtual organisation overlapping the three founding universities and consolidated through a move to one research centre and project organisation. It consists of four research teams who specialise in software quality improvement, requirements engineering, web mining and embedded systems. However, mostly the research projects drive collaboration.

3.1.2.3 *VR2, Germany*

VR2 is a small software company specializing in virtual reality solutions to facilitate cooperative work in development and engineering (Meil, 2007a). The company has eleven regular employees, two free-lancers and a varying number of students and interns. Their product was developed in the neighbouring university which still owns the code and shares the revenues from software licenses, but spun off the predecessor company, *VR1* in 1997 to maintain the product, ensure its user-friendliness, document it and support cus-

2 For reasons of the anonymity of the organisation, unfortunately the report has to be somewhat vague in terms of the actual subjects of research and the technologies that are developed, and also in terms of the sources cited in this paper.

tomers. *VR2* also adapts the software for customer-specific problems and databases and sets up hardware systems for its applications. It used to mainly support development processes in the automobile industry but over time, international customers from other industries have come along. During the internet boom, in 2000 a venture capital company of a large auto maker invested in the company, but withdrew its investment three years later when the company's growth was less spectacular than expected. *VR1* filed for bankruptcy, let go half of its employees and started again as *VR2*, funded by a large project for its existing customers.

3.2 Functions and workflow

If we assume a continuum of IT and software research between 'basic' research and development of marketable products, all investigated R&D units have moved or been pushed towards the product development side. Although they represent a range of positions in a chain (or network) of innovation, they all are instances of complex articulations of technology push, market pull and iterative loops and incremental search processes between both sides.

The move closer to markets and customers has two implications: Functions such as marketing and sales or, more generally, project acquisition have both been added to the tasks of researchers and new jobs have been created for specialists in these areas. There is some experimentation with both alternatives in R&D units especially in the public sector cases, but R&D organisations generally have learned that not all customer contact and marketing can be assigned to specialists, since detailed technical knowledge is essential. However, *CharleTIC* has hired a sales manager, which function has been imposed on all research centres by the Walloon region who is contributing to the funding – again, institutional pressure to move closer to the market and create the respective boundary-spanning positions. Austria's *IT Research Labs* have experimented with a centralised marketing function but then devolved that function back to the *Labs*. In some of the *Labs*, specialists with both technical and business backgrounds have been hired either as employees or on a consultancy base. In addition, in *Lab 1* both directors have part-time positions: The technical director is employed by *Fusion*, the main customer for the other half of his time, and the scientific director by another research institute with a more academic outlook. Hence, they span important boundaries in person.

Comtel, the French telecommunications company has reorganised R&D to plan and decide on research in a matrix involving both business units and marketing from the onset. 'In the previous mechanism, the R&D Centre had to sign a 'fictive' contract with a business unit in order to finance its activities on research projects. The researchers had to satisfy a demand, or find common interests with a business unit. It was a customer/supplier relationship between the R&D and Marketing divisions. The new organisation instead introduces a matrix relationship through corporate marketing. The idea is to [...] reduce the time necessary to go through the steps of the value chain between research, innovation and commercialisation. To do so, a new management solution is being introduced. [...] The new organisation seeks the concomitance in the decision process. For each programme or project at all levels of decision, one responsible for each division (R&D, information systems and marketing) is in charge of the management and this head composed by 3 persons has to be in regular and physical contact to discuss and take decisions to-

gether at the same time, in the same place.' (Muchnik, 2007a: 11). The intention is both to increase marketing influence and to develop understanding of marketing and product demands by researchers: *'They will be able to say: we'll take a risk but it's worth it. While before, they said: we'll take a risk, it's the marketing that asks us again to do silly things!'* The idea is to foster dialogue and comprehension between R&D and Marketing divisions. As they will be able to better explain choices that are made, 'this new organisation is supposed to give to R&D project managers more power into their team.' (*ibid.*, 17). However, researchers and their unit managers often tend to interpret the results of these dialogues as hierarchical impositions by marketing, and managers 'confess they have to say: *'we have no choice, that's it'* (*ibid.*, 21).

In other cases, the influence of internal 'customers' is manifested through more consensus-oriented professional discussion. For A NOR's search engine platform, there is a company-wide user group that makes suggestions, and even if the 'verticals' (=business units) that fund research influence its direction, there is space for negotiation and consensus-building: *'Priority is somewhat defined by US ... they tell us which verticals are most important now, what features are important... but...when we try to find out what we want and compare this to what should be prioritised we manage to find a solution... we have a large degree of freedom in what we do.'* (Torvatn, Anthun & Dahl-Jørgensen, 2007: 18).

However, the distinctions and tensions of 'basic research' and commercial application have not all been diluted into a general outlook of 'entrepreneurial science' (Etzkowitz, 1998) but are still present and need to be managed. Generally, basic research is an issue in the cases of the publicly-funded *IT Research Labs* and *CharleTIC* and in the more 'Chandlerian' company R&D departments of *Comtel* and *UK Labs*. It is deemed to offer more autonomy and opportunity to work on interesting problems than the work that is contracted for. Indeed, the opportunity to do basic research and pursue one's own interest is an important incentive for attracting and retaining talented researchers, although researchers also acknowledge the input and ideas they get from commissioned work. For this reason, *Japtech* felt the need to distribute basic research more equitably throughout its R&D facilities rather than concentrating it in the *UK Lab*.

The partly publicly-funded cases in Austria and Belgium report a proportion of 40-55 *per cent* of basic research. However, basic research does no longer mean a completely open-ended 'blue sky' type of exploration. Rather, it means research that looks beyond current product development cycles towards further development of the technology. It often has a longer-term outlook as well (up to two years), allows for some reading of literature and experimentation or simulation and will result in publications (and possibly, patents) rather than actual code or prototypes. This implies that researchers experience the shift towards product development as increased time compression as well. In the close collaboration of the Austrian *IT Research Lab 1* with its main customer, 'independent research' funding may even be a negotiable extra resource for customer-initiated ideas, as Thomas, who liaises with *Lab 1* from the side of *Fusion*, explains: *'and it happens that in a second step we say, we'll try that but can't fund it, so, dear Lab, maybe you can find some research funding, internal funding, whatever, to build a showcase for that'* (Holtgrewe, 2007, 4).

In both the *Research Labs* and *CharleTIC*, differently funded types of research are managed in different ways. In *CharleTIC*, regionally or European-funded projects are developed and decided upon by the respective team leaders and approved by the Board of Directors. Decisions on commercial projects may be taken by the director, in more or less consultation with team leaders, the Board of Directors or the Permanent Technical com-

mittee, a committee of company representatives. Researchers from *IT Research Labs* report that traditionally, contracted research which is developed by each *Lab* and approved by top management, tends to take priority over independent research and thus gets in the way of the *Labs'* still-existing, more academic missions of qualification and publishing. For this reason, in the future, independent projects will be proposed and reviewed for their significance and strategic promise by the *Lab* directors collectively: 'We've always been told, we need commissioned research, [...] we need the figures. And then the rest was filled in with internal research or independent research up to 100 per cent. And now the philosophy is, not to do just anything there but to define projects that are treated just like commissioned projects, with planning and milestones and work packages and results, and someone has to evaluate that to say, yes, that's brought some results.' (Peter, director of Lab 2) (Holtgrewe, 2007, 9).

Further down the value chain, as products are developed and reach maturity, software implementation, adaptation to different systems, testing, documentation and fit with other applications on the customer side are functions that are not necessarily attached to researchers' tasks, and R&D units tend to hand off their work somewhere in this area. with the exception of Germany's *VR2* who build entire systems for customers. In small projects with a narrow pilot user base, some support may be done by researchers. In the case of *A NOR*, a separate group for 'delivery' has been built up to look after this aspect, and there is a separate support team located in the US, who mostly rely on written documentation and only pass on problems that they cannot solve to *A NOR*. Austria's *Lab 2* has a different business model: Specialising in geo-informatics, they do not develop products but focus on 'research-based consulting', that is, offering customers maps of particular indicators and their geographical distribution. This allows for an incremental buildup of datasets and knowledge while keeping software tools in-house.

Actual research may be spatially distributed as in the Austrian *IT Research Labs*, the French *Comtel* or the British *UK Labs*. Such distributions follow different logics: The *IT Research Labs* and also *UK Labs* are intentionally located close to a university or research institute centre of expertise as part of regionally specialised clusters. *VR2* and *A NOR*, as university spin-offs, also remain close to their university of origin. The Austrian *Lab 1*, however is in the same building as its former mother company, *Fusion*, which allows for frequent meetings and close collaboration. The French *Comtel*, in turn, during reorganisation has disrupted these networks of face-to-face presence. Here, the separation of expertise and location and the introduction of virtual teams apparently has had some adverse effects: It dilutes the 'critical mass' that makes expertise visible and renders collaborations attractive for other partners. Interestingly, when locations are no longer identified with clusters of expertise by definition, such collaborations are not necessarily abandoned but become more contingent on *local* contexts and histories of collaboration. In locations where units still fit in a dense research landscape, the consequences are limited but in places where the formerly public-sector company created 'greenfield' research sites for reasons of regional development, researchers now collaborating with remote colleagues and partners experience some isolation.

Generally the degree of influence and power in the value chain in the cases of R&D manifests itself in influence over the direction of research and the autonomy in choosing projects as well as influence on the location – and conversely, being located in a recognised centre of expertise enhances the power of the R&D unit. The prime example here is *A NOR* whom their mother company meant to move to the US upon acquisition but who, based on their expertise and the coherence of the group, managed to be able to stay in

Trondheim and turn the possibilities of virtual collaboration to their advantage. When research projects are spatially distributed (something that R&D organisations tend to do to a limited extent only except for *Comtel*), the history and ‘ownership’ of a technology influences decision making.

3.3 Changes in employment conditions

The companies tend to have few different categories of workers. There is often a director for research, technology, *etc.* Then there is a differentiation between senior and junior researchers. Other potential categories and therefore career perspectives include project leader or team leader. There is usually a small administrative department with a secretary. Several of the companies have hired marketing or sales specialists, usually shortly after they became independent units from the university. There does not appear to be large jumps in pay between groups of researchers: for instance, between senior researcher and project leader.

There appears to be little change in formal employment conditions regardless of the type of restructuring. Most of the employees have permanent full-time contracts. In fact, in many cases this seems to be driven by the employer side: free-lance and part-time contracts are not encouraged. One exception is the UK, where contracting is the only option if part-time work is desired – however, it is not a deviation to the extent that if full-time is accepted by the employee, he/she receives a regular permanent contract. Most of the employees also seem to have a long-term perspective in their job and in their company. The UK again was the exception here in which employees were oriented to moving between companies as a means of career improvement or for the content of the work. This binding to the company existed despite very few chances for career mobility in these very small companies with very flat hierarchies. The employment effects for R&D have been mainly positive – the small companies have remained either stable in size or are increasing in size. In Austria, as in other research organisations there, entry positions in the *Labs* that are filled by students often are both freelance and part-time. As projects develop and students gain their degrees, they increase their hours and move on to full-time and, possibly through a period of fixed-term contracts, to permanent employment.

The workers employed in these IT companies receive relatively high pay levels. However, in the non-profit centres and those closely linked to the public sector, the pay levels are lower than would be in a private large company. This is also true for the German case in which pay levels in the small R&D company are lower (from 1000-2000 EUR a month) than their customer counterparts in industrial environments.

Working time also appears quite stable with regular working weeks of 38-40 hours. Although the actual working week might vary due to project contingencies, on average the employees seem to take their overtime as free time and to strive for a regular working schedule. The exceptions here seemed to be more the non-profit, still very research oriented environments rather than the more company oriented ones. In the former cases, either academic goals in Austria or ‘executive’ status in Belgium led to overtime that was not compensated either in pay or free-time.

Although working time was quite regulated for most of the cases and thus conditions for a regulated work-life balance were present – admittedly with peak periods for project needs – women were highly underrepresented in all of the cases. The UK had the highest

share of women working in the skilled research tasks, due also to the fact that linguistics was an important subject in the research. The explanation of the low female participation rates was the low representation of women in IT technical fields, which increases in the more transdisciplinary subjects such as computer linguistics or geo-informatics. Only in Austria was there a policy attempt to rectify the under-representation of women by trying to get more women to study computer science and enter this profession, but this initiative had little consequence in the *Labs*. Even given the low representation of women at the companies, respondents did not see any difference in the treatment of women researchers at the companies or in the work that was assigned among the R&D staff.

Forms of control are also very informal in all of the cases. Most employees don't have to formally record their hours – they tend to keep their own records, and the expectation seems to be that they would tend to work more rather than less of the required hours. Furthermore, strict presence in regulated working days was also the exception. The control comes almost completely from the requirements of the project-based organisational structures. Project time is booked and project schedules have to be met. This means that the control structures are almost all indirect for R&D organisations. The appearance of autonomy in terms of the absence of obligatory starting and ending times, and formal records is very high. On the other hand, performance in the projects is part of the evaluation process, in almost all of the cases, for wage negotiation and bonuses.

Many of the employees in the organisations looked at worked at customer sites in consulting or software development and installation tasks. Some of these assignments could last several days or weeks. However, a permanent or semi-permanent transfer of employees was not found in these cases. The employees most affected by impacts of transfers were in the French case of centralisation of R&D activities and closure of satellite sites. This meant either losing one's job or changing one's job location.

An expected work intensification or more precarious employment relation in these labs and companies was not found. Most of the employees have, at least on average, a standard employment relationship as well as standard working week. There was a wide variation between cases in the ability to work at home and have more flexible working arrangements. The pay tends to be lower than for comparable qualification levels in large companies. However, the employees report a trade-off in the interesting content of work as well as the more informal atmosphere in these smaller companies for the higher wage. The positions are often held by entry level researchers seeking to gain experience or by IT researchers in highly specialised fields.

3.4 Changes of work organisation

All R&D units investigated are faced with tighter planning horizons, a general speed-up of work and the problem of defending breathing space, space to explore research with uncertain outcomes and the value of longer-term projects. Still, R&D work has high degrees of discretion over tasks and also, to some extent, the choice of interesting problems and projects to work on, and even if work may be hard and deadline-driven, immediate market pressure is limited. Experts who 'control' and provide an important and valuable part of the technology are able to stand their ground, defend favourable working conditions and interesting work – unless, as in the case of *Comtel*, an overbearing, marketing- and bureaucracy-driven reorganisation hollows out that professional standing.

A *NOR* is probably the most 'professional' case, while *Comtel* is the most 'hierarchically driven'. However, according to managers, external priorities affect *A NOR* plans much more than 1-2 years ago, and the pressure is likely to increase. Indeed, this puts new demands on local management: One of its roles is perceived as 'protecting' researchers from the noise and information overflow that a large global company generates. *A NOR*'s managers seem quite successful in that so far, since researchers and engineers report not much of a change in their work. In *UK Labs*, where the mother company *Japtech* retains decision making over marketing and product development, the speech technology group leader even feels overly 'protected' from the European market and would like to have more discretion in that area since he feels Japan is too remote and not fully committed to the globalisation of their markets: '*So at the moment my link for business is entirely to Japan, which can be a problem for a European-based group because they have a very Japan-centric view. And if things are, if they're having troubles with the American market, they don't ... solve that, they just cut that off. Or if there's any issues in the Japanese market, everything else just dies and the Japanese market will become the focus again.*' (Group Leader, Speech Technology, UK LAB, Gosper, 2007).

Work in software R&D overall is organised in projects with the exception of administrative work. Administrative units and also top management in the investigated cases tend towards some centralisation. This is seen to allow for some synergies, but distributed units occasionally complain about delays and inefficiencies in both administrative support and decision making. Projects take a large variety of sizes and shapes, from a couple of months' work of one person with a part of their time to large scale projects that involve teams and external collaborations and go on for years. Muchnik sums up the strategic problem: 'The big issue for a R&D Centre or even an R&D Unit is to achieve an optimal management of human resources, always conditioned by a good distribution between mid-term or long-term tasks and market pressure requiring short-term investment and rapid results.' (Muchnik, 2007a: 13). However, this is a somewhat dilemmatic challenge: Long-term projects do not just bring stable demand and allow for a build-up of expertise, but they also tie up resources and may get in the way of short-term ability to react to new demands and markets where that is necessary. A favourable combination apparently consists in a well-defined 'product' which may be a platform or a methodology with long-term collaborations (either in-house or with external customers) that allows for continuous innovation and a sequence of projects.

Projects generally, share some informality and adhocracy, a somewhat start-up-like atmosphere which a Belgian researcher sums up like this: '*in comparison with big companies, big structures, I find that here (in CharleTIC), it is very cool (...), we do not lay about here but the work is done in a cool way*' (Vandenbussche 2007, 14), and many other researchers would probably agree. Project leader functions usually comprise project management, allocating workers' hours, reporting and administrative tasks. Project leaders are often not fixed hierarchical positions but roles that more experienced researchers may take in one project but not another. Other roles and positions may emerge above or below the project leader levels such as leading teams in some kinds of matrix organisation (BE), or leading thematic strands (UK). Generally, projects are located in particular teams, although collaboration across teams is a possibility when particular expertise is required.

Hence, with teams mostly organised along technical specialisation, functional flexibility is in some conflict with specialisation and expertise. It is more pronounced for senior researchers whose tasks are enriched considerably.

Working times have much in common with other professional and academic work situations. They tend to be longish and may be extensive, but researchers have considerable discretion which is not overly curtailed by market or customer demands. However, the practice of working is embedded with each country's institutional context (Plantenga & Remery, 2005), and management have some influence as well. Flexibility in working from home either due to family responsibilities or to the nature of particular types of work (reading literature, writing) is reported from Austria and France, while in Belgium especially there is a norm of working extended fulltime hours at the office without taking time off in compensation for overtime. Researchers here talk about a 'fighter culture'. Hence, some blurring of work and life is perceived as 'natural' for researchers. In *UK Labs*, the need to liaise with Japan has project leaders and managers come in early for phone conferences, and meetings are scheduled early in the morning in order to get the results to Japan before the working day ends there.

Spatial mobility in IT R&D is limited and our cases do not draw on a global labour market. Mostly, R&D units are located close to universities they collaborate with or originate from. As we have seen, the Norwegians actually defended that location in the face of their mother company's attempt to consolidate research spatially. Employees there said that Norwegian hackers who wanted careers in the US were already there, while they enjoyed occasional face-to-face meetings and travel. Austria's *IT Research Labs* are surprisingly regional, and researchers express a very limited interest in international careers, although some foreigners have been hired as senior researchers. New mobility needs are found in *UK Labs* and *Comtel*. *UK Labs*, on the one hand, try to avoid cross-site collaborations; on the other hand, specialisation and the distribution of research make it necessary. There are some exchanges of researchers for up to six months with Japan which both sides find improve mutual understanding and collaboration. Indeed, they see the cultural diversity and international experience as an asset, but getting used to working across countries and cultures takes some effort. With *Comtel*, the centralisation in Paris brings some mobility needs that are mostly viewed unfavourably. Promotion in the organisation at some point in time is expected to require a move to the capital and even when located remotely, project managers may be expected to travel to Paris for two to three days a week.

3.5 Skills, knowledge and training

The level of skills of R&D employees and software production workers brought into the companies is very high in all the cases – usually high level university or post graduate degrees. The learning curves for new workers are also quite steep. Levels of specialisation and concentration within one IT area of expertise are also very high, especially in the German and UK cases. Formal training opportunities are, in contrast, low. The best training opportunities in R&D are offered by the UK and Austria cases, which have completely different regulatory frameworks. Training access could be due to the proximity and close linkages to the university that both cases reveal.

As mentioned previously, women were underrepresented in the IT sector at high levels of qualification. Thus women in the organisations tended to be involved in administrative or secretarial tasks, or in the case of the Austrian *Labs*, be introduced into the organisation when non-IT personnel were hired to do liaison work, marketing or consulting. There were some women in the IT R&D positions, many newly hired and just entering the la-

bour market. Also, specialities outside the core of computer science such as computer linguistics or geography tend to bring more women into IT R&D. In the UK, although 25 *per cent* of the workforce was female, there was segregation in the research and development specialties between men and women. Transdisciplinary research agendas thus may open certain fields of IT to women if they are represented in the disciplines involved, while a research organisation's specialisation in the more male-dominated areas is likely to reproduce a male-dominated 'hacker culture' (Rasmussen & Håpnes, 1991).

Commercialisation had an impact on the skill needs and composition of the workforce. For instance, most companies and *Labs* hired some kind of sales or marketing specialist to facilitate a stronger product orientation. In many cases, commercialisation also led to a shift in skill or competency profiles with an increase in the demand for communication, selling, and consulting. This is a change for many IT programmers who might have a very creative dimension to their work, but also a very individualised and isolated one.

Also due to commercialisation, there was an increase in standardisation and formalisation of tasks, but not in the sense of them becoming 'simpler.' The goal of standardisation was to promote product stability and to facilitate communication between project members and groups, also along the value chain. Formalisation also promoted communication along the process chain in the form of documentation, project management tools, *etc.* In some cases, it can be said that the product was standardised to make it more sellable, which is a central and more pressing requirement for the organisations in these case studies. Obviously the shift from university focus to company focus represents a large difference in this regard.

Generally one can say that the restructuring process did not lead to a decrease in opportunities for skill acquisition or development. However, it did lead to a shift in the types of skills that employees are expected to possess. For some employees, it improved their access to skill and broadened it in the direction of project management and marketing skills. Young workers generally experience a large learning effect in these small companies. The lack of access to formal qualification, the highly specialised work, and the flat hierarchies can lead to stagnation in skill acquisition for older workers, as evidenced in the German case.

3.6 Industrial relations

On the whole there was a very low participation or representation in formal structures of industrial relations in the R&D IT cases. There was also a low level of regulation that impacted on the employees in these cases. Austria and Norway were the only cases with formalised forms of representation (also France as part of a large multinational which made the French case different from the others in several ways). In Austria collective agreements exist in non-university research centres and the IT sector which regulate wages and seniority rules. The Austrian case also had a works council at the level of the mother organisation which, however, was only loosely connected to the *Labs* and the employees there. Thus, the Austrian *Labs* had one of the most precarious forms of wage determination and job perspective in the sample, as bonuses and employment contracts were assigned by the *Labs'* top management in a more discretionary way. In Norway, labour law regulated working time and parental leave. Also Norway was the only country in which many of the employees in R&D were actually trade union members.

Also in Norway, the formal rules would favour a positive work-life balance for participation of women in the labour force, but very few women were to be found in the profession. However, even in a high-powered IT environment, Norwegian men may find it easier to take over more domestic responsibilities than elsewhere. In France, the remains of a strong trade union from the public sector company strived to protect jobs in satellite sites. However, the workers themselves seemed uninterested in the work of the unions or the works council, and thus the union's activities did not act as a form of mobilisation for the workers in the R&D group. Finally, as the Belgian case showed, it is relatively easy to bypass laws protecting against work intensification by classifying knowledge workers as 'executive.'

3.7 Summary: power, time, dilemmas

All in all, R&D jobs in IT are still quite attractive jobs to have. Still, ivory tower situations are on the decrease, and actual products, market observation, closer relations with customers and an anticipation of market needs are on the agenda across the diverse type of R&D organisation. However, this is not a unidirectional process of marketisation. We observe increasingly complex articulations of market, professional and political logics (Lam, 2005). All in all, power becomes more perceptibly dialectic: MBO, management indicators and market data creep in as well as the formalisation of scientific evaluation criteria. Thus, we see power embedded with technological and organisational exigencies, but also with professional/technical consensus building. The Norwegian case illustrates 'the amount of power a knowledgeable unit may have even in the face of a global actor. This is a case where the local negotiates successfully with the global' (Torvatn, Anthun & Dahl-Jørgensen, 2007: 21).

Time horizons matter increasingly. Generally, R&D is speeding up, 'time-to-market', or time to the next milestone is shortened (*IT Research Labs, A NOR; Comtel*), and software engineering methodologies intended to speed up R&D are implemented. A NOR in Norway implements Agile methodology upon an initiative of the mother company, and in Austria, *IT Research Labs* specialise in rapid prototyping. Such methodologies aim for shorter, iterated development cycles, and some informalisation. On the other hand, company standards for documentation and knowledge management also increase. Hence, temporal demands are to some extent dilemmatic.

A similar temporal dilemma applies with regard to external customer relations and collaborations. The shortened time horizon for projects puts multiplied demands on senior researchers especially, and it may be at odds with the needs to build collaborations, trust and knowledge exchange with external partners. This is a more incremental process of exploration and communication which requires some time and continuity. However, demonstrations of speediness, the capability to come up with a working prototype quickly, also play a part in this trust-building. Hence, the development of collaborative and customer relations does not just take place in a tension between short-term and long-term time horizons. The speed-up that researchers generally feel, upon closer examination, translates into the need to manage timing, to simultaneously articulate different time-horizons that result both from the inherently uncertain character of research work and from external demands for both speediness and long-term collaboration.

There are some potentially precarious work situations in this business function: For instance, for the satellite research sites of the French company, the older workers in the German case, and the unsuccessful *Labs* in the Austrian case. Nonetheless, there is very little participation in and use of institutionalised forms of industrial relations even in the cases in which it exists. Certainly the favourable bargaining positions of these knowledge workers with regard to working and employment conditions due to their high levels of qualification and expertise in specialised fields makes it easier for them to engage in individualised forms of negotiation with their employers. Furthermore, many of the issues traditionally negotiated at union level have less relevance for these workers. For instance, the wage levels for these researchers are higher than those set in most union negotiated collective agreements, and fixed and regulated working times (as in constant 38 hour work weeks and regulated start and end times) are not a high priority. One reason for this may be the severe under representation of women as R&D IT researchers in the labs or companies. However, in terms of work-life balance it must also be said that a fair amount of flexibility exists in arranging working schedules which may help both women and men to arrange family responsibilities. In several cases there was also the possibility to work at home without necessarily meaning high levels of work intensification. However, researchers especially tend to use work time at home for tasks that require concentration and quiet, and thus are not particularly adapted to carework. For the R&D workers, although they were involved in several types of value chains (those of their multinational owners or those of their customers), there was not much demand for long travel periods or long periods of transferral to different sites. Travel to conferences and workshops and occasional exchanges were mostly voluntary and in line with professional demands and identities.

4 Not 'one best way' of offshoring Software development

URSULA HOLTGREWE/PAMELA MEIL

4.1 The companies and the value chain

In software development we observe considerable transnationalisation. EU new member states play a large part and have been doing so for quite a while. As outsourcing destinations, they still represent an attractive combination of high skills and low pay, although pay differentials between CEE countries are beginning to matter in choosing location (for example Hungary versus Slovakia). We are also witnessing a development in which CEE companies are originating their own outsourcing. Here, Vietnam emerges as an attractive location. Patterns of outsourcing generally are related to complex ownership and takeover histories rather than purely market- or company-driven strategies. The German case of *Business-Software* is the prime example of a very co-ordinated, top-down transnationalisation with multiple aims, such as cutting cost, as well as gaining access to foreign markets and to IT talent abroad. The Hungarian case of *Domainsoft*, is the subsidiary of a German multinational's Austrian software company, and is similarly integrated. Bulgaria's *Soft-Serv* is the only genuine subcontractor in the sample, but as far as we can see, offshores in an integrated way. The cases from Austria/Croatia (*Messenger/Digit*) and Sweden (*INIT*) represent companies that have grown through mergers and acquisitions, are now (partly) US-owned and have more idiosyncratic histories of outsourcing and offshoring. In the integrated cases, offshoring happens top-down through owned subsidiaries. This does not imply a coherently hierarchical governance. Conversely, these multinationals have come the farthest in establishing internal tender procedures and having subsidiaries compete with one another *and* specialise. In the more fragmented cases, we observe offshoring relations based on more ad hoc decisions, less competition and more hierarchical governance. Indeed, the Swedish case reports a history of a more or less unsuccessful outsourcing attempt based on a long-term collaboration with Indian partners which is being replaced by a captive subsidiary in the Philippines that is both cheaper and more tightly controlled. The Croatian part of the Austrian case has been assigned to Austrian project managers after a period of disorientation.

Hence, there is considerable variety in the strategies of all the cases, and in particular with the Eastern European cases in our sample. This is, in part, related to the management of internal competition in the cases of subsidiaries. Hungary's *Domainsoft* is a unit within the software subsidiary of an electrical engineering multinational based in Germany, where projects are assigned by internal tendering on the basis of fixed hourly cost. Since the company also has units in lower-wage countries such as Slovakia, the Hungarian unit has moved further up the value chain and taken over more value-adding tasks. On the other hand, the Croatian company *Digit*, whose position in its US-owned mother company is mediated through the Austrian subsidiary *Messenger*, works as a remote operative unit ('*verlängerte Werkbank*') and has neither an incentive nor an interest to take over other tasks. The Bulgarian case of *SoftServ* is complementary: This is a local company specialis-

ing in international outsourcing and aiming for the higher-quality end of the market, for long-term customer relations, and offering its services to small and medium enterprises as well.

Projects and parts of projects within a value chain thus are assigned through any combination of hierarchical governance, networked co-ordination and negotiation or market-like tender procedures (Gereffi, Humphrey & Sturgeon, 2005). Indeed, the more integrated a multinational is (as in the cases of *Domainsoft* and German *Business-Software*), the more likely is it to use tenders. However, even when projects are assigned by tender as in the cases of the multinationals in Germany or Hungary, competition is moderated both by the need for collaboration and the location-specific buildup of particular expertise.

4.1.1 The cases

Cases represent a continuum from integrated multinationals (*Business-Software*, Germany) and regional subsidiaries (*Domainsoft*, Hungary) to more diversified multinationals that grew through mergers and acquisitions such as the mother companies of *Messenger*, Austria and *Digit*, Croatia, and of Sweden's *INIT*. Bulgaria's *SoftServ* in turn represents the destination of outsourcing. It is an independent software company that offers its services to a growing base of global clients but still offshores some of its own work further.

4.1.1.1 *Business-Software*, Germany

Business-Software Germany is a large, integrated multinational company (Krings, Bechmann & Nierling, 2007a) that specialises in ERP (enterprise resource planning) software for both manufacturing and service industries and the public sector. The product range reaches from adaptive, highly customizable solutions for large enterprises to standardised products for middle-sized and small companies. Besides that, the company offers a variety of services around the software lifecycle like consulting and managed services and is also surrounded by a range of service companies who implement the company's software at customers' companies or develop additional products based on *Business-Software*'s standard solutions. The company has been 'growing organically', expanding and establishing own subsidiaries in more than 50 countries worldwide since the 1990's rather than acquiring other companies. Instead, it is known for developing innovations in close collaborations with its business partners. It has more than 40,000 employees worldwide, 14,000 of whom work in Germany. In 2003, *Business-Software* reorganized its operations according to business functions (before, organisation followed the product groups) with the aim of becoming a 'network company'. Locations that used to be dependent on older locations or the German mother for leadership and management functions are now independent and formally equal. Conceptual work and production are now separated. Projects are assigned to locations through tender procedures, and locations are encouraged to pool specific competencies.

4.1.1.2 *Domainsoft*, Hungary

Domainsoft is the Hungarian branch of the Austrian-based software development subsidiary of a German electrical engineering multinational (*LNG*) (Makó, Illéssy & Csizmadia,

2007a). It employs 700 engineers in two locations. The Austrian software development subsidiary (established itself more than 40 years ago) established offices in CEE early in time, from 1991 onwards. Since 2001 it has been internationalizing further with subsidiaries in Romania, US, Turkey, China, partly for cost reasons and partly for reasons of proximity to the respective markets. It has 6,500 employees overall. While *Domainsoft* Austria used wage differentials between subsidies in a mixed calculation earlier, it now generally assigns projects on a cost basis. For higher-wage CEE countries such as Hungary this becomes a problem. Hence, there is some pressure on *Domainsoft* Hungary to both remain competitive and build up expertise in order to develop from purely operative tasks and body-leasing to core development activities such as architectural planning and project management, and generally more responsibility and autonomy. With increasing cost pressure in the telecommunications sector especially, both competition and negotiation over the assignment of projects increased (cf. Dörrenbächer, 2006).

4.1.1.3 *Messenger/Digit, Austria and Croatia*

Messenger/Digit is a genuine cross-border case which has been investigated both in Austria and in Croatia (Flecker & Schönauer, 2007). Both companies were acquired independently by a US-based corporation, *Commun*. *Messenger* develops software for financial services companies, has some 220 employees and has a range of standard products with limited customer-specific adaptation, that are updated regularly. *Digit*, with currently 15 employees, used to be the software development unit of a Croatian data entry company that worked for Italian customers. However, customers tended to look for cheaper offshoring locations for data entry, and when *Commun* acquired the company, they sold the data entry business off. *Digit* experienced a period of floundering in spite of some new recruitment, when *Commun*'s headquarters failed to relocate development work from the US to Croatia and the Croatians did not look for other business either. Responsibility for the unit then was assigned to *Messenger* due to its regional proximity. Although *Digit* ran a project with the UK subsidiary of *Commun* as well, currently *Messenger* has exclusive use of *Digit*'s capacities. *Digit* takes over software testing and more routinised parts of development work from *Messenger* and acts as a dependent, operative unit for these projects. Project management is located in Austria and assigns parcels of work to Croatian teams that are formed anew for each assignment. There are no attempts of *Digit* to move up the value chain or take over other tasks.

4.1.1.4 *INIT, Sweden*

INIT is a newly merged Swedish/American company specialising in the development, production, implementation and maintenance of IT-based business systems. It has 4,000 customers in over 40 countries and employs 200 engineers in product development in Sweden, 150 at its service partners in India and 10 in the Philippines where offshoring is being relocated. Its present headquarters are in the US, production facilities are in the US and in Sweden with a minor development part located in Denmark, in India and, in a small but expanding unit, in the Philippines. Apart from production, the group has a large separate support and service company with consultants working close to the customers - selling and implementing the products (Tengblad & Sternälv, 2007a). The Swed-

ish case has had two phases of outsourcing. An initial attempt in 2005 to offshore quality assurance and maintenance to two external partners in India had very limited success. The original idea of this move was to liberate resources for development and innovation in Sweden. It fell through since the knowledge transfer turned out to require more effort than was expected originally. Documentation was actually sourced back to Sweden while the other projects are being phased out. However, in the IT crisis of 2001 some 100 people were laid off, 20 of which could be ascribed to the outsourcing move. After the merger with a US company for access to capital and the US market, a new offshoring initiative was started, this time establishing an owned subsidiary in the Philippines which is supposed to take over maintenance and quality assurance and possibly, some development tasks.

4.1.1.5 *SoftServ, Bulgaria*

SoftServ is a Bulgarian start-up with its headquarters in Switzerland which was established in 1995 by three graduates from the American University in Bulgaria who still own 93 per cent of shares (Galev, 2007). It employs 180 people and an additional 20 in its South-East Asian subsidiary, and is currently also locating a unit in North-East Bulgaria in order to tap the labour market in that region. *SoftServ* specialises in high-value outsourcing and has most of its customer base in the US and Canada. Its technical areas range from application development and also complete product realisation in fields such as fleet management, emission control, security, etc., to quality assurance and service-oriented architectures. Consulting, web-design and systems integration are fields that were abandoned during the restructuring process. In 2003, a new CEO was appointed by the owners, a US-graduated foreign citizen who fired senior management and appointed a new structure of partners (in analogy to professional service and consulting firms). This has led to a substantial restructuring process with a focus on flat hierarchies, formal procedures for quality assurance along the lines of ISO 9001:2000 and a 'customer-centric' structure. Teams are now responsible for customers rather than projects in order to foster long-term collaboration and knowledge-building. Customers also participate in decisions over the staffing of the project team, over further offshoring to South-east Asia and over working-time flexibility in the project.

4.2 Functions and workflow

All in all, with the relocation of software development in general, remote locations tend to take over the more standardized functions first: circumscribed modules of software development, maintenance, quality assurance and testing. The amount of value-added and management functions they take over varies, and this kind of work tends to get relocated at a later point in time. Customer contact especially is likely to be concentrated close to the centre and not devolved to offsite locations, although occasionally, direct contact of these locations with customers happens informally. The location of project management varies – but in the case of remote project management the availability of project managers for questions and clarification may become a bottleneck. Some companies have matrix organisations with overlapping functions of project and line management.

In general, as we might expect, the definition of tasks and interfaces is critical for virtual collaboration. The German case represents a textbook example of the interaction of internationalisation and standardisation that is characteristic of German medium-sized multinationals (Morgan, 2005). Internationalisation originally was driven by the need to be close to customers and skilled workforces as well as access to cheaper labour cost. However, with the 2003 reorganisation managers talk about an 'industrialisation' of software development with integration of production sites all over the world, clear-cut processes, 'precisely defined responsibilities, handoff points and development itself down to the level of tools and libraries (repositories). Also, systematic documentation of work became an essential part of the new framework' (Krings, Bechmann & Nierling, 2007a: 9). This is in line with other research on software development which sees this industrialisation either as increasing management control (Beirne, Ramsay & Panteli, 1998) or empowering workers (Adler, 2005). The straightforward standardisation, however, is more an exception than the rule across cases. *Messenger* on the other hand still assigns circumscribed tasks to its Croatian subsidiary, leaving *Digit* in the kind of operative position that the East European subsidiaries of *Domainsoft* have left. 'Industrialisation' in this context does not address individual workplaces in a Tayloristic mode, but means a systemic approach that introduces formalised development processes that span the whole lifecycle of software, co-ordinate work on a global scale within the company, and try to assure quality control of a range of very complex products. Thus, integration is achieved by multiple means, not just technically by using common code libraries, but also by project management and social processes such as a formalisation of requirement and architecture definition, feedback loops, testing procedures and so on. However, locations are not interchangeable. Indeed, they are forced to develop a profile of competencies, and especially higher-wage locations get under some pressure to justify their cost. It is worth noting that *Business-Software* to some extent leaves actual consulting and implementation of its software at customers' sites to other companies that range from large consultancies/business service firms to SMEs and individual consultants. This helps to widen the distribution and in many areas, establish *Business-Software's* products as the de-facto standard. Some customer-driven demands for flexibility, involving mobility and long periods of work off-site and in customers' locations are thus left to external companies and not an issue in the company itself.

A similar configuration with, apparently, less standardisation and more micropolitics is found in Hungary's *Domainsoft* which, for CEE, has already become a higher-cost location compared with Slovakia or Romania. Hence, it has moved from a body-leasing type of operation to higher value-added services. In a direct pitch against the Slovakian subsidiary, competition was complemented by some negotiation and micropolitical manoeuvring: 'The management of LNG Co. and *Domainsoft* Austria wanted to outsource as [many] activities as possible but Hungarian managers argued that although they could not compete with Slovakian prices they can provide services of higher quality and - if they got orders in a critical mass - almost at the same price. Finally, the Hungarian management defended successfully its interests and - after a significant reduction of their costs - got new business and activities of higher added value' (Makó, Illéssy & Csizmadia, 2007a). Indeed, cost emerges as a matter of definition. At the time of the assignment in question, Slovakia did not have the necessary human resources available, and when the cost of their development was factored in, the cost difference nearly disappeared. Generally, CEE subsidiaries also compete with Western locations on the basis of greater flexibil-

ity, longer working hours and willingness to work week-ends. This results from their accepting fluctuating workloads and tight deadlines.

Offshoring in software development thus emerges as a dynamic and indeed, recursive process. When companies develop the processes and routines that support the coordination of distributed development projects by standardising requirements, architectures, feedback and quality control routines, further relocation of work or the takeover of projects by other teams become increasingly easier over time, increasing the competition between locations unless they manage to specialise.

In turn, internal competition between locations hampers collaboration and knowledge-sharing across sites: 'Usually, the competition between the different companies is replaced by cooperation once the decision is made on the allocation of a task into one of the subsidiaries. However, rivalry occurs regularly between the companies [...] As the quality of performance during the development a subcomponent of a project influences the further activity allocations and employment perspectives, there is a conflict of interest between the companies in sharing their knowledge with each other.' (ibid., 11) As one project manager aptly puts the dilemma which is reiterated down the value chain: '*That was an interesting situation when we succeeded to get a job which had never been delocalised to Hungary before. This product was developed in another location for years but we gained a foothold in it for 4 months. We already had experiences of the same product within another system and the task was to implement this product into this new system. Our foreign colleagues thought that this is a violence against their authority and caused some tensions. As a consequence, if we ask something from them they will help but in doing so they try to keep as much information as possible, especially new or strategic ones. It is no more an aim to teach us for 100 per cent because thus we could jeopardise their jobs. At the same time they can not afford not to pretend being helpful. The same is true for us. Our telephone centre has a support division in Romania, it is to them to solve eventual problems or errors, therefore they have often questions to us. Naturally, we always respond but we pay attention not to say too much from which they could take competitive advantage. Because we will be competitors on the next tender.*' (ibid.).

In the Austrian/Croatian configuration, this kind of competition is effectively inexistent. As value chains and relocations follow established product lines and the small Croatian unit is somewhat below the 'radar' of the US mother company, *Messenger* retains exclusive access to the services of *Digit* which help to keep *Messenger's* cost low. A detailed cost-benefit analysis of four projects that were distributed between *Messenger* and *Digit* by the FORBA team showed that locating part of the work in Croatia saved ca. 35 per cent of the total cost that would have been incurred by development in Austria only, even allowing for the time spent on co-ordination and communication. Effectively, *Messenger* thus apply the kind of mixed calculation that has been abandoned by *Domainsoft*. Hence, there is little pressure to change everybody's position in the value chain. In this case, the workflow is quite regular and apparently, changing workloads are not passed on to *Digit*. Yet, a clear modularisation and explication of tasks is not necessarily the standard. Depending on the project, *Digit* developers need considerable further explanations and discussion, and with project management located in Austria, the availability of managers occasionally becomes a constraint.

The Swedish business software company, *INIT*, has had a mixed experience with outsourcing and offshoring work. It pursues an outsourcing logic following the product life-cycle, trying to offshore maintenance activities on mature and 'sunset' products, and also standardised tasks towards the end of development such as testing and quality assurance.

The first offshoring decision was taken in 2005 in order to cut cost and both reduce personnel in Sweden and liberate some resources for innovative work there. Work went to two independent partners in Bangalore, one of which was Indian- and one US-owned, with the aim of building up a workforce of 200 people there – while 100 workers were laid off in Sweden. The Indian partners were to take over quality assurance, testing and documentation, and also some circumscribed ‘modular’ development projects in which tasks ranged from identifying customer demand through architecture, programming and testing. Contracts were quite long-term and also stipulated that subcontractors keep turn-over low. The aim originally was a longer-term, quality-oriented relationship in which during the first year, considerable resources were devoted to knowledge transfer to India.³ After a short while, documentation was re-shored back to Sweden. In 2006 *INIT* merged with a US-based company in order to gain capital, access to the US market and complementary product lines. This led to a decision (upon initiative from the US) to phase out the Indian operations and move them to the Philippines, where an owned subsidiary was established. One reason was that the Philippines were perceived as culturally closer to the US (and also Europe), the other, that they offered a wage ratio of 1:5 rather than the 1:3 in India. While this move was only initiated at the time of the *WORKS* research in the company, the aim is to locate about half the hours spent on service and maintenance in the Philippines and also have them do development tasks.

Bulgaria’s *SoftServ* is a specialized subcontractor. It takes over both circumscribed tasks and ‘turn-key’ projects for its customers. It started out with one project for a Swiss customer, and after the change in organisation and the implementation of a new management structure, expanded its customer base considerably, while still aiming for long-term relationships that promise higher value-added work. Its 2003 reorganisation focused the entire company on customers with teams dedicated to them rather than projects. Apparently they succeed in close collaborations with customers, giving them some say in management issues such as staffing and the skill base for the project and also in degrees of temporal flexibility. Apart from the customer-related project managers, each customer is assigned one of the partners to oversee the work done for them. Occasionally, teams collaborate with other subcontractors of the same customer as well.

The implementation of ISO 9001:2000 quality management also was part of the restructuring. Apparently this established formalized processes that in turn, enable further relocation. Apart from the subsidiaries in South-east Asia and within Bulgaria, location to another CEE country is being considered.

Teams are translocal, and the South-East Asian subsidiary takes over tasks with lower priority. The size of remote work packages varies: sometimes individual engineers do specific tasks, and occasionally there are semi-autonomous sub-teams involving development or quality assurance. Boundaries with the customer side are fluid as well: ‘*It is a little bit more specific that we⁴ work as a single team together with the people in the US – the customer. It is not obligatory that things we do here will be tested only from our QA, or things that*

³ This might be interpreted as an outsourcing pattern which is embedded in the Continental-European variety of capitalism (Hall & Soskice, 2001) which tends to specialise in long-term relationships, high trust and relational contracting (Lane 1998; Lane & Probert 2006). On the other hand, after the merger, *INIT* was quick to withdraw from that relationship and shift operations to the Philippines – aiming for both lower cost and higher control.

⁴ This is the largest team involving 21 Bulgarian and 6 South-East Asian software and QA engineers.

they [customer] do, will be tested only from their QA. (Interview with Project Manager, male, 30)' (Galev, 2007: 12). However, remote developers are not integrated differently from beginners in Bulgaria.

Overall, especially in the more integrated cases of relocation, the pressure on developers and project managers increases at both ends of the outsourcing relationship. Time-to-market is supposed to be speeded up, and deadlines are tightened. While working times generally are handled flexibly with considerable discretion for developers, the degree to which this flexibility translates into actual autonomy varies. Even where formal policies addressing work-life balance are in place, their actual use is a different matter (Hochschild, 1997): At *Business-Software* for example, 'although every employee has the option to work at least part-time at home, the intensive communication with international locations as well as the explicit team oriented character of the work obligates them to work mainly in the company.' (Krings, Bechmann & Nierling, 2007a: 19).

Collaboration with both US and South-East Asian location expands project managers' working times in two directions as working hours with the Asians overlap in the morning and with the US in the evening.⁵ Partly, co-ordination is decoupled, when e-mail communication generates 24 hour delays, partly it is more tightly coupled through phone conferences or net meetings.

While German and Hungarian developers report rigid timeframes and high workloads that limit their use of the discretion they formally have, Swedish, Bulgarian and also Croatian engineers report working times close to a 40 hour week. Indeed, Bulgarian engineers report surprisingly worker-friendly arrangements '*The company itself is quite flexible regarding work time ... Personally I go to work later - at noon, because I work till late [8:00 p.m.] and most of people in my team also come late ... but there are also some who like to come early in the morning and this is not a problem ... up to now ... because the afternoon hours are enough if you want to communicate with others.*' (software engineer, 29) '*There is a female colleague of mine, who has children and what she does is to come earlier in the morning, at 8:30, and to leave before 6:00 p.m. to pick them up from the school. For me the most important thing is the work to be done ... and the best thing is that nobody takes unfair advantages of the freedom that everybody has.*' (Software QA engineer, lead, male, 30; Galev, 2007: 20).

Some spatial mobility, especially short-term travel for troubleshooting missions at customer sites is a feature of work in many cases and generally accepted although it disrupts everyday life and family arrangements. *Domainsoft's* head of business development points to the dilemma: '*If - for example - something goes wrong in Indonesia, then somebody calls us from there saying that there is about 3 million people unable to call each other on their mobile. In this case we have to find somebody whose first question is not about the payment details of the overtime work but who is able and willing to go urgently to the airport with his/her laptop and is prepared to tolerate the stress. Somehow it suits us more and we like it. This requires another way of thinking about (working) time and flexibility which is completely different to the usual way of thinking. These cases happen more often than before. What is difficult is that you like it when you are young but you are lacking the necessary knowledge to do it. When you are more experienced*

⁵ An obvious solution (known from the authors' own practice and from informal observation elsewhere), to conduct early-morning or evening net meetings or phone conferences from home is not used by employees in software development. Fashion designers report this style of taking tasks home while in software development interviewees tend to separate work from home and rather stay in the office for longer.

and fully able to solve these very complex problems professionally you are already married with a small house, children, dogs, etc. and this cause conflicts. It is also a special skill how to prioritise these contradictory obligations' (Makó, Illéssy & Csizmadia, 2007a: 13). Different from other countries, for the Bulgarian subcontractor developers' reluctance to take on longer-term offsite assignments presents a constraint to the work they can do: 'I've had customers I had to turn down, because I just couldn't get people willing to travel for a long period of time. Two weeks, three weeks – no problem. If we're talking about 3 or 6 months – there's a problem!' (CEO, Galev, 2007: 16f.)

4.3 Changes in employment

Restructuring did not lead to major changes in employment conditions in the cases in IT Software development, with the exception of the Swedish case in which redundancies resulted from rationalisation and offshoring. Other effects were a greater formalisation in determining job classification (particularly in Hungary), and increased formalisation in target setting, career development trajectories and HR practices in general. In all of the cases, employment was regulated in full-time, permanent contracts and with benefits, working hours, and vacation time, etc. in alignment with national standards or better than national standards.

In Germany in *Business-Software*, in the context of a thriving company, 10,000 persons are employed, approximately 6,000 of which work in software development. Employees have regular work contracts based on 40 hour weeks, and have yearly performance target agreements with their individual manager. Workers report generally working more than their 40 hours. The company has introduced flexible time schedules and home office stations as well as the technical equipment to facilitate work-life balance. About 1/3 of the workforce are women, which is a high proportion for Germany in the IT sector. However, few women are found at higher management levels. It is worth keeping in mind that the company leaves consulting and implementation work on customer sites to other companies who range from larger business service firms to individual free-lance consultants. In *Business-Software*, three career trajectories are identified: functional, managerial, and project management. The project management type organisation requires high levels of autonomy and self-management. 'Individual performance of the employees focuses very much on the compliance of the results of the projects.' (Krings, Bechmann & Nierling, 2007a: 16). Generally, the restructuring processes have not changed employment conditions. In fact, benefits have been extended and employee stock options have made employees strongly identified with the economic objectives of the company. There is low fluctuation (although in Germany fluctuation rates are generally quite low.)

Domainsoft in Hungary has about 700 employees, 95 per cent of whom are IT experts; the remaining can be found in supporting fields of the company. It is estimated that about 80 per cent of the workforce is male. A major effect of the upgrading of Eastern European subsidiaries on employment conditions was a standardisation and formalisation of the job classification system. Before restructuring, everyone at *Domainsoft* were labelled as engineers. The new system follows the one applied at all *Domainsoft* companies: 6-8 categories of employees which are then sub-divided into tasks or functions. Employees are evaluated in check-up points after each project. There are also attempts to have a formal career planning, but given the rather flat hierarchical structure, career trajectories are limited.

Most of the employees have a permanent employment contract. Some jobs, usually domestic ones, are carried out with external workforces either with one year contracts or outsourced completely. Heads of department and project managers decide the work distribution and will transfer workers depending on capacity requirements. They also can recommend work abroad if it is not possible to find a job internally. There also appears to be quite a bit of work intensification at *Domainsoft*, especially at project end when there is a push to finish the work. At *SoftServ* in Bulgaria, about 200 employees (170 in Sofia, 10 in North-Eastern Bulgaria and 20 in South-East Asia) are employed as developers and software QA engineers. Altogether about 20 per cent of the workforce is women. However, there is a segregation of women in the QA engineering where their share is about 50 per cent. While for male engineers, QA appears to be an entry position, women tend to remain in this area. All employees have permanent, full-time labour contracts. The workforce is very young, even management. The average age is under 30 years for non-management and about 30-35 for management. Employees set their own working time according to project requirements: project managers and technical/QA leaders oversee the daily work-time scheduling of team members. 'The company is quite flexible regarding work time' (*ibid.*, 19) and tries to accommodate employees needs with regard to illness, maternity leave, continuation of education, child-care, etc. Performance reviews are carried out by the HR department twice a year. The only effect by the customer-centred restructuring on employment conditions is the wish of management for employees to be transferred to other offices or overseas assignments. Employees do not want to be transferred, and up to now, this has not been required, but management feel this to be a constraint on operations.

Messenger in Austria employs 45 persons in product development. Only 2 are women. As in Bulgaria, the average age in the company is very young: around 30 years. The standard employment relationship is the norm as well as full-time work. *Digit*, the Croatian subsidiary employs 12 persons, all in software development and all men except for one woman in administration. Employees at both companies work 40 hour weeks. The restructuring did not affect employment conditions. There was no transfer of workers, no changes of contracts, no redundancies. In fact, *Messenger* recently took on additional developers. Although restructuring led to changes in tasks, there was no adaptation of job titles, employment contracts or employment conditions. This is somewhat problematic given that project leaders have more responsibility, but do not receive new job grades or higher wages. For the Croatian subsidiary, there were positive effects on employment through restructuring in the form of an improved job security.

In the Swedish company *INIT* just over 200 persons work at the Swedish site; in India the number of subcontractors is about 150, but will be decreased or phased out. The Philippine site is just being established. The majority of the employees are academics: civil engineers with degrees in systems development, industrial organisation or economy. There are about six different job classifications in the company, ranging from business analyst to project manager. About one quarter of the workforce is women. There is however, a very small number of women in higher management levels. The downsizing that took place in 2005-2006 resulted in a very young age structure: between 30-40 years. All employees have permanent contracts with a weekly working time of 40 hours. Flexible working arrangements are becoming more common in terms of which hours are worked and working from home, a requirement linked to communication with the offshored sites and the US headquarters. The salary level is above minimum requirements for the sector, but not especially high in comparison with other high profile firms. Another development

has been a greater formalisation in HR practices, linked to the merger with the US company. This involves performance and talent review talks with management. For those made redundant, a 'retention bonus' was established to encourage the dismissed personnel to transfer their competence to the new operations overseas. The employment conditions in the offshored sites entail lower salaries, but not completely different contract conditions: permanent employment, 40 hour weeks, 10 days vacation, one month's mutual notice for lay-off, *etc.* The restructuring has involved a heavier work load and higher intensity for the remaining workers as well as increased formalisation of the work process.

4.4 Changes of work organisation

Work in software development generally is organized in projects and teams. Companies divide tasks between setting of demands and specifications (which may involve internal or external customers), software architecture, actual programming and testing and QA, and afterwards, maintenance, sales and support. Organisations are built around technological fields (such as platforms, usability, interfaces) or applications and/or customer segments. The amount of perceived change in work organisation varies in the cases, and in some companies such as *INIT* or *Domainsoft* it seems that managers notice more change than employees. The reason for that may be that it is generally the more well-defined and circumscribed tasks that are relocated or outsourced and that demands on project management increase as it is done translocally.

German *Business-Software's* reorganisation is the most co-ordinated and far-reaching effort. It is characterized by increased specialisation, compartmentalisation, a loss of task diversity, and more documentation and code review work. *'In former times the developer has conducted trainees, accomplished consultancy, he did everything... He wrote documentations, this all became much more specialised. Today a developer develops, a product manager writes the specifications and the developer of the documentations is doing the documentation and.... In either case the functional tasks became much more smaller.'* (Director Product Manager, Krings, Bechmann & Nierling, 2007a: 18). Within development, company-wide processes gain in importance: *'Concerning the developer, this took away his latitude and individual responsibility and he is increasingly forced, to think about development processes and less about the own coding. He is becoming less of an artist and more of an engineer. [...]'* (Executive, *ibid.*)

This, however, increases the importance of soft skills, cultural competencies and temporal and spatial flexibility. Indeed, awareness of work within a project now becomes translocal: *'Principally in former times, everything was produced here. Here the whole production was situated. The quality manager was sitting one door further, and the product manager was sitting two doors further, that means, one could easily go the adequate people into the office or phone them simply. (...) Or the colleagues from the quality management, I have to know who is actually testing in India, that means when I like to know something from the quality management, I have to phone to India, I have to communicate with these people, with all the cultural differences, I have to confront myself with the whole cultural clash.'* (*ibid.*, 19). This widened range of responsibility has eliminated downtime and slack periods at work: *'Today, I hardly have any closing time or time for recovery during the week, which I had in former times. I left my working place and closed the door, today I always have my notebook with me and before going to bed I usually have a look on my mails or I check my Blackberry.'* (Communication Manager, *ibid.*). Engineers, especially those who have been in the company for a longer time and experienced the more

artistic style of work, tend to be critical of the new way of working and feel less than empowered by it as, for example, Adler (2005) suggests: *'The reaction was very critical, because there wasn't anything like that before. The only instrument of quality control were templates for the documents, besides that, the developer was able to do whatever he liked as long as he fulfilled the deadline and built what he was supposed to deliver.'* (Krings, Bechmann & Nierling, 2007a, 19).

In Hungary's *Domainsoft*, who have been moving up the value chain within the mother company, new managerial and architectural tasks have been added to project management. Managers find they have closer and more equitable collaborative relations with both *Domainsoft's* headquarters and their internal 'customers' of LNG, and their status in the multinational company has improved. The company has a multi-layered matrix organisation with project management embedded with a line organisation according to business segments. There is also some duplication of management functions between Austrian and Hungarian management so that management responsibilities are somewhat diffuse. 'The line management supervises the professional work of the employees while the project management is responsible for keeping the deadlines and for organising knowledge flow. If the project leader foresees the possibility of delays (s)he can directly intervene and can oblige the line manager to report to him or her on the reasons of the problem' (Makó, Illéssy & Csizmadia, 2007a: 10). While projects that are generally large and have hundreds of developers working on them are assigned by tender, they are subdivided into components on which distributed teams work according to local specialisation (for example in graphical interfaces). Local teams comprise 3-10 people and developers generally work on several projects at the same time.

In Bulgaria's *SoftServ*, restructuring has taken the opposite direction to the German case: responsibilities have been devolved to the lowest possible management level and open, informal communication between levels is encouraged. There is considerable functional flexibility for engineers to take 'designer' or 'developer' roles, and with the flat hierarchies, the role of project manager (which requires a senior engineer) is supported by another person taking the technical lead role in larger projects. Project managers may look after several projects for one customer, and finally, customer liaison is supervised by one of the nine partners. There is a division of labour between software developers and quality assurance engineers. QA on the one hand is one of the entry positions in the company from which people move into developer positions. On the other the majority of the 30 women working in the company are QA engineers for whom either opportunities or the desire to move on to software development apparently are more limited.

In Swedish *INIT*, the first offshoring initiative led to a review of the organisational structure and process, with clearer demarcations of production and maintenance. Afterwards, the merger with a US-based company has played a part in reorganisation. Managers and developers find that management has become more hierarchical and top-down compared to the Scandinavian style of networked decision making. Economic, administrative and HR functions are more formalized, and time and planning horizons have been shortened to demands of capital markets with quarterly intervals of monitoring.

Both the co-ordinated and the more fragmented cases show that standardisation of processes and modules is inevitably complemented by an increase in the need for communication across sites. Standardisation does not substitute but structure informality, and workers and managers need considerable and increasing skills in intercultural communication intertwined with problem-solving ability and empathy towards collaborators and customers. They use a variety of communication media, ranging from phone and e-mail

to IRC and Skype chat. Chat allows for informal communication that is more tightly coupled than e-mail but does not necessarily occur in real time like a phone conversation.

Although Croatian *Digit* generally takes over operative work in programming and testing, and project management and customer contact are handled by *Messenger's* project managers in Austria, they have attempted to change the way in which specifications are communicated: Faced with unclear requests by the Austrian project management they started to build 'user cases' to communicate back and discuss in order to render expected functions more explicit. This somewhat emergent initiative to improve the basis for communication is found as a regular practice in another case of offshoring work from the US to Ukraine (Armour, 2007): Managers of a small Illinois company told the author: 'We've found it is better to write compelling stories that allow people to understand the business need rather than churn out the traditional dry functional requirements spec. This allows our developers to intelligently interpret what is needed for the business and to interpolate or extrapolate any details that may not be in the spec. We collect a subset of the stories for an iteration, enough to get something done, but also small enough to be controllable. We use the iterations to flush out the details some more as well as to build content' (Armour, 2007: 15).

4.5 Skills, knowledge and learning

The cases in IT software are characterised by workforces who entered the companies with high levels of skill. Training in the companies tends to be on-the-job although there are some programs for formal skill acquisition. Many training courses are geared toward project management methods; others target updating technical knowledge, improving programming skills, *etc.* In most of the cases, restructuring has resulted in a formalisation and standardisation of procedures for transferring information and knowledge, especially in documentation procedures. In several cases, it has also led to a formalisation in the job classification structure and the way skills are classified in the company.

In the German case *Business-Software*, the company offers its own educational programs divided into a 'qualified and a highly qualified level.' Apprentices in these programs are trained on the company's own software. Learning at work is supposed to take place on-the-job: 'only 10 per cent of the training activities should be based on training programs' (Krings, Bechmann & Nierling, 2007a: 21). The formal qualification has been changed in terms of increasing functional specialisation. The internationalisation through restructuring has made processes and communication more complex. This has led in turn to a standardisation of communication and documentation procedures. The ideal employee is described as flexible and able to multi-task. Those who do their job in a more linear way get delegated to 'back-office' tasks and are put on different career trajectories.

The Hungarian *Domainsoft* case has the most differentiated system of skill structures and classification out of all of the cases. 'There is a catalogue of competencies where 17 basic competencies are organised into clusters. Each job is also categorised into clusters and it is defined in advanced which competencies are required to get it' (Makó, Illéssy & Csizmadia, 2007a: 18). Another example of formalisation at *Domainsoft* is a special Toolkit that was developed for knowledge sharing between the employees called TechnoWeb. 'Employees have to register their work on a daily basis. These registers contain information not only on hours spent on different projects, but also on the problems that occurred as well.' (p. 19)

The documentation of the problems and how they were solved are put on TechnoWeb. *Domainsoft* also keeps close connections to universities to improve recruitment possibilities on a difficult labour market.

In the Bulgarian case of *SoftServ*, many employees are still students in B.A. and M.A. programs at the university. Experienced professionals with academic degrees make up about 1/3 of the workforce (Galev, 2007). Training in the company is necessary to '*train knowledge and skills required for working in the IT sector, and ...to meet professional requirements in global sourcing.*' (p. 24). Other in-house training for employees are related to soft skills and language skills. The HR manager estimates, '*last year, we had 47 training hours average per capita*' (p.24). There seems to be quite a difference in the expectations of skill between men and women in the Bulgarian company. Women are seen to make excellent QA engineers because, '*they are willing and punctual, strict, observant, and mindful of details.*' (p.24) and hence tend to stay in that area of work whereas men move to software development from there.

At *Messenger* in Austria, a major shift in skill requirements occurred due to the new demands in project management. Employees would like to see more training being offered for this new job requirement. Another aspect of work at *Messenger* is differing levels of knowledge intensity in the work. At *Digit* programming tasks tend to be routine and consist mainly of coding tasks. The specifications for carrying out this work are quite detailed. In general, '*the development process and the cooperation between the two locations made it clear that high degrees of formalisation and standardisation make it easier to relocate work* (Flecker & Schönauer, 2007: 13).

At the Swedish company *INIT*, the demands on knowledge are high, especially in terms of technical knowledge and also cooperation skills. The restructuring led to the introduction of a new structured skill system. The purpose is to make the system more transparent in terms of roles and levels. 'Together with the performance management system this led to a more formalised view on work roles, skills and personal competence.' (Tengblad & Sternälv, 2007a: 18) Some employees see this as a detrimental to the creative and informal organisation that characterised the old system. Training is offered for programming languages and general technical development, although employees also learn privately by surfing the net and reading in their area of expertise. Employees report that the most effective learning takes place in working in teams and by changing tasks and positions. However, most formal skill development concentrates either on project or HR management (for some), on knowledge transfer (due to outsourcing) or on learning new development methodologies from the US headquarters. Thus the most favoured way of learning through taking part in new, interesting development projects has been neglected somewhat.

4.6 Industrial relations and regulations

As with IT R&D, the business function of IT Software production also revealed low levels of participation in organised industrial relations structures. This was true at the level of all of the case studies. The employment context in several of the cases was highly positive: in Germany, Hungary and Bulgaria the employees reported better than average employment and working conditions for their country, which influenced their inclination to be involved with industrial relations. However, there were clear differences between coun-

tries in the basic levels of regulation and the institutional context in which employment was taking place.

In Germany's *Business-Software* restructuring did not involve loss of jobs or a worsening of employment conditions and the company was continuing to enjoy high levels of economic success. There is no collective agreement for the IT sector in Germany, and in fact, the sector is represented by two different, and to a certain extent, competing unions. *Business-Software's* employees were initially represented by a committee of representatives who worked in a cooperative way with management on employee issues. This committee became a full member of the advisory board of the company. In any case in Germany there is a law of co-determination in which a certain number of employee representatives have to be on the board of corporations. The company also developed a stock option plan for its employees. The establishment of a works council in line with the German Works Constitution Act, was somewhat controversial in the company. In Germany all companies with more than 20 employees have the right to have a works council and if 3 employees demand it, the works council has to be formed. At *Business-Software* this occurred, although apparently in an opinion poll of employees, 90 per cent of them were against the establishment of a works council. Eventually, the already existing committee of representatives became the works council. There seems some unclarity regarding the position of the works council or the involvement of unions at *Business-Software*. It is quite possible that there are differences between task area and job category regarding attitudes towards the institutionalised interest representation. European equality law and directives (2000/43/EG, 2000/78/EG, 2002/73/EG, 2004/113/EG, cf.. EUGleichbUmsG) in Germany were implemented through the 'Allgemeines Gleichbehandlungsgesetz' (AGG) For the company this meant a check of its practise of job offers and internal regulations for compatibility with the new regulation.

As in the German case, at *Domainsoft* in Hungary employees report above average working conditions and the interest representation centres around a model of cooperation with management. When problems arise workshops are organised and employees are invited to participate and submit proposals. Another form of representation is a 'management dialogue' model in which employees 'have the opportunity to directly contact business area leaders with any kind of problem on every second Tuesday.' (Mako, Illéssy & Csizmadia, 2007a: 20) Otherwise there is no trade union at *Domainsoft*, nor is there a works council. This is more surprising, since Hungarian law stipulates that works councils should be formed in companies employing more than 50 employees. The absence of a works council apparently is due to lack of employee interest. Unlike Germany, however, *Domainsoft* operates in a much less regulated employment environment. Thus overtime, work intensification, weekend work, extended travel are all conditions that exist at *Domainsoft* and there are little regulation possibilities to counter them. In fact, the Hungarian company specifically uses its advantages in terms of lower levels of regulation to compete with its Western European (in particular, Austrian) counterparts.

In the Bulgarian case, respondents report that there is no formal workers' representation for the IT sector. The company is relatively small, growing, and mainly oriented toward an international market, so employees seem to feel their job situation is better than average and also secure.

The Austrian case *Messenger* provides a contrast with the previous cases regarding the levels of formal participation in industrial relations institutions. At *Messenger*, the workers recently established a works council, which according to Austrian law, is the right of

workers in establishments of more than 5 persons but requires an explicit initiative by employees. Although there had been discussions on forming a works council before, it was the takeover by the US firm that triggered the election of a works council. At the Croatian site, there is no workers' representation. In Austria, unlike the other cases, there is a special collective agreement for the IT industry. However, Messenger had adopted the collective agreement of retail before the IT agreement was negotiated and has never changed over. In this agreement, regulations for working hours, wages, and seniority are set. However, the choice of collective agreement has no effect on actual wages that are well above either agreement. Employment contracts at *Messenger* are subject to Austrian labour law.

The Swedish case *INIT* is the most complicated and contradictory case with regards to industrial relations in IT software. In Sweden there are both high levels of regulation on employment conditions in terms of labour law and also the highest level of participation in organised industrial relations institutions. Yet, it was also the case where the employees experienced the greatest (and most negative) effects of restructuring. The offshoring, merger, and redundancies that were associated with the case, appeared to take place in an atmosphere of cooperation between unions, employees and management. About 50 *per cent* of employees at *INIT* are organised in either SIF (a workplace organisation that is independent of education and profession) or two professional organisations: JUSEK (an organisation for system developers and economists) and the Swedish Association of Graduate Engineers. Apparently a motivation for membership is the unemployment benefits associated with it. There is no representation of workers in the management structure. The company is obligated by law to negotiate with the unions. However, there are no local representatives involved in the negotiations in this case and this is seen as a problem, in particular by SIF, which wants to have a local collective agreement to regulate work in the new US/Swedish merger. Rather than being able to prevent redundancy or restructuring in general, the steps and measures centred on the terms of redundancy. These were quite generous: above what is required by the job security law, and led to dismissal periods of up to 1½ years. Another issue in the redundancy terms was to make competency rather than seniority the basis for choice of lay-off. The impression in the case study was that employees did not have problems with reorienting themselves on the labour market given the generous redundancy package and that the restructuring went '*smoothly related to labour law and the existing industrial relations*' (Tengblad & Sternälv, 2007a: 20).

4.7 Conclusions

All in all, the restructuring of software development is characterized less by linear processes or a neo-Taylorist 'one best way' but by interlaced loops of changes that are embedded with a company's or network's history, market and institutional environment. Relocation, either as outsourcing or in-house offshoring both requires and enhances some formalisation of specifications, interfaces or modules. However, it is both possible to hand off modules or 'black boxes' of sub-(projects) (a matter of longer-term collaborations) or smaller, circumscribed or standardized tasks. Hence, we observe both 'modular' and 'captive' value chains (Gereffi, Humphrey & Sturgeon, 2005).

Standardisation implies an increase in communication, and formal specifications may be supplemented by more narrative or exemplary 'cases' as bases for understanding func-

tions. As an interviewee of Adler (2005) put it in a truly Durkheimian way: 'Process means that people play more specialized, defined roles, but also that these specialists get involved earlier and longer as contributors to other people's tasks' (Adler 2005, 423). Hence, while work may have changed from a more traditional craft-based mode that developers occasionally conjure up somewhat nostalgically, we do not observe any deskilling.

In a similarly mutually enforcing way, internal competition is supplemented and limited by specialisation and building of competencies in the integrated cases of *Business-Software* and *Domainsoft*. However, as we have seen, a basically competitive governance structure actually hampers the circulation of knowledge. This configuration is particularly visible in the Hungarian case, a former body-leasing operation that has now moved up the value chain and successfully taken projects from older, Western locations. Now, it finds itself undercut by other, newer CEE locations, which renders the Hungarian subsidiary somewhat reluctant to share knowledge with these 'newcomers'. With regard to overall knowledge circulation and innovative capabilities of the company as a whole, units thus find themselves pitched against each other in a prisoners' dilemma of knowledge retention that may prevent them from making use of synergies.

Compared with previous findings on MNC strategies (Morgan, 2005) and value chains (Gereffi, Humphrey & Sturgeon, 2005), transnationalisation has advanced further in software development, but has led to a range of company-specific patterns rather than an industry-wide 'story' of value chain fragmentation or company restructuring. In the German-based multinationals we still find the most co-ordinated and integrated top-down efforts at transnationalisation. In the other cases mergers and takeovers or joint ownerships with US-based companies complicate the question of nationally embedded strategies. US involvement seems to encourage companies to offshore operative work to Asia. It also leads to a transfer of formalized practices in HR and software engineering in Sweden which is at odds with a more informal Scandinavian style. The US education of the new CEO also had led the Bulgarian company to adopt a work organisation that is similar to a professional or consultancy company.

5 Faster Food

Production and logistics in the food processing industry

PAMELA MEIL/ANNIKA SCHÖNAUER

5.1 Introduction: general overview of the sector and business function and the companies involved

The focus of this report, which is based on case study reports from different country teams, is to look at the business function of production and logistics in the food industry, in what way it was restructured during the last years and which direct and indirect effects this had on employment conditions and work organisation.

The food industry, particularly in production, is a sector utilising a relatively high share of low-skilled labour and displaying traditional forms of work organisation and division of labour. Nonetheless, there are aspects of work that are quite knowledge intensive, for instance, in the R&D function, with the introduction of new genetic biotechnologies, freezing techniques, use of flavouring or chemical additives. Also, in logistics, as world wide distribution networks are highly computerised and customer orientation has led to large increases in product diversity and short delivery time frames. These new developments stand side-by-side with conditions in a sector still closely linked to the agricultural resources that form its base, and the demands for their quick and hygienic processing. In the following case studies, it is examined to what extent work in this sector is changing given these various trends and to what extent restructuring, whether through merger, acquisition, outsourcing, selling off, *etc.* affects work and employment.

The food industry is, in turnover, the largest sector in the EU, ahead of the automobile and chemical industries. Moreover, it is the leading employer in the EU manufacturing industry. Yet, it still reveals a very low level of R&D expenditure, and that which is undertaken, is mainly concentrated in the largest multinationals in the sector. SMEs, however, still dominate the industry, accounting for 50 *per cent* of its turnover (CIAA (Confederation of the food and drink industries of the EU), 2006). Although a shift in production activities toward Eastern and Southern Europe is visible, in fact, France, Germany, Italy and the UK, and Spain are the leading producers of food and drink, accounting for 70 *per cent* of total EU turnover. Aside from the textile sector, personnel cost per employee is the lowest in manufacturing, underscoring the use of low skilled labour. Despite the low cost of labour, the industry has been investing for some time in automation in production, process and logistic functions, increasing capital utilisation and changing skill demands (Pollert, 1993).

The organisations represented in these analyses (most of them consist of numerous companies) are situated in BENELUX (logistics of beer), in Bulgaria and the UK (production and logistics of beer), in Italy (production of frozen vegetables), in Greece (production and logistics of frozen vegetables), in Denmark (production of meat), and in Norway (production and logistics of fish). In detail, the following organisations are represented in this report.

CO.A (Greece): One focus of this case lies on the opening of a subsidiary for pea production in nearby Bulgaria. The idea of restructuring *CO.A* first came up in 2003 and it began in 2005 with the operation of the new plant in Bulgaria, which is owned by a subsidiary of the company in Greece. The production of peas is now carried out in two plants, an older plant in Greece and a new one in Bulgaria (Gavroglou, 2007b). The second focus lies on the creation of a logistics division since 2004, which lead the unification of planning and managing of flows (Linardos, 2007).

FC (Fishing Company AS) (Norway): *FC* is a comparably small company (125 employees), working in the field of fish farming, slaughtering and fillet production. The restructuring the report focuses on contains on the one hand the insourcing of a fish farm company in 2006 and the reorganisation of the fillet production unit since 2005, and on the other hand the cooperation with *Larry Seafood Group*, *FC*'s logistics partner, involved in sales, export and marketing of fish products (Saetermo, Torvatn & Dahl-Jørgensen, 2007).

Maltco (BENELUX): *Maltco* is a multinational company and one of the leading beverage producers in the world. It has production sites in several countries, incl. the BENELUX. In 2006 *Maltco* relocated its export operations department to a *Maltco* owned Business shared service centre in Prague, Czech Republic (De Bruyn & Ramioul, 2007b).

Maltco (UK): In 2004 *Maltco*, a multinational beverage producer took over another company formerly part of AM. Following from the take over number of change programmes have been rolled out impacting on the investigated site, *Maltco UK*. The case study focuses on the impact of several change programmes on production processes, in particular operators employed within packaging and on logistics processes within *Maltco UK*, in particular on forklift drivers whose key task involves filling containers with orders and/or transporting containers with orders in the on site storage warehouses to pick up points (Dahlmann, 2007b).

Meat Inc. (Denmark): The pig division of *Meat Inc.* is a large exporter of pork and it consists of more than 20 pig slaughterhouses and deboning plants. *Meat Inc.* still has a cooperative ownership structure. Due to centralisation of production a new and large plant was built in central Denmark in 2005. At the same time, *Meat Inc.* closed 6 smaller companies and outsourced some of the deboning activities to Germany (Gorm Hansen 2007).

Natural Delicacy – ND (Italy): Since 2002 *ND*, which is one of the most important Italian producers of fresh vegetables and frozen food, has been under restructuring. Currently underway is a restructuring involving the insourcing of production of vegetables that had been previously outsourced to a company in the South of Italy called *Hydro* (Pedaci, 2007a).

Beer AD (Bulgaria): *Beer AD* is a Bulgarian company with long tradition and is the main player on the local beer market. In 1995 a BENELUX multinational company privatised the formerly state-owned company, since then there is an ongoing outsourcing policy in terms of technology, technical equipment and production from Belgium to the subsidiary in Bulgaria. *Beer AD* itself pursues the strategy of spatial consolidation of production as well as of logistics, following a so called Global Project of the company (Stoeva, 2007; Kirov, 2007).

5.2 Company and value chain (re-)organisation

The cases show that in food industry restructuring on an international level is very important, although this sector is strongly locally embedded. Restructuring goes into all possible directions, we see outsourcing and subcontracting as well as centralisation and take-overs. *Maltco*, for example, is a multinational concern with its headquarters in the BENELUX, and recently merged with another multinational company. Its export operations department was relocated to a *Maltco* owned business shared service centre in Prague, Czech Republic. Another example is the Greek case study on production of peas, which analyses consequences of the opening of a plant in Bulgaria instead of importing large amounts of peas from companies abroad (Sweden, Hungary, Serbia). In the case of beer production in Bulgaria (*Beer AD*) restructuring was also part of a global project. *Beer AD* was bought by a multinational company, the global management structure was changed and decision-making was moved to Moscow as part of the multinational's move to create regional centres called zones. Important departments such as general management, marketing, purchasing and sales were concentrated in Sofia. Logistics were centralised at the level of Bulgaria in another city. Another example for these global cooperation's is the Danish company *Meat Inc.*, which has facilities for slaughtering and food processing in Germany, Poland, UK, USA. Even the Italian case on vegetable production (*ND*), which mainly focuses on national partners, has subcontractors abroad. And also the small company *FC* in Norway is part of a multinational network of supply and logistic functions.

All companies have in common that they feel an increasing pressure of international competition, but their strategies to survive on the market are very different. Several of the agricultural organisations we looked at started as or still are cooperative movements, which are based on a democratic principle, meaning that all members, no matter the size of their farm, have equal opportunity for influencing decisions. One example is the Italian producer of vegetables *ND*, which resulted out of the merger of a number of farming cooperatives. *'The ownership structure, however, has remained unchanged and continues to be that of the cooperative. The group is, in fact, owned by its agricultural producing partners'* (Pedaci, 2007a: 3). Also *Meat Inc.* in Denmark had its start 100 years ago with the formation of the Danish cooperative movement, making the Danish pig farmers the owners of the Danish slaughterhouses. Today *Meat Inc.* includes all cooperative slaughterhouses except one and the cooperative ownership structure still prevails. *'The company remains in the hand of the 15,000 Danish pig farmers who are affiliated as members'* (Gorm Hansen, 2007: 6).

Other cases begin with a restructuring deriving from the privatisation of formerly state-owned companies. *Beer AD* in Bulgaria is such an example, it became independent 'after the fall of communism, when state owned enterprises were "de-monopolised"' (Stoeva, 2007). When the company lost its status as a state monopoly it was suddenly confronted with raising competition on the local and on the global market which was accompanied by demands for organisational and technological changes within the company. The fact that they went public on the stock exchange increased the pressure. In the case of *Beer AD* in Bulgaria, an Austrian consultancy company was hired by the multinational company that had acquired it, and consultants suggested the outsourcing of some activities. As a result, work organisation has been changed and about 60 employees have been dismissed, including staff from production and logistics.

Our case studies show that the outsourcing of parts of production or logistics is not always a successful strategy over the long run. The case of *ND*, an Italian producer of vegetables and frozen foods, is, at first sight, a prime example of outsourcing. The decision to outsource parts of the production was initially undertaken due to capacity problems caused by unexpectedly high demands for frozen vegetables. The company outsourced processing and freezing of fresh produce, while retaining the packaging internally. Also R&D was kept in-house, for strategic reasons, as R&D is seen as one of the core business functions. An official said: *'Our competitors are large multinationals that can rely on a worldwide network of suppliers, and if we try to compete with them in terms of prices we'd be left with no option but to shut down, so what we can do is to compete with them in terms of quality.'* (Pedaci, 2007a: 4). Nevertheless, *ND* is currently planning to gradually reinternalise those segments of production that have been outsourced or are currently purchased on the market. The reason for this is that in-house production *'would allow them to maintain a strict and more direct control on food processing and thus keep down wastage and delays due to the shortcomings of third parties'* (Pedaci, 2007a: 5). In the Norwegian case *FC* on fish production, management also decided to insource a former contract partner. The motivation was that *'FC felt that they did not really have control over the supplies except through legal ownership'*, explain Sætermo and others (Sætermo, Torvatn & Dahl-Jørgensen, 2007: 11). *FC* does not own the majority of their insourced partners, leading to an element of uncertainty. Insourcing of secure suppliers seems to be an important strategy of *FC* for the future.

An example for a decision against outsourcing in the form of subcontracting is the Greek case of production of peas *CO.A*, which decided to open its own plant in Bulgaria rather than buying the peas of other companies abroad. With this decision, they clearly turned away from cooperating with subcontractors. Gavroglou analyses that *'the reason in the Greek case was that the company's position in the value chain is enhanced as a result of the restructuring, as it is now less dependent on independent companies supplying frozen peas – the advantages of vertical integration'* (Gavroglou, 2007a: 6). Another reason was also the reduction of expenses, because the import of peas from Hungary and Sweden is more expensive than the production in Bulgaria because of higher wages. Due to its accession into the EU, Hungary lost its big advantage of location and *'setting up a plant in Bulgaria is also considered a good foothold in the emerging Balkan markets which the company aspires to penetrate in the near future'*, explains Gavroglou (Gavroglou, 2007a: 6).

Another form of value chain restructuring, which is very common in our case study sample, is centralisation. In the Danish company *Meat Inc.* the main interest of farmers on meat production was to get a good price for their pigs. The aim was to cut production costs through centralisation, automation and specialisation. This was reached by a division of labour between slaughterhouses and meat processing companies, which led to the closing of slaughterhouses, the construction of a new, big and more taylorized one and the relocating of parts of production abroad.

5.3 Functions and overall workflow in the value chain

The workflow of the production function in the food industry begins with raw materials, whether it is vegetables as in the cases from Italy and Greece, fish (eggs) in Norway, pigs

in Denmark, or malt in Bulgaria. An important part of the pre-production process is securing a reliable source and delivery of the raw materials. The next stage involves transport, usually outsourced to external transportation companies in these cases. Then the agricultural products are processed into industrialized products: frozen or ready-to-eat food, meat, frozen fish or fish preserves, or beer. This can involve a relatively simple processing procedure, such as in pea production, which mainly involves sorting and freeze-storage, or more complex ones as in the case of brewing beer (fermentation, distillation, filtration) or fish processing (smolt production, fish farming). The next stage is a production process which prepares the food for packaging, such as cutting and deboning meat, filleting fish, bottling beer, and freezing and storing vegetables. Finally, the products are packaged and distributed through the logistics and sales divisions.

Restructuring in the cases presented here often involved a lengthening of value chains in the form of takeovers (Greece, Bulgaria) or outsourcing (Italy and Denmark for some processes). However, there were also simultaneous trends to centralisation and an accompanying standardisation, for instance the establishment of a new large scale slaughterhouse facility in Denmark which made the work more efficient and the tasks more specialised, the closing of two production sites for beer in Bulgaria and concentration in one site, and the insourcing of fish farming in Norway.

The restructuring did not have major effects on tasks carried out in different units, but there is a clear trend to outsourcing lower level work or at least keeping the most knowledge intensive work at the headquarters or original site. In Denmark, for example, there are limits to outsourcing of the slaughterhouse process because for one, the Danish label allows for a high desirability on the market and a correspondingly high price. To have this label, the meat has to be produced and slaughtered in Denmark. Furthermore, there are a lot of restrictions based on Danish and EU law concerning how long living animals may be transported (8 hours) and how long they can go without food.

The processes that are outsourced are meat processing, casings, and some deboning. The latter is a highly manual task and therefore labour costs play a role. Although some processing and deboning still take place in Denmark, more and more are being outsourced to lower cost sites. One such example are subsidiaries of *Meat Inc.* in Germany in which Polish workers on temporary contracts work longer hours for lower pay than is allowed in Denmark. Thus the Danish plant is outsourcing its poor working conditions and less qualified work and maintaining high working standards within its own borders. In Italy, the production cycle begins with *ND* carrying out R&D, conception and early testing. *Hydro*, the company to which *ND* outsources, is involved in the processing cycle that ultimately leads to the freezing phase. The frozen, semi-finished products are then delivered to *ND* which takes care of packaging and storage, and is the direct link with retailers. *ND* monitors *Hydro's* work at various stages since the requirements held in the contract for *Hydro* to meet are quite stringent. In the Greek case *CO.A*, the Greek company previously bought peas from Greek farms as well as Swedish, Hungarian and Serbian farms. The newly acquired Bulgarian site has taken over the work from these other sites. The acquisition of the Bulgarian site was motivated by climate (for growing peas), cost, transport and distance, and access to Balkan markets. At *Beer AD* in Bulgaria, the multinational headquarter makes the decisions regarding what will be produced and to whom it will be distributed. The company organisation is in the process of being organised in zones, and the Bulgarian site will be managed by the Russian zone centre.

Even given restructuring and modernisation, food production remains quite traditionally organised. The processing and maintenance areas are the more highly skilled areas, often where men are employed, and the production and packaging areas are the less skilled areas where women and unskilled men (for physically demanding work) are employed. The workflow has been affected by an increasing automation in most of the cases. In Bulgaria, technological modernisation followed privatisation as well as rationalisation of site use (brewing is concentrated at one site) while logistics and cultivation of malt are carried out at the two former production sites. In Denmark, an outcome of the automation process in the slaughterhouse is that 'work is transformed from craft work to industrial labour.' (Gorm Hansen, 2007: 19) and there is an increasing taylorisation of work processes. In the Italian case ND, technology is also used to increase surveillance and control of machine processes, making the quality and productivity levels of individual workers very transparent.

All food production is dependent on weather and seasonal conditions and this leads to a certain amount of fluctuation in work demands. Also, customer demands have increased, which affects the rhythm of work, sometimes leading to work intensification in peak periods. The attempt to respond quickly to market demand and the fact that the products have to be processed quickly has led to increased pressure for efficiency and speed in all of the cases. ICT tools have been installed in several cases (Italy and Bulgaria) to coordinate and revise labour distribution plans.

Quality control is a major component in the workflow of food production and has taken on greater weight in the increasing 'agro-business' character of the sector.

5.4 Changes of employment

The food sector still has a very established form of workforce segmentation according to gender and ethnicity (Flecker, Meil & Pollert, 1998). The case studies show that there is pronounced segregation according to gender in most companies. Women dominate the more monotonous jobs, *e.g.* on production lines, while all technical and more advanced tasks and higher management positions are occupied by men. For example, beer production in Bulgaria shows that women are mainly employed in units of bottling, packaging and customer service, while men dominate the production of beer. Stoeva adds that 'actually women dominate at middle level management. Most of the shift and quality managers in the production are exactly women.' (Stoeva, 2007: 8). At *Meat Inc.* in Denmark, women are less represented in slaughterhouses, because the whole trade is historically considered to be a male profession and the macabre character of work is thought, by the management, to be less appealing to women. Additionally, work at slaughterhouses is still strenuous and considered hard manual labour, so women are mostly found in departments such as packaging (Gorm Hansen, 2007). Also in the Greek case on the production of peas, women are concentrated in the more monotonous jobs, *e.g.* on the production line, while all technicians and crane operators are men. This has negative consequences for women's income, given that technical and management jobs are better paid. In this company, traditionally an annually non-negotiated bonus is paid to all staff, which for line workers (mainly women) amounts to nearly 5 *per cent*, while it is quite a bit higher for technical staff and management (dominated by men) (Gavroglou, 2007b: 9). Also the Italian case ND shows this form of gender distribution, which seems to be typical throughout

the agrifood sector. The factory workforce is made up mostly of women, while men are mostly employed as mechanics or in the area of maintenance. Pedaci analyses that 'in this case the over-representation of women in the factory (...) derives from the fact that factory work foresees a fixed-term contract for a limited number of days in the year. It is for this reason that this job profile is typically considered as female legacy.' (Pedaci, 2007a: 4).

In many case studies, staff segmentation has an ethnic dimension. At *Beer AD*, for example, seasonal temporary agency workers mainly come from a low qualified group of the Roma community (Kirov, 2007). *CO.A*, the Greek case with its subsidiary in Bulgaria, hires 10-20 seasonal line workers every year, who have fixed-term contracts. Also in this case, unskilled workers are predominantly Roma from nearby villages, while the few technicians and managerial personnel are ethnic Bulgarian. It has to be mentioned that although wages in Bulgaria are much lower than in Greece, the company offers better wages, benefits and working conditions compared to other companies in that Bulgarian region (Gavroglou, 2007). All over Europe, the agricultural sector receives negative headlines for its exploitation of undocumented migrants. In the Italian case *ND*, there is a significant presence of non-EU employees (most of them are male), but all of them hold regular working permits, although most have past experience as undocumented migrants. Also in this case, staff distribution has an ethnic dimension. Immigrant workers are mainly warehousemen and porters (Pedaci, 2007a). In the Norwegian case *FC*, young staff from Sweden is hired on short-term (normally three months) contracts during busy periods, who serve as a 'buffer' against dismissals, according to the human resource manager. (Saetermo, Torvatn & Dahl-Jørgensen, 2007: 7).

As we have seen, an important distinction is the one between seasonal and permanent workers. The food industry is characterised by changing workloads and companies often try to solve this problem with temporary workforces during peak periods. The Italian company *ND* and its subcontractor employ their manual workers in formally fixed-term contracts. These contracts last one year, expire on December 31 and are automatically renewed on January 2. During the year, staff is required to work a determined number of days. Workers are divided between those who work 151 days a year and those who work 101. Workers have the duty, as well as the right, to work for that number of days. There is also a relatively small group of temporary agency workers, which cover extra demand or unexpected peaks, but the management prefers a different kind of relationship, one that allows for a direct rapport. '*We keep them through the temporary work provider for the minimum required time, because these companies too must make some profit, but then, if the workers do well, we hire them directly*', an official said (Pedaci, 2007a: 10).

The forms of employment which are revealed in the case studies show that the demands for flexible employment are very high. One type of flexibility, found for example, in *Meat Inc.* in Denmark, revolves around the concept of a societal social contract. The company has the possibility to act very flexibly, because the term of dismissal notice is very short in Denmark (7-42 days, depending on job tenure). This explains the rare use of short term contracts in slaughterhouses. This type of flexibility is specific for the Danish labour market and differs from most other European countries. It is based on the highly developed Danish social security system and a model of flexicurity. Nevertheless, the company used more precarious forms of flexibility by relocating parts of the deboning activities to Germany, where foreign workers (e.g. from Poland) are employed in short term contracts, working longer hours for lower salary, resulting in much lower production costs. This situation weakens the position of Danish slaughterhouse workers, who are

constantly under threat of outsourcing. Also a growing share of Danish slaughterhouse workers today has non-Danish ethnic backgrounds, which is a new development. Due to the lack of manpower, *Meat Inc.* started to search for workers among social and ethnic segments not traditionally working in this sector, which was still considered 'white' ten years ago. Currently, about 20 different nationalities are working together. A direct consequence of the centralisation of production that occurred during restructuring is an increase in the diversity in the group of workers, both in terms of ethnicity and geographical spread. Interviewees described that this change brings about a different social climate in the slaughterhouse - no longer being a 'family', a collective, but rather being just a job (Gorm Hansen, 2007).

Looking at the Italian case *ND*, it becomes clear that working conditions of the subcontracting company are not at the same level as at *ND* itself. There are significant differences in the regulation of overtime and of variable parts of wages. Taking these different regulations into account, it leads to the fact that wages at the subcontractor are lower. Thus, the outsourcing created two groups of workers generating significant differences in the quality of work (Pedaci, 2007a). With regard to changes of forms of payment, the Danish example *Meat Inc.* is very interesting. Since the centralisation of production and the outsourcing of parts of the deboning activities, workers in the remaining deboning department have to decide whether they want to work in a 'fast' group, working the maximum piece rate, or whether they would rather work in a slower group where the pace is more modest, with correspondingly lower pay. For the first group, salary for 90 per cent of the working time is based on a piece rate, the remaining 10 per cent of the working time, employees have a fixed salary (Gorm Hansen, 2007: 10-13).

Interesting on the Bulgarian case *Beer AD* is that there occurred a kind of hybrid combination of new (western) company policy and a heritage from the socialist culture. Since the privatisation, there is a green light for young, ambitious and trained specialists. For them, possibilities to make a career have generally increased. On the other side there are still employees for whom the patronage and the personal networking (typical for the socialist past) are still strong within the company. The effect is that criteria for promotion often are not as transparent as they could be. For example, an employee of the brewing department declares that there exists a 'dual standard' for some of his colleagues. The duality is seen in the decreased control over some workers, by 'turning a blind eye' when someone comes late for work or is absent for a couple of hours during worktime (Stoeva, 2007: 9). Another phenomenon is seen in the Greek case of pea production *CO.A*. Due to a long tradition of paternalism since the founding of the company in 1969, there is a high and unusual (by Greek standards) level of mutual loyalty between workers and management, which causes very long job tenures; for most workers it is their first and lifelong job (Gavroglou, 2007b).

In the Bulgarian case *Beer AD*, the aim was to increase the technical competence of the staff, which is very usual in companies under restructuring. This was followed by the strategy to reduce the average age of the staff. Instead of training existing employees, the policy was to recruit new highly qualified people. This turned out to be quite difficult given the relatively bad pay and unpleasant working conditions. As it was already mentioned, this development also reduces opportunities for career development for workers without higher education and due to intensification of work, increasing responsibilities and requirements on performance it also puts pressure on managers. Since the restructuring process, *Beer AD* has had problems occupying certain positions (Stoeva, 2007). The

reason is that the company requires very high qualifications and offers comparably low salaries; this decreases the attractiveness of the company in the long run. In the case study on *Maltco* in the BENELUX we see a hollowing out of internal career paths of traditional workers and a problematic reallocation of the redundant employees in the export unit. At the same time there is an inflow of young employees with university degrees at middle management positions (De Bruyn & Ramioul, 2007b).

In Beer AD direct contact with the management is seen as problematic because after privatisation contact with the high management positions became subject to complex and strict administrative procedures. This hinders the opportunities for negotiation of employment conditions, remuneration, *etc.* (Stoeva, 2007).

Meat Inc. in Denmark is also experiencing massive problems in recruiting new workers. This is due to the tight Danish labour market and the fact that the new large plant is in the countryside and needs to attract workers from a much bigger area than the old 'city' slaughterhouses did (Gorm Hansen, 2007). Also, workers from the old plant are not willing to move or have longer commuting times to work in the new plant.

The Norwegian case *FC* is one of the examples where we found a formal transfer of workers from one company to another. In practice, they became integrated into the company's existing system, received new contracts with the same terms and conditions as the other fish farm workers. There was no actual geographic transfer of their workplace. They also kept their seniority. Economically, they gained from the transfer, given that the salaries are slightly higher. However, they lost compensation for travel time to and from the fish farms (Saetermo, Torvatn & Dahl-Jørgensen, 2007). Another example of transfer occurred in *Meat Inc.* in Denmark, which involves a geographic transfer of about 700 workers to a new plant. This transfer has not been as successful as hoped for, since workers were reluctant to move or increase their transportation time.

5.5 Changes of work organisation

The work organisation in food production remains quite traditional and low-skilled. In most of the cases it is emphasized that the experience accumulated in the processing and production of food is important. However, the work is often very monotonous and repetitive. A traditional division of labour exists between processing and production/packaging departments with the former having higher levels of skill and higher levels of status. In Norway, the processing and production of fish products is physically separated between fish farms and fillet production and distribution.

The Danish case is characterised by a traditional low-skill sector in which work is Taylorised and standardised. The work is repetitive and monotonous. Work organisation around the machine takes place in groups of 6-8 workers who rotate positions several times a day due to physical strain. Capital investments in automated equipment often include the demand to fully utilise the capacity of the plant, thereby increasing work time, and work intensification, *etc.* In the Danish case, the workers went to a 2 shift 40 hour work week on semi-automated lines. The plant is cleaned at night. There is generally no weekend work. The deboning processes, formerly a whole piece done by individual worker on a table, are now done by a group on a conveyer belt.

One thing that makes the Danish case *Meat Inc.* special is that the highly controlled and low-skilled work in the slaughterhouse is done within the framework of extremely regu-

lated working conditions. Hours were extended for capital utilisation, but the national agreement stipulates a 37-hour work week. Thus the extra time is compensated for in 3 weeks and 3 days of time off a year beyond the regular 5 weeks of annual holiday. The pay system is a piece rate system, but is made up of complicated calculations of a minimum base rate, break times, fast or slow lines, *etc.* The line manager plans the work on the lines: *'The only thing (...) self-managed here is how much you want to earn.'* (Gorm Hansen, 2007: 15). There are also quality managers, who can reduce pay if the quality is not ok. The company's main leverage for control is that it can penalise workers if there are quality problems: For instance, by installing minimum rates instead of piece rates, slowing down the line, *etc.* which decreases worker income until quality is restored. Otherwise the working contract, time, pay, are all highly regulated in a nationally negotiated agreement.

In the Italian case, there has been an improvement in work content in *ND* as a result of automation and technological innovations which has reduced the amount of repetitive manual labour. *ND* has also initiated an experiment in team working and job rotation in the production department. For the rest of the production area, the work is on an assembly line and linked to the same machinery. This work is carried out predominantly by women. In *Hydro*, the work organisation is much more traditional than at *ND* and is characterised as being *'very repetitive, if not altogether boring.'* (Pedaci, 2007a: 12). Work is also very rigidly controlled at both companies. *'A number of devices measure the work carried out by the machinery. Acceleration premiums depend on these measurements. Each production line is monitored with regard to productivity, quality and defects.'* (*ibid.*)

At *ND* there is a 39 hour 5 day work week and at *Hydro* 40 hours. Overtime is more frequent at *Hydro* including the possibility of working on Saturday and Sunday to tackle peak production. A quite unusual working time arrangement for temporal flexibility in Italy in the agricultural business sector is to have fixed term contracts based on a certain number of working days a year (either 151 or 101). The number of working days a week or month varies regulated through a job on call basis. Workers are informed with a certain amount of notice when they have to work.

Another interesting point in the Italian cases is that women workers strive for the night shift to improve their work-life balance. Thus at *ND* the night shift is *'granted on a priority basis to mothers with children under three'* (Pedaci, 2007a: 13).

Functional flexibility is used widely at the Italian plant *ND*. Workers carry out more than one task and are even switched from one plant to another or from production to warehouses if the need arises. This also ensures that workers reach their targeted number of working days a year.

In the Italian case, basically large differences in the working conditions exist between the home company *ND* and the outsourced company *Hydro*, which has much less attractive working conditions.

In the Greek case, which like the Italian case involves the freezing and packaging of fresh vegetables, the work content is quite simple and repetitive. Workers are basically categorised as unskilled, although they do acquire a large amount of tacit knowledge for their work, an aspect given recognition in the Greek, but not in the newly acquired Bulgarian site. Crane operators are categorised as having more skilled work, and technicians have the highest levels of skill and variation in their work.

The work is organised and distributed by management. However, there is a certain amount of *'informal functional and numerical flexibility within a cooperative climate of*

labour-management relations.’ (Gavroglou, 2007b: 11) For instance, technicians do other work when there is a need for it, and this is voluntary. Also, job rotation is practiced to avoid over-exposure to the cold in the freezer unit. The work in both plants is organised in two shifts and frequent overtime on Saturdays. There is informal time flexibility which allows mothers to change shifts according to their caretaking obligations, but only during off-peak periods.

In the Bulgarian plant of the Greek company the workload of a particular unit is standardised (dictated by the pace of the incoming raw materials and the speed of the machines). This would lead to some workers shouldering a higher load of the work in teams with workers who take excessive breaks or work more slowly. The workers developed a system in which they self-regulate the duration and allocation of breaks and ask to remove workers who are not carrying their load. Absenteeism is apparently a large problem in the Bulgarian site. The company has introduced a ‘presence bonus’ to provide incentives to come regularly to work.

In the Bulgarian brewery case *Beer AD*, the plant operates 24 hours days in 8 hour shifts, even on weekends. There has been a decrease in manual functions due to a technological modernisation that occurred following privatisation. Manual work remains in bottling and packing of speciality boxes. Women tend to work in areas with low physical intensity, which includes filtration and the task of shift manager. There are 80 persons employed in bottling and 30 in other production operations. In summer which is a peak period, seasonal workers are employed and there is no vacation time. The seasonal workers are recruited from the nearby Roma population. It is generally difficult to attract workers to the brewery which is considered unpleasant and poorly paid work.

There has been a work intensification experienced in all operations: set up, repair and hygiene – also, an increase in quality control. During peak periods, management also demands extra work on weekends and the workers are sometimes told at the last minute on Friday. Work intensification is in part linked to an increase in customer demands.

In the Norwegian case study on fish production (FC), there are large differences in the work organisations and working conditions between the processing division and the production and packaging divisions. At the fish farm work is characterised by a high level of autonomy from workers who have many years of experience working for the original company that was taken over by the large distribution company. At the fillet production unit, in contrast, the work is more fixed and standardised. Also, the tempo is fast. The work has changed because of customer demands for diversified product ranges. This has led to a more careful classification and exploitation of the fish production. The workers have more machines to operate, and rotate between different tasks, and this has made the work somewhat less repetitive. The task rotation also serves to give workers a break from the cold and noisy processing belt.

Most of the workers work full-time. The fish farm workers have regular 8 hour days from 8am-4pm. Sometimes they have to work overtime, but this is offset by calm periods in which they work less. The workers in fillet production rotate between two 6 hour shifts and have delivery deadlines everyday. The line workers previously worked one 8 hour shift, but to increase utilisation of the new machinery, two 6 hour shifts were introduced. Time is also required to clean and maintain the machines every day.

The in-sourcing of the fish farms into the value chain has given the fish farm workers at the site (4) 20 new colleagues. They now have to learn to use the equipment at the other

fish farms because the company has introduced transfers between the fish farms in quiet periods.

In general it can be said that there remains a traditional division of labour in food production, and job tasks are still highly gendered. Some functional flexibility exists, especially to relieve physical strain. Team working is also evident. However, these trends do not involve much upskilling. The role of customers has increased. However, production units experience this only indirectly in the form of peak periods and in some cases, work intensification. There are a variety of innovative working time arrangements that were created because of the seasonal fluctuation characteristic of this sector. Control levels are still quite high, particularly in production and packaging and are carried out through machine pace and measurement, quality level checks, *etc.*

In the logistics areas, the increased role of customers is directly felt in work intensification during peak periods. This was particularly true in the brewery case, but also in frozen food. 'In the peak periods, the logistics could deal at the same time with 20 to 28 trucks, to load from 8 to 20 types of beer to each of the trucks and this could cause problems and confusions' (Kirov, 2007: 8).

The logistics departments displayed two different types of organising work in our case studies: a sequential processing of data and work by tasks or processing orders by geographic area. The individual tasks involved in the logistics process entailed: taking orders, processing the orders, organising and planning transport, arranging necessary certification, arranging pre-inspections, keeping the clients informed of progress (De Bruyn & Ramioul, 2007b: 6). The issue is whether the work is carried out by task for all areas or whether the employee is responsible for all of the tasks for a particular geographic region. In the BENELUX plant, the export department was originally organised with a sequential processing of tasks. This changed in a first wave of restructuring towards a responsibility for a geographic customer area. The Norwegian logistics company also organised their export activities by geographic area. However, in the next wave of restructuring in the BENELUX case, when the logistics activities were outsourced to Prague, the previous sequential, linear organisation of tasks was reinstated. This not only caused problems in implementation and the number of mistakes, it also meant less interesting work and a worsening of quality of work life.

In the Bulgarian case study, the work being carried out at the warehouse level of the logistics department underwent some changes linked to restructuring. One of the largest changes was the introduction of IT technologies in 2002-03. 'Before, all the operations were reported manually, in the old way.' (Kirov, 2007: 11) Moreover, at the same time that there were trends toward centralisation and standardisation, there was a simultaneous trend of moving tasks that had previously been carried out in other areas, down to the warehouse level. Logistics workers were 'expected to survey the "external indicators" (Kirov, 2007: 12) of quality control.' They also took over some responsibility for invoicing. In the Norwegian case FC, the increasing demands for quality documentation in the logistics area added some new tasks to the work in this area. A large information system documenting and tracking temperature had to be implemented to meet the very high quality standards.

To analyse the changes of work organisation due to restructuring the case studies can give some important insights. At *ND* in Italy restructuring went along with experiments in team working and job rotation. Taking the work organisation at *Hydro* (subcontractor) into account too, we see that there exist large differences in the working conditions. Espe-

cially working time arrangements are much less attractive for employees of the subcontractor. As it can be seen in the Bulgarian brewery case *Beer AD*, restructuring of value chains is also often followed by technological modernisation. The implantation of ICT and new machinery causes a decrease in manual functions and changes skill requirements of workers. In general it can be said that there exists some functional flexibility, which is also support by ICT.

5.6 Skills, knowledge and learning

The level of skills and education in the food production plants in all of the sites is quite low. There is a traditional division in skill levels between tasks in some more complex processing of food, in the skilled maintenance personnel or management and the regular production or packaging departments. Although the level of skills is quite low in all the cases, there are differences between countries. Some problems with comparison arise because the educational and training trajectories in countries differ. Additionally there are differences in the opportunities for development, mainly apparent between the Scandinavian cases versus the others.

In the Italian plant *ND*, the large majority of workers are either specialised or non-specialised manual workers with medium-low educational levels. Maintenance workers have higher educations: junior-high school or technical institute diplomas. Lower education levels are more frequent in warehouse and porter jobs and these are often held by non-EU immigrant workers. Upskilling occurs mainly in food processing and IT.

In the Greek plant *CO.A*, there are mostly unskilled workers, but with a lot of work experience and tacit knowledge. Maintenance workers have a degree from a technical school, and crane operators have a certificate from a training program. Restructuring has not altered the skill content of the jobs and there are no formal training opportunities in the company. Many women work in the sorting department: in the Bulgarian site the relation is 65 per cent women to 35 per cent men.

In the Bulgarian brewery *Beer AD*, the production workers have some vocational education or secondary non-specialised education. In the brewing area, the workers have higher technical skills and are mainly male. A new requirement is to carry out small repairs and do some simple set up on the machinery, something that used to be done by a specialised group. Management has the highest levels of education. Manual labour requires the lowest skills and is often carried out by the Roma population.

In *Maltco* there was a tradition of on the job learning also in the combination with internal mobility. The management underestimated to a huge extent the tacit knowledge that the employees built up during the years. They scheduled only a four weeks training for the employees to whom the jobs were transferred abroad. This caused a lot of problems (De Bruyn & Ramioul, 2007b).

In the new plant of *Meat Inc.* in Denmark, higher levels of skills are evident than in the cases in Southern or Eastern Europe. There are 1,450 workers of which 1,136 are semi-skilled or skilled slaughterhouse workers. However, when recruiting new workers, *Meat Inc.* does not demand any formal skills. 'Slaughterhouse work is completely standardised and very taylorised. Every manual operation is studied and timed in order to secure a fair piece rate.' (Gorm Hansen, 2007: 15) As in the other cases and also a general trend that has existed in food production for some time, in production and packaging, the main upskill-

ing involves training workers to perform small repair and adjustment tasks on the machines. Upskilling can occur in IT qualifications and management training, but this is the exception. The Danish case reports, 'the increase in automation and the use of computers in the workflow thus shows the classic example of a simultaneous upskilling/downskilling process, where a few workers get significant technical skills and have increased responsibility and influence, but the majority of workers are less challenged and have fewer learning opportunities.' (Gorm Hansen, 2007, 16)

In the Norwegian fish plant *FC*, a clear majority of the employees have no formal education relevant to their job. In fish farming, there were traditionally no formal skills necessary. This is changing, however, as studies in aquaculture have become more important. The aquaculture industry has gone through massive changes with new machinery and production techniques, as well as increased bodies of regulations to comply with. There has been a shift from a physically demanding, 'entrepreneurial' occupation, to a more science-based one. Nonetheless, the human resource manager stresses the importance of the ability for fish farmers to '*work independently and have experience in working at sea.*' (Saetermo, Torvatn & Dahl-Jørgensen, 2007: 26) In the fillet production, the work requires a lot of manual dexterity and experience-based skill. The training is on-the-job by watching and trying. For some machine operation, special courses are necessary.

A difference that exists in the cases is the opportunity to engage in further training. The Scandinavian cases in particular, differ in the possibilities that are given to obtain an apprenticeship certificate. In the Danish case, *Meat Inc.*, the option to acquire a 2 year training to become an 'industrial slaughterer' or an additional 1 year program to become a 'specialized industrial slaughterer' seems quite voluntary. There is also no difference in salary or working conditions for skilled and unskilled workers: the only difference is the opportunity to be selected for management programs. This skilling move is still very male and ethnic Danish oriented, especially because women tend to work in the packaging department where there is no apprenticeship program. In Norway *FC*, it is in the less skilled fillet production that workers are encouraged to obtain an completed certificate of apprenticeship and will be supported in doing it.

In the other cases, further training is conducted mainly on-the-job and is kept to a minimum. In the Italian case of *ND*, which is known for its good management practices, there is an attempt to give organised courses on quality, use of machines, and health and safety. Training at the outsourced unit Hydro is absent.

Since the logistics cases in WORKS represented a broad range of different logistics functions in companies (from marketing and sales divisions in Norway to forklift drivers in warehouses in the UK), there was also a broad diversity in the different skills found in the cases. In the Norwegian logistic offices of the fish company, the quality control division which was added to the logistics unit to meet the new high requirements for hygiene and health regulations, most of the employees had university degrees in biology. The rest of the logistics division employed college graduates with degrees in economics or logistics. In the BENELUX export department, language skills seemed to be a main priority, both for the original employees and the new groups formed in Prague. Many of the employees had university degrees in, for instance, accounting, but this was not considered a great asset for carrying out the work. 'Experience was the most useful factor in carrying out the activities' (De Bruyn & Ramioul, 2007b: 14), and as the company only offered short training programs for new employees in the outsourced units, this was seen as one cause of the poor work output in these units.

In the Bulgarian case there is a broad range of skill levels found in the logistics department at the plant level. The logistics director and head of the warehouse have degrees in higher education. The shift leaders and the remaining workers (truck drivers, invoice preparation officers, *etc.*) have secondary education. The requirement for using IT makes some educational background useful. The subcontracted employees which are placed in manual operations have mainly primary educational levels and often come from the Roma community.

In the UK plant, the management levels do have opportunities for learning and development. The forklift drivers have formal technical skills and receive standardised training on health and safety and how to use the new systems for orders. Otherwise there is little training at this level, and apparently little interest in it.

5.7 Industrial relations & regulations

Union density is generally high in this sector, especially in the big companies. Most companies have an industry-wide agreement contract for agricultural work. In the Italian company *ND*, for example, 60 to 80 *per cent* of workers are trade union members (Pedaci, 2007a: 16). The Bulgarian company *Beer AD* has about 70 *per cent* union density (Stoeva, 2007). Nevertheless in this case negotiation power of trade unions is rather small and employees say that they prefer to solve problems solely, to speak with their direct managers or to demand juridical support. In the case of the *CO.A* with its subsidiary in Bulgaria it can be seen that the level of interest representation is much lower in the newly founded subsidiary. It does not have any workers representation, in contrast to the company in Greece, where all production workers are represented by an independent union (Gavroglou, 2007a). In the Italian case union membership and participation is especially low among the group of non-EU immigrant workers (Pedaci, 2007a). The Norwegian fish company *FC* is the only one which has a really low percentage of unionised workers, only 15-20 *per cent* of fish farm workers and about 10 *per cent* of workers at fillet production are union members. This must be seen in the light of an ambience of informality that has characterised the relation between workers and managers in this company. During the take over, management even negotiated issues with the new owner on behalf of the employees (Saetermo, Torvatn & Dahl-Jørgensen, 2007).

In the Danish case *Meat Inc.* production shows clearly how employees get under pressure due to relocation of work and how this influences interest representation. Danish slaughterhouse workers are constantly under the threat of outsourcing, even the shop steward is referring to globalisation as a condition shaping the content of his job, limiting the degree to which he can allow himself to fight for the rights of workers without considering the long term consequences. At Danish slaughterhouses the culture and tone is traditionally characterized by frequent strikes and many conflicts between workers and management. In recent years the number of strikes has decreased, primarily as a consequence of the potential threat of closing slaughterhouses and outsourcing manual labour. Nevertheless, a hard tone among workers and a controlling style of management still prevails, creating problems in recruiting workers from a new generation that expect to be offered influence on their working conditions and recognition for their work, and thus don't last long. Based on this social climate *MEAT Inc.* has implemented a close network of different forms of interest representation, which work as a kind of organisational 'safety

valve' in a culture with long traditions for conflict and strikes. Also the new plant has one full time working shop steward and one person responsible for time-studies. Each department has a spokesperson and a safety-representative. Additionally there are smaller department-councils, consisting of a line manager, the department's spokesperson, the safety representative and a few chosen workers from the department (Gorm Hansen, 2007).

There are big differences in to what extent workers' representatives were involved in the decision making process of restructuring. In the case of the Greek company *CO.A.* there is complete lack of institutionalised, formal information-consultation procedures between workers and management, and there was not any prior information exchange between the company and the union about restructuring (Gavroglou, 2007a). This was also the case in the Italian company *ND*, where outsourcing strategies were rarely discussed with workers' representatives. Nevertheless, trade unionists report good relations between employers and workers representatives in this plant. There is a continuing practice of information and consultation on a range of issues, not only regarding working conditions, but also broader corporate issues – but not concerning the outsourcing itself. At the subcontracting company, the situation is totally different. Although industrial relations are reasonable, there is no consolidated information and consultation practice. It is clear that staff at *ND*, in contrast to the subcontractors, work in a context where labour protection is stronger. However, the outsourcing does seem to have undermined the company's relation with workers and their trade union representatives as well as with the local territory (Pedaci, 2007a).

In the Norwegian case *FC*, informal communication still dominates the communication between management and employees, although there is a workers representative in each subdivision of the company and there is a goal to have monthly collective meetings. One problem is that employees' representatives take part in management meetings, but there is no channel to transmit information back to employees. Due to the rising administrative workload which was caused by restructuring, management has less time to spend in the production hall and issues that before were handled satisfactorily through informal, face-to-face encounters, now need to be channelled into a more organized forum (Saetermo, Torvatn & Dahl-Jørgensen, 2007).

Issues of negotiations between employers and employees' representatives are diverse. In the case of the Bulgarian beer company, negotiations were about *e.g.* social benefits and bonuses (on Christmas and Easter), which were finally achieved (Stoeva, 2007). Also in the Greek case on pea production, negotiated issues are centred on wages and benefits. Workers of the company were informed of the decision after it was taken, in the form of reassurances that the restructuring would involve no adverse changes in numbers of employees in the company's plant in Greece or their working conditions. In the Bulgarian subsidiary, workers asked for more reduced-price food and work clothes; this shows how different conditions are in the two countries (Gavroglou, 2007b). In the Italian case *ND*, an issue, which is not directly linked to the outsourcing process, is currently the object of a dispute between the social partners. Trade unions and workers have complained about the equipment cleaning process which requires the utilisation of acids. Many workers have complained about sore throats and burning eyes after having cleaned the machinery (Pedaci, 2007a). More general issues like working hours, health and safety and economic issues are regulated by industry wide agreements and additionally in company and workplace agreements.

Lots of companies have committees for working conditions, which should be established in companies with more than 50 employees, according to Directive 89/391 of the EU on the Occupational Health and Safety (OHS) at work. But it is questionable if it is a powerful factor for negotiation. In the Bulgarian company *Beer AD*, for example, it has not actually met for more than a year (Stoeva, 2007). It is also interesting that unions in Denmark have been working in the interests of slaughterhouse workers by demanding more training and education, and more compensation and re-education in the event of closing down slaughterhouses, rather than trying to negotiate a higher pay. This change in strategy should be seen in light of the massive staff cuts resulting from the last 5 years of centralisation, specialisation and automation (Gorm Hansen, 2007).

5.8 Conclusions

The food chain begins with agricultural raw materials which go through a processing stage, a distribution stage and finally end up in wholesale or retail centres for consumers. There have traditionally been links between these stages. However, a change seems to be that, 'global food chains are increasingly subject to the process of vertical coordination.' (ILO, 2007: 3). This has the consequence that large lead firms either buy up entire parts of the chain or have enormous influence in the distribution process to customers, and therefore 'exercise considerable power throughout the chain' (*ibid.*). Particularly in the brewery case, which covered three countries in our sample, there is a clear trend towards concentration and control of large percentages of market share. The other cases also revealed the increasing weight of large customers in determining what is produced in which quantities and in what time frames.

The food companies in the WORKS sample engage in mergers and acquisitions for a number of different reasons: logistics companies and processing companies buy up companies to control raw material supply (as happened in the Norwegian and Greek cases) and buy up competitors and secure a variety of different markets (as happened in the brewery cases of Bulgaria, the UK and the BENELUX). In both logistics and production, the centralisation of functions by large multinationals often resulted in redundancies at the local level. Another outcome is standardisation of reporting systems and procedures as well as a formalisation of organisational practices. Thus even in fish farming, the fish should be bred to attain a certain size and weight that facilitates distribution. In this regard, information technology plays a role since there has been a shift from 'a stock-based logic to a flow-based logic, which aims to ensure the availability of the right kind of product, in the right quantity, in the right place and at the time it is required.' (Royle & Towers, 2002) Additionally the growing attention to customer demands resulted in some cases in work intensification (particularly in the UK) and in demands for more flexible working time arrangements (in most of the cases).

However, another finding is that food companies, as traditional industrial settings, have high levels of unionisation and relatively strong union representation for workers, particularly regarding traditional issues of wages and time use. This is the case in the Scandinavian, Italian, and UK companies. The types of agreements that were made to increase flexibility in working time arrangements often centred around a compromise on the workers' side to work overtime in peak periods (such as after harvests for the frozen food sector, or the summer or Christmas seasons for the brewery sector) and to take the

time off in slacker periods. This resulted in annual working time agreements for the Italian and the UK case. In Denmark the increased use of machinery and the desire to increase its utilisation capacity resulted in a new shift system. The Scandinavian cases tended to have a cooperative type of negotiation and the goal was to maintain the levels of protection that had been achieved, but to work with the companies to find flexible solutions that did not worsen working conditions. There were also proactive measures, such as training initiatives and support. The emphasis was nonetheless very much on the regular workers in the national context and in the particular company. The Italian negotiations were based on sometimes quite complex regional agreements that had been reached and were designed to fit sector conditions and to protect the regular workforce. The UK industrial relations in the case examined seemed much more contentious. Although work content did not change much in the restructuring process for the remaining workers, there was mistrust of management programs and measures.

Some of the flexibilisation demanded due to time pressures and cost pressures of being part of highly concentrated and coordinated global food chains results in the use of outsourcing and subcontracting of poor working conditions outside of the main production or logistics company. Thus even in the highly regulated Scandinavian cases, there was a tendency to outsource bad jobs and bad working conditions outside the firm and outside the country. The Danish company outsourced low-skilled work to polish workers in Germany, who received low levels of pay and had no contract protection. In Norway, some temporary seasonal workers are used in fish filleting and packing. In fact, the authors of the case study report that their company, Larry, is exceptional in their employment of local labour on regular contracts. Most seafood companies either send their products to Asia for the peeling or deboning processes or use low wage ethnic labour at home for these processes. In Italy, the use of the outsourced firm in a less regulated region was meant to save costs using lower skilled, lower wage labour. In the Greek and Bulgarian cases, seasonal Roma workers with temporary labour contracts and low wages were used to cover peak periods.

Nonetheless, these case studies also show that the content of work itself in the food industry has remained quite stable over the years: a traditional division of labour between processing and packing, gendered and ethnic divisions of labour between these two departments, increasing use of technological innovations which replaces manual labour and puts high levels of capital utilisation in the foreground (ILO, 2007). We see that restructuring and also internationalisation is based on the traditional segmentation of the workforce. And moreover, workers at the level of production or the warehouses experienced the effects of restructuring very indirectly. Most reported that their job content did not change significantly. They experienced restructuring in terms of continuous improvement or quality programs in their areas (in the UK and Bulgarian cases), some increased use of information technology, and some changes in working time arrangements (although not in the total sum of working hours). In the brewery cases, the most direct effects were redundancies that had occurred around them, and therefore caused some insecurity about future lay-offs. For quality of work life, the production and logistic functions of the food industry tend to be quite taylorised and controlled, the work at machines is often repetitive and monotonous, in processing it can be cold and unpleasant. Some of the worst working conditions are being outsourced to low cost countries or workers with precarious employment arrangements. For the regular workers remaining in the core companies, restructuring has not resulted in broader, more challenging jobs. The general outcome has

been increased standardisation and some flexibility in time use, while sustaining existing wage and overall working time levels.

The concentration and vertical integration of companies as well as the concentration and expansion of their end customers led to an increase in demand for product diversity in all the food cases examined here. This made the work of the logistics departments more complex. They had to process diverse orders, coordinate with the production departments that the correct mix was being produced, optimise container and transport efficiency, and keep costs as low as possible. Often in the face of increasing complexity, the large concentrated operations strive for a standardisation and centralisation of procedures in logistics. In the case of the brewery companies in our sample (the BENELUX, Bulgaria, and the UK), they were in the process of installing a computerised ERP system which was designed to align all activities across the value chain. In the brewery cases described here, in particular, the increased diversity and complexity were being met with an increase in codification and standardisation rather than improvements in training or recognition of the higher value of experienced employees.

Our cases involve multinational enterprises with a worldwide distribution of products. Yet what the cases reveal is that the production sites themselves are strongly embedded in regional and local contexts. Thus, as long as the effects of rationalisation or job loss are not directly felt, the local actors do not experience major changes in their actual working and employment conditions due to restructuring across the value chain. This tendency is strengthened in cases in which the industrial relations systems are strong, since the food sector is often well organised.

6 Going Private

IT Service Outsourcing in the public sector

JÖRG FLECKER

6.1 Introduction: A business function becomes an industry

Basically, information technology (IT) is a business function that provides IT infrastructures including hardware, software and support to other business functions in an organisation. The main tasks include the implementation and maintenance of hardware in a computing centre or in various users' offices, the development, implementation and maintenance of software, and the training and support of users. This business function can be organised in-house (i.e. within the same organisation, *e.g.* in the form of an IT department) or the tasks can be outsourced. Outsourcing means 'the purchasing of intermediate inputs by companies and governments from an external supplier as opposed to producing them internally (or in-house). Another term for outsourcing is subcontracting.' (WORKS Glossary). According to another definition outsourcing of back-office functions means 'the handing over of assets, resources, activities and/or people to third party management to achieve agreed performance outcomes' (Willcocks & Lacity, 2006: 1).

Outsourcing does not necessarily involve the work being carried out in a different location: 'It is increasingly common, for instance, for IT functions to be outsourced to an external company whilst still being carried out on the premises. In such cases, the people carrying out the work may be employees of the external IT supplier who have been brought in especially for this purpose or they may be former employees who have been transferred to the external IT supplier' (WORKS Glossary).

The outsourcing of IT is often seen as part of a tendency of decomposition or 'hollowing out' the vertically integrated company. The other side of the coin is the emergence of new business-service providers that form a new industry. Outsourcing to IT service providers means that the IT infrastructure, including hardware and software and related services, is provided by a specialised company external to the client company or the public administration. The French term for this is 'infogérance'. The subcontracting of software development alone does not fall under this definition.

The software and IT service industries have become major employers in most EU member states. Taking the statistical-sector definition of NACE 72 (Computer and related activities), which includes software consultancy and supply, data processing, database activities and other computer-related activities, in 2004 the sector employed 573,000 people in the UK, 370,000 in Germany, 345,000 in France and 358,000 in Italy. In relative terms, the share of total employment of IT services is highest in the UK, where it reached 1.8 *per cent* (Grimshaw *et al.*, 2007). Given the levels and prospects of employment in this sector, relocation of work both within Europe and beyond is of considerable significance for regional and national labour markets.

The rapidly growing market for IT outsourcing is increasingly international, and the major companies are global players or, as the World Investment Report put it, 'a new

breed of multinationals' (UNCTAD 2004). IT outsourcing accounts for nearly one third of the total market for software and IT services (Grimshaw *et al.*, 2007).

There are various drivers for the growth of IT service providers and the corresponding structural shift in the economy. One has to do with access to specialised knowledge, which can be illustrated with the following example: In the last decade information technology and the internet have become increasingly important in all credit institutions. Through online-provision to private customers and business-to-business solutions, the tasks of the banks' IT departments increased and with it the related demands. Often companies decided to outsource the IT function to a specialist IT company in order to guarantee the necessary expertise, reduce development costs and increase the speed of development. 'The proliferation and complexity of capital goods have outrun in many cases the capability of internal IT departments in firms to manage them. These technological opportunities, however, rather than resulting in a supply base of small and medium-sized firms, have been accompanied by the development of a concentrated IT outsourcing industry dominated by a small number of large firms' (Miozzo & Grimshaw 2005, 31).

The IT service providers were able to grow rapidly because they often took over the personnel from their clients. The BBC's outsourcing of technology services to Siemens Business Services (SBS) is an example of this: 'In October 2004, SBS signed a deal worth almost 2.7 billion EUR, to deliver technology services to BBC over 10 years. The BBC expects this move to generate saving of 45 million EUR annually and to provide it with better programming technology, as well as improved cash-flow, following the outsourcing of its commercial subsidiaries, BBC Technology. SBS plans to use the deal as a platform to expand its already well-established media business. In October 2004, Siemens established a business dedicated to global media and the broadcasting industry. All 1,400 staff from BBC Technology have been transferred to this company. For legal reasons, an offshoring option was not possible in this case' (Ramioul, Huws & Kirschenhofer, 2005, 13f.).

In fact, this industry is highly concentrated: In Germany, the four biggest IT service providers (T-Systems, Siemens Business Services, IBM and EDS) between them cover 80 *per cent* of the market (Boes, Schwemmler & Becker, 2004). Internationally, 'the expansion of international outsourcing has contributed to the emergence of a new breed of TNCs that supplies services of other companies' (UNCTAD, 2004, 157). The oligopolistic nature of the IT services business can be explained with reference to several factors (Miozzo & Grimshaw, 2005): a reputation effect due to the inherent uncertainty in skill-intensive business services and economies of scale stemming from the pooling of skills and cheap access to new technologies. The success of the large IT outsourcing firms is in particular based on the 'recombination' of technology and organisation and on learning-based processes including the pooling of skills through staff transfer from clients, the bundling of services, the use of distinctive processes and the increase of productivity through re-allocation of staff and reduced headcount (*ibid.*, 32).

In addition, the competitive advantage of transnational IT-service providers stems from the fact that they find it easier to follow their transnational client companies around the world and to offer seamless services. T-Systems, for example, claims to be able, within three months, to follow its 60 international top clients to a new location (Ramioul, Huws & Kirschenhofer, 2005). In addition, these international service providers utilise cost differentials between countries and continents by way of distributing activities internationally within the corporation or by outsourcing parts of the work. For years, German companies such as Siemens and T-Systems have applied 'mixed rates': They were able to cut

the cost of software development by establishing cooperation within projects between units in Germany or Austria and newly established subsidiaries in central and eastern European countries. While customer relations and system design remain with establishments situated close to the customers, programming and coding are being relocated within the transnational corporation to central Europe, Russia or India (Huws & Flecker, 2004).

Boundaries between IT service provision, business process outsourcing (BPO) and business consultancy become increasingly blurred. IT companies have moved into the BPO-business, offering to perform functions such as accounting or personnel administration for client companies. Some also offer comprehensive consulting services geared to organisational restructuring. In turn, large consultancy companies tend to offer IT-related services.

Public-sector organisations can be assumed to have basically the same motives for using external IT service providers as private companies: a consultancy survey commissioned by a French IT service provider with extensive activities in the public sector showed that the main benefits desired from IT outsourcing are similar in the public and private sector, with public-sector organisations mentioning 'access to specialist support' more often and 'lower IT costs' less often than private-sector organisations (Steria, 2004). An additional driver for outsourcing is certainly the considerable pressure of private capital seeking to benefit from IT value-added in public organisations, which is estimated to be as high as 13 billion EUR per year for Germany alone (Heise online, 11.1.2007). A major difference between the private and the public sector, however, is the regulation of public procurement, which, based on EU regulations, stipulates public calls for tenders for outsourcing from public organisations. Another difference is the regulation of employment in the public sector, which may mean more pronounced differences in this respect between the public-sector client and the private IT service provider. This is particularly significant if the process of outsourcing is accompanied by a transfer of workers but may also have consequences for cooperation across organisational - and sector - boundaries.

The WORKS case studies on IT service provision for public-sector organisations cover different forms of outsourcing and service provision in eight European countries. The cases are the following:

1. *Citycouncil - PROF*: In the context of an e-government scheme a local government in the UK outsourced its IT department to an international IT service provider. Most of the IT department stayed in the same offices but the 65 employees now have a new employer: the private sector IT company (Dahlmann, 2007a).
2. *IT Health*: A regional health administration in Norway centralised the IT of all hospitals and health centres in the newly established IT service provider *IT-Health*. This organisation is in public ownership but economically independent. The IT workers were transferred from the hospitals to *IT-Health* (Dahl-Jørgensen & Torvatn, 2007).
3. *IIPRO*: A public administration in Belgium has an open ended contract with EIG, a consortium of IT companies that runs its IT. In this framework the administration commissioned the development of workflow software to IIPRO, a member of the consortium (Vandenbussche, Devos & Valenduc, 2007).
4. *Pro Consulting*: An international IT service provider provides consultancy services to a public organisation in France regarding IT-based organisational change (Muchnik, 2007c).

5. *XY Data*: A Swedish public services organisation outsources personnel administration and the development of a new IT system for personnel administration to the large IT company *XY Data* (Tengblad & Sternälv, 2007b).
6. *GBA Easttown*: The local government of 'Easttown' in the Netherlands outsources the development and maintenance of the municipal database for personal records to the large IT service provider *GBA* (Bannink, Hoogenboom & Trommel, 2007).
7. *MM Spinoff*: A German public administration forms a public-private partnership with *MM Spinoff*, a multimedia subsidiary of a large IT service provider, to develop a training portal (Meil, 2007b).
8. *IT Healthcare*: An international technology company provides medical hardware and software including related services to Portuguese hospitals (Vasconcelos da Silva *et al.*, 2007).

6.2 Company and value-chain reorganisation

The public organisations surveyed include two local governments, two regional state administrations, a public employment service, a regional health authority, a regional public hospital and a public-service organisation. The restructuring of these public organisations and the ensuing external relationships take basically three forms:

- *IT outsourcing*: Private IT service provision for public-administration organisations;
- *centralisation*: IT outsourcing to newly established, central IT service provider in public ownership;
- *business-process outsourcing*: Public organisations outsource back-office functions to private companies;
- *public-private partnership*: Joint technology development and application.

In the cases of 'IT outsourcing' and 'centralisation' the internal provision of IT services, *e.g.* by an internal IT department, was replaced with external service provision thus substituting contractual relations for hierarchical ones. The case studies covered both the externalisation of continuous service provision and the externalisation of temporary projects, for example software development. The private companies providing IT services were either large multinational companies or subsidiaries or spin-offs of such companies or national companies of different sizes ranging from 200 members of staff in the Belgian case to 5,000 in the Swedish one. The 'centralisation' case covers a public IT service-provider company in the Norwegian health sector. It is economically independent but fully owned by a regional health administration and was founded in an attempt to centralise the IT of 15 hospitals and health centres.

In 'business-process outsourcing', not the IT but back-office functions such as wage administration or running a database were outsourced to private IT service-provider companies. The 'public-private partnership' was formed in a German case in which a regional public administration entered into a joint venture with an IT service provider to develop and maintain a new training portal. The two organisations share the costs; the public organisation holds the right to use the system in all its ministries while the private company may sell the system to other public administrations worldwide.

The reorganisation processes under investigation differ in scope, content and employment consequences. In five cases the development of particular IT systems or applications

(workflow software, Internet application, training portal, municipal database) is farmed out to a private IT company or to a joint initiative in the form of a public-private-partnership. The content of the deals is new work and therefore as such does not have immediate employment consequences. In the other three cases previously existing internal departments were affected by outsourcing of all IT activities or back-office functions to a private service provider or by centralising IT within a health authority. In these cases, workers were transferred from their previous employer to the new service provider. Yet all cases have in common a lengthening of the value chain, in the sense that more organisations are involved in the provision of the service, implying a cooperation and service delivery across both organisational boundaries and the public-private divide.

The main motives and aims of the reorganisation are updating of the IT infrastructure, including the digitisation of records and cost reductions. While economic gains rank highly among the aims and expectations, the outsourcing decisions themselves do not seem to be based on detailed cost-benefit analyses. The local government in the UK saw outsourcing as a more 'businesslike approach' and the Swedish public-service organisation decided to outsource the wage administration although a study concluded that the costs are the same as for in-house delivery. The argument was that they wanted to bring down the fixed costs. The Norwegian health authority, in contrast, first considered both outsourcing to a private provider and a centralisation within the health authority. The outsourcing to a private provider, however, was rejected not because of cost considerations but on the grounds that special health-sector knowledge would be needed. It should be noted that the trade union has a strong influence in this organisation. In contrast, in the Portuguese case study there was no concern about keeping the knowledge and supply of IT services in the public sector. The use of services provided by large private companies specialising in complex and specific healthcare technologies is seen as a strategic investment from the public sector, because it allows access to innovation in a short period of time. Overall, rather than resulting from strict cost calculations, the outsourcing decisions seem to be based on political considerations or to follow general trends in the country (cf. Powell & DiMaggio, 1991; Steria, 2004).

In some cases, the business relation with the service provider was extended to other areas and projects. The Belgian regional administration, which had already taken the basic outsourcing decision in 1988, now selected an IT-company for a specific IT project from the consortium it has the long term IT-outsourcing contract with. Similarly, in the French case the consulting project studied is part of a long-term business relation between the public organisation and the IT service provider. In the German case, the public administration looked for a private technology partner for the joint development of a new IT system. In the Portuguese case, large hospitals have developed long-term cooperation with IT service providers that provide different services ranging from tailored and specific management software to healthcare technology.

The contractual arrangements not only reflect the forms of cooperation, they also shape dependency and power relations between the client and the service provider. High levels of asset specificity increase the degree of mutual dependency. In the case of outsourcing to private IT service providers, contracts are usually long term (e.g. 10 years) and contain detailed service-level agreements. In the Belgian case the relationship is exceptionally long-term. The regional administration concluded an open ended contract with the service provider consortium *EIG* that can only be terminated at 10 years' notice. Only the terms of reference, however, are renegotiated every three years. In this case the public

administration made itself completely dependent on the service provider – to the extent that even IT managers in the public organisation are on the payroll of the private IT service-provider company. Alluding to the typology of forms of value chain governance developed by Gereffi, Humphrey and Sturgeon (2005), we could call this relationship ‘reverse captive’ because the client company has made itself fully dependent on the supplier company. Similarly, in the Portuguese case the IT Healthcare company assumed responsibility for all IT equipment and there is no longer an IT department in the hospital.

Other cases showed contractual arrangements that are intended to limit dependency. The Dutch municipality of *Easttown* outsourced the back-office function of keeping citizens’ personal records to the service-provider company *GBA*, which now owns the database for municipal personal records while the local government owns the data. In such a constellation the service-provider company tends to monopolise the function, while the public organisation attempts to avoid dependency. The related strategies greatly impact on the development of value chains, as the example of Dutch local governments shows:

‘Initially, when IT-systems gained ground in the municipal organisation, municipalities built their own systems. With technological change and growing complexity of both software and hardware, municipalities tended to collectivise the effort and organise their IT hardware and development work in the context of regional ‘Rekencentra’ (computer centres). The decreased flexibility that went along with the collectivisation of efforts in these centres eventually led to municipalities withdrawing from the collective effort and finding resort on the private market, where providers like *GBA*’s predecessors operate. The high asset specificity and associated risk for purchasers and providers and cost containment, efficiency, compatibility and equality issues in turn have functioned as an incentive to re-collectivise municipal efforts’ (Bannink, Hoogenboom & Trommel, 2007).

In this case, in order to re-collectivise IT activities, several municipalities established a joint organisation intended to play the role of an independent adviser and ICT-intermediary for local governments. The aim is that this intermediary develops ‘modular, generic and interchangeable ICT-systems’ and therefore reduces the dependence of municipalities on private IT service providers and operating system providers such as Microsoft (*ibid.*, p. 11).

In the Swedish case of the outsourcing of wage administration, the outsourcing management made great efforts to specify the terms, which led to a comprehensive contract but also to the establishment of cooperative bodies to implement the new relationship (including systems development). The contract specified the demands to be met in terms of service levels *etc.* in a 70-page text intended to be a basis of a long-term service-provision/purchaser-supplier relation. The German public-private-partnership with shared ownership in a joint system development seems to be a rare case of balanced power relations and mutual dependency.

In the cases that included a transfer of personnel from the public administration to the private service provider company, the outsourcing contracts also regulate employment issues. In the case of the UK *Citycouncil*, this includes the right of workers to return to the public-sector employer if the outsourcing contract is discontinued. We will deal with these aspects in a separate chapter below.

In spite of contractual caveats, factual power relations also depend on knowledge, the actual options for changing service providers and the possibilities of re-internalising the service. In this respect the case studies showed that crucial knowledge tends to move from the public organisation to the service provider, limiting the capacities of the former

to control the service provision and to keep open alternative options. The research thus indicates that the contradictions involved in outsourcing relationships shape their dynamics. There is thus no one best way of organising IT services nor is externalisation necessarily a one-way street.

6.3 Functions and overall workflow in the value chain

The main pattern of IT outsourcing is that the IT service-provider company runs hardware, software and networks for the public organisation on a contractual basis. This also includes the development of software and the support of users in the form of training and helpdesk services. In the cases investigated, the restructuring had different consequences for the distribution of functions and the workflow. In some cases there were hardly any changes apart from the fact that the tasks are now carried out by workers employed by a service-provider company. In others, not only were operational tasks outsourced but so were more strategic functions such as purchasing. Finally, many of the case studies revealed that new functions and work roles had to be created for liaison and coordination tasks.

The case of *Citycouncil* in the UK illustrates the fact that outsourcing may mean that the IT function is performed in roughly the same way as before but by a different company. The internal IT department used to provide services to the various departments of the municipality. After the outsourcing the IT unit performs the same tasks employing the same workers in the same offices as before, but the workers are now employed by the private international IT service-provider company *PROF*. The only major changes, apart from the transfer of personnel, were the relocation of the IT helpdesk to a region far away from the town and a considerable standardisation of the workflow. We will deal with the latter below.

Similarly, in the Swedish case of the outsourcing of wage administration to the private company *XY Data*, the very function was not changed in this process. Again, the workers who got a new employer stayed in the same location. However, a qualification is needed here: leaving the function unchanged during the outsourcing process is often necessary in a first phase in order to reduce complexity and to ensure undisturbed performance. In later stages, however, far-reaching changes may occur because of the implementation of new IT systems and the application of the service provider's generic procedures. This becomes clear in this Swedish case. 'The main process in itself has not changed. Over the first year very small changes in the process were made. The old system was still the basic tool. Relocation of personnel was done gradually. The organisation was transferred intact with the same team leaders *etc.*' (Tengblad & Sternälv, 2007b: 11). However, the outsourcing arrangement includes the development of a new IT system for wage administration. As soon as it is implemented the work will certainly change considerably.

There are more complex procedures than the ones in the cases just mentioned, where basically the IT function or an IT-based business process is now organised by an IT service-provider company but the workflow has remained roughly the same – at least in the initial stage. In larger outsourcing projects the purchasing function is also transferred. The Belgian service-provider consortium *EIG* runs hardware, software and networks and maintains all IT for a public administration on the basis of an open-ended contract, the terms of reference of which are renegotiated every three years. In addition, *EIG* purchases

all IT equipment and commissions customised software development for this client. If the introduction of new software is planned, *e.g.* for the workflow system, *EIG* gives a sub-contract to a software company that is a member of the consortium.

Similarly, in the Norwegian case the establishment of the IT provider *IT Health* for all hospitals in the region not only aimed at centralising the IT function but also at developing common applications. For this purpose *IT Health* has a special department for large-scale development projects that cooperates with external R&D companies. On top of this, the IT provider acts as central purchasing unit for the hospitals and the regional health administration. The division of labour turned out to be more complex also because the centralisation has, as yet, not been fully realised. There are still some local systems in place and local developments going on.

In the German case of a 'public-private-partnership', the public administration and the private company *MM Spinoff* develop the concept for a new training portal together. The level of participation of the public organisation is high and its IT unit has a strong role in defining goals and accepting results. The knowledge distribution and the power relations seem much more balanced than in other cases. The Belgian service provider *EIG*, in contrast, has a very strong role vis-à-vis the public administration, which becomes obvious when it comes to the setting of deadlines.

It is an interesting general result of the case studies that new functions and work roles are usually created for liaison and coordination tasks. In the Dutch *Easttown* case the demand for coordination is particularly high: The municipality outsourced the front office system and the back office system to different IT service providers. However, the front office, through their encounters with citizens and citizens' direct input via the internet, generates data that is then fed into the back-office system. In order to avoid problems of data integrity *GBA*, the provider of the back-office system, retains control over all inputs. The municipality, however, sees this as an attempt to erect barriers against other service providers and to monopolise the function. What becomes obvious in any case is the need for coordination and mediation. For this purpose the municipality of *Easttown* established internal strategic ICT units, one for front office and one for back-office support. The back-office support unit consists of subunits for 'policy' and 'development'. The development subunit is involved in the coordination of ICT applications inside the municipality of *Easttown* and in the coordination of the relations between the municipality and *GBA*, the IT service provider.

In the case of *IT Health* of Norway, too, a new liaison and coordination function was set up. The IT units of the hospitals were transferred to the new central IT service provider *IT Health* and as a consequence there were no IT specialists left in the hospitals who could bridge the gap between the hospitals' various departments and IT, and thus between the hospitals and the service provider. At a strategic level, the role of the new IT service provider was devised very carefully, while the changed role of the hospitals and health centres was not given much attention. The health authority tried to solve the emerging problems by nominating an 'IT procurer' or 'IT manager' in every hospital or health centre, who is responsible for all orders, contracts and budgets in relation to IT. In part, workers in the previous internal IT departments who did not want to move to *IT Health* assumed this role, otherwise new employees were recruited for this position. The problems, however, could only partly be solved by establishing this new role. A clearer distinction seems to be needed between those dealing with the contracts and those who cooperate with the service provider on a day-to-day basis.

In the case of the German public-private-partnership, a whole new department with 20 members of staff was created in the public administration, supported on a day-to-day basis by further experts from the public administration. This example also shows that, in contrast to simplistic accounts of externalisation, considerable internal capacities are often needed for the cooperation with, and the control of, external service providers.

This brings us to the conclusion that there are two separate levels of functions to be analysed in the service-provision chain. First, there is the *operational level*, e.g. of running and maintaining the IT for the client organisation, which can include purchasing and other functions. At this level, the tasks can be largely externalised and thus cooperation can be limited. Nevertheless, there always a need to be liaising roles or joint project teams to bridge the organisational boundaries. Second, there is the level of *contractual relations* between the client organisation and the service provider. New and usually complex processes – obviously much more complex than the previous internal procedures – can be observed relating to contract negotiations, legal aspects, definition and monitoring of service levels, renegotiation of terms of reference, revision of agreements, etc. Thus, with externalisation new tasks are being introduced into the value chain that can be termed ‘transaction work’, and some of them are bundled into newly created functions.

In the case studies we concentrated on the relations and the workflow between the client organisation and the IT service provider. But the service-provision chain may be longer and may contain more than these two links. In the Norwegian case, the new centralised IT service provider cooperates with external R&D companies and university centres; in the Belgian case the IT service-provider commissions software development to another IT company; in the UK case there are rumours that the international IT service-provider company might further outsource part of the *Citycouncil* IT it has recently taken over. This further lengthening of the value chain obviously has impacts on employment and work. One possible consequence became obvious in the Belgian case of software development for the public administration. The subcontract between the private consortium *EIG*, which has a long-term contract with the public administration and the software company *ITPRO* did not contain the task of organisational design and no workers’ participation was foreseen in the software development process. As a consequence, the previous workflow was simply represented in the new software, thus missing the opportunity for innovation and adaptation.

6.4 Changes in employment

Employment-related issues are prominent in the case studies on IT service provision. The main points that will be addressed in the following are the takeover of personnel by the IT service-provider companies; the differences in the forms and the regulation of employment between the different organisations involved and, in particular, between the public and the private sector; the gender relations in these organisations and the impact of the restructuring on gender; and the changes in job security.

In three of the cases, workers were transferred to a new employer in the process of outsourcing. While these cases show big differences in the negotiation processes and courses of action, the outcome is quite similar. The UK case is characterised by an industrial dispute. The previous employer, *Citycouncil*, refused to talk to trade unionists, which led to an eight-week strike. The negotiations were difficult but because of the strike the IT ser-

vice provider took a 'soft approach'. As a consequence, terms and conditions remained the same and a permanent agreement was reached on this. Another achievement of the trade union was a mobility clause stipulating that workers are not obliged to work elsewhere even if the outsourcing contract were to be terminated. Of the 100 employees of the IT department only 65 remained. The others partly preferred early retirement, partly were not taken on, because of the relocation of the helpdesk. While initially the majority of the transferred workers opted to keep their terms and conditions, during the first year some changed to the service provider's terms and conditions, which mean shorter holidays, a one-hour longer working week, no flexitime but higher salaries. Another difference is seen in the weaker equal opportunities and diversity policy of the new employer. As a consequence of the outsourcing and transfer, perceived insecurity has increased. The trust in the new employer was further undermined by the sudden relocation of the helpdesk and rumours of plans to subcontract parts of the operation. In principle, the internal labour market of *PROF*, the international IT service provider, offers new opportunities for former Citycouncil employees. However, it seems as if these are not very eager to seize them, because they are embedded locally and not interested in mobility and an international career.

In contrast, in the Swedish case of outsourcing of the wage administration employees had worked under high levels of uncertainty during five years before the outsourcing, because top management did not see wage administration as a core activity and thus the future of the department was unclear. After the outsourcing and the transfer to the new employer, perceived insecurity decreased, partly because of the information and HR policy of the service provider. The transition was smooth; the trade union accepted the management plans. The terms and conditions of employment stayed roughly the same, while in practice more flexibility is demanded from the employees and the work load became heavier. The union was able to reach a permanent agreement on terms and conditions and not a temporary one for one year as foreseen in the relevant EU-directive. However, trade union representatives are worried about a recent takeover of *XY Data* by a US company, fearing that this may lead to the off-shoring of work.

The Norwegian case study on IT outsourcing and transfer of workers in the health sector found an expansion of employment and an improvement of employment conditions. All employees had job tenure prior to the outsourcing and they still have it as employees of *IT Health*. There were only changes regarding the wages because these needed to be harmonised. The various hospitals and health centres had considerable differences in their wage systems: '*... one would not have believed we were in the same country - there was such a vast gap,*' said a manager (Dahl-Jørgensen & Torvatn, 2007). Another issue was that workers were organised in two different unions: Nito, a union for technical specialists outside the Confederation of Trade Unions LO, and Fagforbundet, a general union forming part of LO and being the biggest union in Norway. Nito has more decentralised negotiations at local level while Fagforbundet is much more centralised. The consequence in the outsourcing process was that those who transferred to the Nito union could receive a wage increase. The outsourcing process and the takeover of workers by *IT Health* did not lead to redundancies. On the contrary, *IT Health* not only took over all former IT employees of hospitals and health centres, they also increased their headcount in the years that followed. According to the employees surveyed, employment conditions improved: better wages, better overtime compensation, better on-call arrangements and flexitime. In addition, the harmonisation of wages across hospitals and health centres was perceived as

having led to more fairness. The disadvantages mentioned were that some lost their places in the kindergarten, however, while others complained about the lack of parking space.

Also in the Dutch case there were qualitative employment changes caused by the outsourcing process, because the work roles of municipal workers changed: because of the implementation of the new IT, less juridical knowledge is needed to do the work. The work tasks broadened, however, and training was needed to cover them (see below). Employees who passed the test that followed the training got a salary increase. However, the higher training needs also have a downside. Management is less and less willing to conclude part time contracts. Most of the workers are women who are trying to combine work and care duties. The municipality now only engages workers who are willing to work longer hours. This may lead to problems in reconciling employment and care work.

The German case study revealed interesting differences between the employment situation in the public organisation on the one hand and the private service provider *MM Spinoff* on the other. The employees of the police force who are involved in the project are civil servants with tenured positions. They recently had their weekly working hours increased to 41 hours. At the private service provider, half of the employees have permanent contracts, while the other half are on non-standard contracts as these workers have been hired as temps from small firms. The background is that the parent company, a transnational IT company, has shed jobs and asked the subsidiary to take on the redundant personnel. There are therefore limits to hiring permanent staff from outside the group of companies, which leads to the employment of temporary workers.

In terms of gender relations there are big differences between the cases in the different countries. The Norwegian case stands out with a ratio of 60 to 40 between men and women employed in the IT service provider *IT Health*, while in the UK and in Germany 70 per cent and in Belgium and Portugal 90 per cent of the employees are male. The Swedish case is about wage administration and not IT proper; here 90 per cent of the employees are female. In the Belgian case, the discrimination against women becomes most obvious. Management does not see women as suited to the company because 'total involvement' and high levels of overtime are requested from employees and it is assumed that this is not possible for women, because of their family and domestic obligations. In the Portuguese case, the explanation given by management was that it was difficult to find women with adequate qualifications that enabled them to enter in the high-tech field. While there are big differences between the cases in relation to female employment, the changes caused by outsourcing generally seem to be detrimental to women: more pressures for flexibility in the Swedish case, weaker equal opportunities and diversity policies in the UK case, less part-time work and increasing problems in reconciling employment with care duties in the Dutch case, and some wage discrimination because of differences between men and women in formal education in the Norwegian case.

Looking at formal skill structures, the Norwegian and the UK cases showed that some of the workforces have formal qualifications, while others lack IT-related certificates. In the UK case the younger workers but not the older ones have formal qualifications. In the Norwegian case there is a divide along gender lines: women lack formal IT qualifications which, in this case, has the disadvantage of negatively impacting on wages. In the Norwegian *IT Health* case, learning opportunities increased through centralisation because the new structure makes it easier to pass on knowledge internally. In addition, training provision in *IT Health* is described as good: to be competitive on the labour market the public

organisation has to offer good access to training. Respondents in this case stressed the importance of both IT and health-related knowledge. This not only leads to high levels of knowledge intensity but also makes it difficult for the organisation to replace their IT workers.

The German case study revealed interesting findings regarding the spatial dimension. The private service provider *MM Spinoff* has its headquarters in a city in the eastern part of Germany but the clients are located in other cities and regions. It is usual that consultants have to work at the customer's for lengthy period of time – up to a year. Attempts are made to negotiate with the customer '*because this is not so nice for the employee, because he has a family and one wants to take consideration of that. So one might go back to the customer and ask if it would be possible to reduce the time to two days a week.*' (Meil, 2007b). Recently, the customers have no longer been prepared to pay for business trips. As a consequence the service provider tries to apply a follow-the-customer strategy and build sites where the customers are (*ibid.*, 11). Regarding mobility and 'body shopping', the Belgian case study led to the same conclusions: working on the client's premises is highly unpopular among IT workers – both because of the mobility requirements and the lack of social inclusion.

Overall, differences in employment conditions are obviously important aspects of the externalisation of IT. Partly, outsourcing leads to the fragmentation of employment creating differences in terms and conditions between workers who were previously employed under the same contracts – in spite of the EU regulation on the transfer of undertakings that stipulates that workers need to be taken over under the same terms and conditions (at least for one year). Partly, outsourcing and centralisation led to the harmonisation of employment conditions of IT workers who previously worked under quite different terms and conditions in different organisations. The growth of IT companies and IT service providers through mergers and transfer of personnel leads to fragmented employment relations within the company as long as workers keep their previous terms and conditions. There have been attempts to harmonise conditions, partly on a voluntary basis.

Another important issue that came up in several case studies is the mobility of IT workers and the posting of workers at client companies ('body shopping'). In general, mobility requirements put workers under stress. IT service-provider companies therefore negotiate with their clients to reduce the amount of time their workers need to spend on the client's premises. Nevertheless, these are often lengthy periods of several months or even years. In contrast, workers who were taken over by an IT service provider but have kept on working in the same offices at the clients' are not inclined to move away, because they are locally embedded. In case of public-sector organisations this can be assumed to be even more so than in private companies, because the workers had made their choice to work for the public administration, *e.g.* a local government, because they wanted to serve the community and to have a secure job.

This also has consequences for the extent to which workers are inclined to seize new opportunities that emerge through the transfer to the new employer. The internal labour market of IT service providers provides possibilities for occupational mobility and partly for international careers. In the UK and the Swedish cases it turned out that workers are simply not interested in these new opportunities, because they are not relevant to their life plans. To sum up, while some of the IT workers have to meet unpopular mobility demands, for others the abstract new opportunities are not significant because mobility would be needed to seize them.

In terms of job security, enormous differences exist between the companies and the countries under investigation. While the British workers feel rather insecure in spite of the contractual arrangements, the Norwegian IT workers, kept their job tenure regardless of the change of employer. On top of this, perceived insecurity is influenced by the history of the case: the Swedish example shows how lengthy periods of uncertainty in a public-service organisation that is subject to liberalisation and privatisation may lead to higher levels of subjective job security after the outsourcing and the transfer to a new private sector employer – simply because things became clearer.

6.5 Changes in work organisation, skills and knowledge

The analysis of work organisation, i.e. the division of labour, the forms of managerial control, the organisation of the workflow etc, can relate to the internal relations within the various units, but also to the interrelations between them. Only in the case of full outsourcing of the IT function with a transfer of workers can the work organisation before and after restructuring be easily compared. The UK case study on *Citycouncil* can be seen as a textbook example of IT outsourcing. Basically, the IT department provides the same services to the various departments of the municipality as before. The procedures for doing so however are much more standardised: 'For example, software developers who were used to building software or designing a website from scratch are now supposed to use templates and systems that *PROF* has installed. Two staff interviewed for this case felt they have become more ICT system administrators rather than creative software designers and they feel frustrated having to work in this more structured way' (Dahlmann, 2007a: 12).

The degree of formalisation has also increased, because every activity needs to be logged in the system. Whereas before, requests from other departments were handled on an ad hoc basis, now the relocated helpdesk takes down requests and the services are planned and scheduled through the information system. In addition, every task needs to be costed, which leads to a big increase in paperwork. One of the interviewees estimated he spent a third to a half of his time on costing a piece of work that will be done for a council department. This is seen by some as a waste of time and more generally as 'a change from a service-driven to a cost-driven department' (*ibid.*, 14).

Another major change in this case relates to the impact of 'service-level agreements' (SLA) on working practices. Staff need to keep time sheets that are accurate to the minute on a day-to-day basis. 'For example someone has a problem with their PC in the finance department, they ring up explaining that they have a problem with the system. Before, we would come to an agreement between us when I will come and take a look at it; now the central help desk, they pass on the query to me and then I have a certain number of days to solve the problem; if I have a fail rate of 10 per cent over the month then the Citycouncil gets service credits.' (*ibid.*, 13). Working towards service-level agreements has increased stress and pressures. The workers in IT also fear that it might lead to competition between them and impact negatively on their good internal relationships and work climate.

As far as changes in skill requirements are concerned, software developers in this case experienced the changes as deskilling. Using existing templates and systems instead of developing their own software considerably alters their work. The changes in skill needs and learning opportunities in the work process contrast with existing training opportuni-

ties. While training provision was generally good in *Citycouncil*, opportunities were further enhanced through a training portal and the establishment of e-learning and a personal development programme.

The changes described above on the basis of the *Citycouncil* case study are probably typical of outsourcing to large international IT service-provider companies that apply their standardised procedures and firm-specific capabilities to reduce costs and to integrate new workers and new knowledge (Dahlmann, 2007a: 14; Miozzo & Grimshaw, 2005). The IT workers thus experience higher standardisation and less autonomy. The Norwegian case of IT outsourcing to the newly established central service provider for the health administration, *IT Health*, shows different impacts on work organisation and quality of work. In general, the work organisation changed to a much lesser extent. However, programming was also abandoned in favour of buying standard software. This led some workers leave, because they were most interested in this very task. Now, only four employees do some programming. What is more important is the fact that centralisation made it possible to develop more specialised work roles, while previously IT workers in the individual hospitals and health centres needed to be generalists. The transition, however, was not that clear cut: because some older systems remained in place, old responsibilities also remained, leading to there being a combination of generalist and specialist and thus experiencing an overload of work. Specialisation is in general welcomed by the workers but it also leads to more monotonous work. This in particular relates to the helpdesk, where workers used to rotate between first- and second-level support. This is no longer the case and workers have to stay in one function all the time (Dahl-Jørgensen & Torvatn, 2007). This example shows the impact of centralisation on work organisation, whereas the aspect of applying standard procedures and firm-specific capabilities is absent in this case.

The German public-private-partnership showed profound changes on the part of the public administration. While the private IT company *MM Spinoff* has a very high qualification level – 80 per cent of the workers are university graduates – on the side of the public organisation – the police force – people had only had internal training as police officers. Working on the project in the context of the public-private-partnership increased the knowledge intensity for those involved, while the other public administration employees needed additional skills to use the IT system. The police-academy teachers experience the greatest standardisation and formalisation in their work, because they have to develop some of their coursework as e-learning modules (Meil, 2007b). Further training is offered to learn how to use the system. There are changes in the work process that require other ways of working and communicating. However, these changes were introduced without any training measures.

The same happened in the Portuguese hospital. The private IT company *IT Healthcare* has highly qualified workers, specialised in single-type equipment, and they give training to the hospital staff on how to use and maintain the equipment. All these technicians have a university degree. They have usually come directly from universities and the company provides training either in Portugal or abroad, in-house training or in external companies (also hospitals). On the other hand, the remaining hospital technicians from its own maintenance department have some technology knowledge but do not have a degree or any training to deal with the new and innovative technologies. They are not able to compete with new and highly qualified workers from large international IT companies. The public hospital studied is now completely dependent on the private company for IT services. In

spite of the advantages already mentioned, this also implies new problems, such as an increase of complexity. They also have to wait much longer if an intervention is needed. The new medical equipment supplied by *IT Healthcare* is more sophisticated and complex than the older types, so adaptation is harder.

The case studies on business-process outsourcing showed some change in work organisation but no profound alteration – at least in the short term. In the Dutch case of municipal citizen records, the division of labour changed in the front office. Whereas before the outsourcing a narrow definition of tasks and a high degree of specialisation prevailed, since the outsourcing a more general coverage of tasks and juridical competencies has been required. Thus workers tend to lose their status of expert in a specific, narrowly defined area. Another change in this case relates to the impact of IT in particular in the back office. The system now structures the work and organises the workflow. In the front office workers have more client contact and lose some time flexibility (Bannink, Hoogenboom & Trommel, 2007: 15).

The Dutch case study brought interesting results in terms of changes in skills and knowledge. The municipal workers experienced deskilling related to the legal-substantial aspects of their work: ‘The division of knowledge between municipal governments and IT providers appears to be shifting. Both technical and legal-substantial know-how are being transferred from the municipal government to the IT-provider. While previously, municipal governments needed to translate legal-substantial requirements into administrative process requirements (and possibly IT-system requirements) themselves, now more and more these requirements are fulfilled by the IT-provider. As a result, know how seems to [be disappearing] in municipal governments. While municipalities used to employ workers with an education in ICT, these employees tend to shift to the ICT-sector. The mentioned shift of knowledge goes along with a general transferral of former municipality workers to the IT-sector’ (*ibid.*).

In contrast, in the Swedish case of outsourcing of wage administration to *XY Data* far-reaching changes are only expected to occur when a new IT system becomes operational. So far, not only the teams and the team leaders but also the working procedures remained in place. The implementation of a new IT system, which is still being developed, is expected to lead to higher degrees of specialisation. The only change so far relates to the establishment of a new purchasing and monitoring function staffed by three people. These need new skills and knowledge to perform the function. Skill changes for others are only expected with the new IT system. The transfer to the business-service provider, however, has already had the impact that people need the knowledge for wage administration in general rather than only the firm-specific knowledge about wage administration in the public service organisation. On the other hand, the new IT will make wage administration simpler requiring less HR knowledge, because that will be built into the system. Training has so far focused on ‘how to be a *XY Data* employee’, i.e. contained mainly company culture and administrative rules (Tengblad & Sternälv, 2007b: 23). This aspect was also very important in the UK case of transfer of personnel from Citycouncil to the IT service provider.

A crucial aspect of work organisation for our study is the organisation of work across company or organisational boundaries. At the level of *inter-organisational relations* new functions and tasks were created, as already mentioned under point 3 above. This kind of transaction work associated with outsourcing is not only temporary, such as the negotiation of outsourcing contracts or service level agreements. Rather, permanent tasks arose

and in some of the cases several jobs were created and workers retrained to fill them. At the operational level, close cooperation is often needed: joint project groups have been established to make use of the often complementary knowledge of both organisations. In particular in cases that include both public and private organisations, quite different forms of working need to be reconciled. The German public organisation that entered a public-private-partnership with a private IT service provider, for example, not only realised that much more cooperation was needed than initially envisaged. This also made the differences in working hours a problematic issue. 'The private sector employees work very long days when a project schedule requires it and take the time off at a later date. The public sector employees were not used to this working rhythm, and have had to adapt to it in order to maintain an equal role in the development of the project. Basically the public sector workers in the IT development unit have experienced an intensification of work and work overtime for which they are not compensated.' (Meil, 2007b, 14).

The Belgian case study also revealed differences between the private IT company *ITPRO* and the public administration. Civil servants are not expected to work overtime and, in practice, they do not work overtime except in cases of emergency. In such a rare case, overtime is compensated by reduced working hours in the same month. Another finding from the case studies is that work organisation at the IT service providers may depend on the project or contract people work on. This is most obvious regarding the public-private divide. The Belgian cases study reports: 'Public and private customers have very distinct demands. Indeed, the public sector wants "management of administrative processes" joined by a control system, while the private sector would be more oriented on its activities. Projects differ regarding at time and size (projects for the private sector are smaller but have to be completed quicker, while projects for public administrations are bigger and longer, but with extended deadlines).' (Vandenbussche, Devos & Valenduc, 2007: 14) Thus the content of work and to a certain extent the work organisation are influenced by the identity of the customer.

To sum up, changes in work organisation and ensuing skill needs are partly experienced as deskilling. This is the case in IT outsourcing in the narrow sense, when the service-provider company applies corporate procedures and thus standardises work, as was the case in the British example. Higher levels of specialisation resulting from centralisation (and outsourcing) of IT in the Norwegian health administration was not perceived as deskilling – at least specialisation is welcome. *'We are no longer potatoes.⁶ Before, we should command all of the systems, especially at the smaller health enterprises. You did everything.'* In case of business-process outsourcing, deskilling relates to decreasing significance of technical knowledge, because this is partly built into IT systems and so moves to the IT service provider. What is more, company-specific knowledge may become irrelevant because now general procedures of the provider company are followed.

Other case studies revealed an increase in knowledge intensity. This mainly relates to public administration workers, such as the German police officers, who were not involved in IT projects before and now have to cooperate with the private IT company. While in the BPO cases just mentioned, IT user skills became more important to public administration workers (although this does not balance the loss of technical skills), police officers trans-

⁶ A Norwegian expression meaning 'generalists'.

ferred to the new IT unit within public administration had to acquire IT skills in addition to their technical and administrative knowledge. This, however, has to do obviously with the joint development of a new system in a public-private partnership.

It can be assumed that the training workers receive after being taken over by a private IT service provider is indicative of the changes in skill and knowledge. Interestingly, both in the UK and the Swedish cases the initial training of workers focused on company culture: 'How to be a *XY Data* employee'. The main aim is thus to change work attitudes of the former public administration workers than to provide new knowledge and skills. This is highly plausible considering the changes from the public-sector ethos and the service-oriented work to cost and profit-oriented work as was well illustrated by the case study on Citycouncil.

6.6 Industrial relations and regulations

The case-study findings on industrial relations and regulations reflect the diversity in national models of industrial relations and labour regulation. Most striking in this respect is the marked contrast between the procedures and events in the British and the Swedish outsourcing process, which nevertheless produced similar results. In the UK *Citycouncil* case, the majority of the council's IT staff were unionised and the union had a strong influence during outsourcing. The union's bargaining power was enhanced by an eight-week-strike, called because of a breakdown of information and cooperation during the process. The union favoured an in-house solution but was overruled. But they were able to achieve a transfer of workers with all terms and conditions and a mobility clause. The negotiations were difficult, however, and lasted more than a year. *PROF*, the IT service provider, recognised the union, and staff kept their national negotiation rights. The municipal workers have national-level collective agreements and the company had to accept the regular pay raises stemming from these. The case study revealed 'grey areas' in the transfer of undertakings regulation of the EU (TUPE): What happens to the workers if an outsourcing contract is not renewed? What happens to the terms and conditions if the service provider and new employer company further outsources parts of the activities (Dahlmann, 2007a: 22)?

In the Swedish case of business-process outsourcing from a public organisation to the private service provider *XY Data*, the unions were involved from an early stage of the process. The *XY Data* management negotiated with their local unions, and the public service workers union only acted as a support. The relations between employer and workers representatives are described as highly cooperative. The agreement on the transfer of personnel exceeds the TUPE regulation insofar as the workers kept their terms and conditions for good and not only for one year. Also in the Norwegian case unions were strongly involved in the process. As already mentioned above, two competing unions were involved. They opposed the outsourcing to a private service provider and negotiated many issues (wages, overtime payment, on-duty etc) with the employer. The official reason given for establishing a public IT service provider instead of outsourcing to a private one was the 'need for health knowledge'. This knowledge could have been secured in the usual way, namely by the transfer of workers to a private company. So we can assume that the trade union influence was among the main causes for rejecting the private sector option. The Belgian case is in stark contrast to the other ones: The unions in the regional

administration were not only not involved in the process, they did not even know about the IT outsourcing and the IT project with a private service provider. They defined the move as not being a union issue but 'a political one'.

The German case again reflects the industrial relations model in general: strong institutions of workers representation, which manage to conclude company-level collective agreements on various issues, but at the same time a high incidence of bypassing of labour regulation. Both the public organisation and the private service provider *MM Spinoff* have a works council. At *MM Spinoff*, issues covered by company collective agreements include flexible working hours and data privacy. In the police force there are powerful workers' representatives, who were involved in the project and, after difficult negotiations, signed an agreement on e-learning, time use and data protection. Bypassing regulation occurred, first, through the establishment of *MM Spinoff*, which is not covered by the collective agreement of the parent company, and, second, through the employment of 'external workers', i.e. temps from other companies or freelancers, whose working conditions are not regulated. The works council's policy is to try to fill vacancies of permanent posts with already employed 'external workers' in order to improve their status. In contrast to the bypassing of regulation in the private sector, the regulation and protection of employment in the public sector is strong. Nevertheless, a recent collective agreement extended the working week to 41 hours, leading to a three-hour difference between the public organisation and the private-service provider, where there is a 38 hour week.

In the Dutch case, collective agreements on the salary structure etc are concluded by the association of municipal governments and the public workers union. In the restructuring process the *Easttown* works council was involved in particular on the issue of training for front-office workers and it gave advice on the main lines of organisational design. The works council supported the organisational change. The consent of the works council, however, is not formally needed, because the restructuring measure does not officially count as a 'reorganisation' in the sense that the content of the job is being changed. In contrast, the trade union formally had a say in the process, because the changes affected the grading structure laid down in the collective agreement.

IT companies in Portugal do not have any significant tradition of union representation, although after 1974 the unions became more central in the negotiation of labour issues. Workers in private companies, especially the younger ones, often show little interest in becoming union members or participating in collective action. In the public sector the unions have a longer tradition and are stronger.

In Belgium there are legal limitations on 'body shopping'. The deployment of workers in other companies is only allowed for temporary work agencies, for specific technical tasks for which the host company does not have the necessary skills or in the framework of a subcontracting agreement. In the last mentioned case the obligations of the two companies involved are laid down in labour law. Nevertheless, for IT professionals working under the regime called 'régie', such a posting in a client company is very frequent. And some 'body shopping companies' operating on the Belgian market are located in Luxembourg to circumvent the Belgian legal limitations. In France the legal situation is less restrictive and there is a special contractual form, called 'portage', for deploying workers in other companies. There are no known cases of civil servants being transferred to IT service providers. Rather, public-sector employees without civil service status and with fixed-term contracts are recruited by IT service providers when their contracts end.

Relating to industrial relations, the case studies revealed an interesting question: Who actually negotiates the transfer of workers? In the Swedish case the management of the private service provider *XY Data* negotiated with the workers' representatives of *XY Data* on the terms and conditions of the public-service workers to be transferred to *XY Data*. The public-service workers union played only a supportive role to the *XY Data* union. In the UK case the municipal workers union first negotiated with, and organised a strike against, the Citycouncil, and later on negotiated the transfer of workers directly with the private IT service provider company, *PROF*, who recognised the union. The staff of *PROF* however are hardly unionised and do not have national negotiation rights.

6.7 Summary

In order to explore the impact of value-chain restructuring the WORKS consortium conducted a range of case studies on IT service providers that work for public-sector organisations. The case study evidence covers four different forms of relationship: centralisation and outsourcing of IT within the public sector; IT outsourcing to private providers; business process outsourcing to private providers; and a public-private-partnership for the development of a new IT system. The cases illustrate the tendency of externalisation of the business function IT in particular to private international IT service provider companies. There are national variations however. In contrast to their UK counterpart, the Norwegian trade unions managed to inhibit a privatisation. Yet, the initial centralisation and outsourcing within the public sector may be followed by a privatisation later on. The outsourcing relationships and, in particular, the degrees of dependency and the power relations are often contested between the contracting parties too. Public organisations try to avoid making themselves too dependent on the service provider and to keep open the option of putting the service out to tender again. Only in the Belgian case did the public administration completely surrender to the private partners. In the Dutch case, public administrations have started bringing the IT function back under their control by establishing a public independent advisor and an ICT intermediary. Power relations are obviously influenced by the ability of organisations to monopolise knowledge and infrastructures. IT outsourcing leads to a shift of knowledge in which the service provider gains public-administration knowledge. In some cases the knowledge tends to be fully transferred from the public- to the private-sector organisation.

Value-chain restructuring does have considerable impacts on employment, although direct job loss as a consequence of outsourcing seems to be rare. The Norwegian case even showed an increase of employment levels after centralisation and outsourcing. There are big differences in employment conditions between the public-sector and the private-sector organisation. This is partly the motive of outsourcing decisions and has consequences for the workers involved. Often, the restructuring leads to close cooperation between workers with very different employment conditions and, in particular, working-hours regimes. In the cases in which workers were transferred to the IT service-provider company it was agreed that the terms and conditions stayed roughly the same, even for longer periods than stipulated by the TUPE directive. However, the IT service-provider companies partly invited workers to change to the company-specific terms on a voluntary basis. Some workers actually accepted this offer. The findings thus show both a fragmentation of em-

ployment within and between organisations, and attempts to harmonise employment conditions within IT service-provider companies.

Outsourcing and thus lengthening the value chain also has significant consequences for work. New functions and roles were established because of the great need for liaison and coordination. There is not only the operational level of cooperation across organisation boundaries, there is also the level of contractual relations, or 'transaction work', dealing with complex processes of contract negotiations, renegotiations of terms of reference, monitoring of service levels, *etc.* In some cases, new jobs were created for these tasks, in others workers took over such tasks without training and official recognition. One reason for changes in work are differences in the standard procedures between the public organisation and the private service provider. As a rule, work becomes more standardised as a consequence. Another reason lies with the contractual relations: service-level agreements impact on the day-to-day work, increasing the paperwork and creating stress and pressures. In part, workers experience the changes in work as deskilling, partly there is a shift from organisation- or public-administration specific knowledge to more general knowledge. Yet, training for transferred workers is not so much aimed at providing new knowledge but to convey company culture and to change work attitudes.

Gender issues showed marked international differences between the Scandinavian and the continental European countries. This relates to the proportion of women among the IT workers and gender-discrimination practices. In the Belgian case, for example, management does not want to employ women, because these are seen as not being able to provide for 'total involvement' and to work extensive overtime. Generally, outsourcing seems to be detrimental to women even in the Scandinavian and UK cases, where more gender equality can be expected. One reason for this is that public-sector organisations are more likely to have equal-opportunity policies. Others are increased pressures for flexibility and bigger problems in reconciling employment with care duties.

The mobility of IT workers and the posting of workers with customer companies is a contested issue. Because working in other organisations is very unpopular with workers, some employers try to negotiate with their clients to reduce posting periods. On the other hand, opportunities for occupational mobility emerge through the transfer to a large IT service provider, because of the internal labour market in these companies. Interestingly, it turned out in the case studies that workers were not interested in these new opportunities, because they were not relevant to their life plans. In the case of a transfer of workers it is not so obvious which union and which employer actually negotiate the terms and conditions: it can be the union and the management of either the old or the new employer company. The impact and the applicability of the EU regulation on the transfer of enterprises (TUPE) are limited. Processes of change are usually not clearly delineated, and after the initial outsourcing there may be further outsourcing, takeovers, *etc.* that have not been foreseen in the regulation.

7 Reorganising the front line

Customer service in the public sector

WOLFGANG DUNKEL/ANNIKA SCHÖNAUER

7.1 Introduction

The first focus of this chapter, which is based on case study reports from different country teams, is on the business function of customer service. For a better understanding of this business function, it is useful to have a look at the specifics of services. Korczynski (2002) names the following five characteristics of services that have proven their worth:

- *intangibility* – the product of service work is not or only partly of a tangible nature;
- *perishability* – the product is ‘temporary’ and thus cannot be stored;
- *variability* – the product is not homogeneous, for it can vary according to the persons involved (for instance through the perception of the service on the part of the customer);
- *simultaneous production and consumption* – the product is produced and consumed in one and the same situation (uno-actu principle);
- *inseparability* – the product is produced by service provider and receiver together (co-production).

As we will see in this chapter these characteristics set constraints for the organisation of work as well as for the restructuring of the value chain. Looking at work organisation, we are confronted with a service triad, in which organisation, service provider and receiver each have their own agendas, which do not necessarily accord with one another (Wehrich & Dunkel, 2007). In many cases a fourth actor comes into play, an external contract partner. These organisations, which outsource certain tasks to a subcontractor, play an important role, especially when we analyse the restructuring of value chains. ‘Front-line workers’ (Frenkel *et al.*, 1999) have to deal with the requirements of both the customers and the service organisation. In doing so they provide interactive service work and try to come to terms with the principles of uno-actu, co-production and variability. Qualitative studies (Hochschild, 1983; Leidner, 1993; Macdonald & Sirianni, 1996; Holtgrewe & Kerst, 2002; Dunkel & Voß, 2004; Korczynski & Ott, 2004; Voswinkel & Korzekwa, 2005; Böhle & Glaser, 2006) provide detailed insight into this world of interactive service work. The focal point of interest of such studies is on services in which there is direct contact between the service provider and the customer. This includes a wide heterogeneity of activities such as physical and emotional care work, guiding, catering, accommodation, transport, entertaining, teaching, selling, counselling, educating, providing therapy or providing protection.

Looking at the value chain, it can be expected that the specifics of services also play an important role. Firstly, the customers may be regarded as part of the value chain, because they are able to add value to the service (Böhle & Glaser, 2006) or even become sources of innovation (Prahalad & Ramaswamy, 2004). Secondly, the characteristics of service goods such as intangibility, perishability and simultaneous production and consumption pre-

clude specific options of restructuring (such as separating time and space of production and consumption of goods) as well as opening options (such as communicating intangible information services via the Internet).

The second focus of this chapter lies on the institutional framework of the customer service analysed by the case studies: we are dealing with public services and with public administration. Therefore processes of privatisation of companies owned by the state, country specificities and the mixture of the role of citizen with the role of customer are of major importance here. And we are dealing with a special class of services that meet the basic needs of citizens: security, public transport, labour, housing, communication.

The concept of customer care has evolved over the past years in a way that it now involves both private companies and public-sector administrations. Work in the public sector was once well regarded relative to private-sector equivalents. Today this image may have been severely damaged, as Pupo (2007) has argued for the Canadian public sector, where many jobs have been restructured, downsized and degraded. Customer service in the public sector seems to be specifically prone to outsourcing efforts. On the one hand, it is labour- and cost-intensive and traditionally characterised by working conditions well above those in private-sector companies such as retail or call centres (*ibid.*). Hence, the savings through outsourcing appear attractive. On the other hand, the quality of customer service is by definition critical for the legitimacy of public-sector privatisation and liberalisation, since losses in quality affect 'customers' who are tenants, citizens and voters as well. Here, an expansion of service availability may be perceived as an improvement in customer orientation, but at the same time may lead to longer and more flexible working hours for service workers.

Due to these developments in recent years, citizens have increasingly been seen as customers and clients in the public sector and not least also as potential voters. In addition, increasing customer orientation, rationalisation and reduction of costs are important motivations for various forms of restructuring as seen in the case studies. As Pupo states, 'Understanding work restructuring within the public sector entails a complex and detailed consideration of the movement of work from the public domain to the realm of private enterprise as well as to the sphere of unpaid work.' (*ibid.*). Until now, few researchers have focused on restructuring and changing work arrangements within the public sector and their consequent effects on public-sector work as well as on public services and their delivery. One of the aims of the WORKS project is to fill this gap.

The cases represented in the analyses (most consist of numerous organisations) are situated in Austria, Belgium, Bulgaria, Denmark, Germany, Greece, Hungary, Italy, Netherlands, Sweden and the UK. Five of them offer services of general interest, such as the postal service and the railways. The other seven organisations are responsible for public administration in different areas (for example public housing, employment services, council administration). Here is a short overview:

Public Administration

- *Citylife* (Austria): *Citylife* offers property management for council housing. Via a municipally owned enterprise, a kind of intermediary, the city cooperates with a consortium of subcontracting call centres, which took over the telephone-based customer ser-

vice in 2003. This outsourcing of parts of customer service was the main restructuring process (Schönauer, 2007).

- *Customer* (UK): The organisation of the customer-service function within the joint-venture company *Customer* is the focus of this case. *Customer*, set up in 2004, is a partnership between two local-government councils and a multinational private-sector service provider with the aim of providing a single effective point of contact for the public (Dahlmann, 2007c).
- *DVLA* (Italy): the *DVLA* is the public administration unit of the Driver and Vehicle Licensing Agency. In 1996 the *DVLA* outsourced its telephone-based customer service to a subcontractor. Since then, contract partners have changed three times. At the moment, the call centre service is operated by a temporary association of three private-sector service providers (Piersanti, 2007).
- *EWA* (Belgium): *EWA* is a case of restructuring of customer service in regional administration, which is characterised by rationalisation and driven by IT technologies. The case focuses on the development of e-government since 2001 and on its implementation at housing directorates exemplarily. Through this process, a particular ICT unit received a transversal role for several departments, and was given an autonomous status outside the administration structure (Devos & Valenduc, 2007).
- *Intermed* (Hungary): *Intermed* is the Hungarian national employment agency, created in 1991. Since 2002 there has been an ongoing modernisation of infrastructure and of services, which was supported by the European Union via PHARE (Programme of Community aid to the countries of Central and Eastern Europe, Phare Programme, 2007) and with the cooperation of Swedish and Danish labour experts. The overall aim is to create a nationwide, integrated system of local labour-market offices; one part of this modernisation was the implementation of self-service for certain groups of clients (Makó, Illéssy & Csizmadia, 2007b).
- *NEA* (Bulgaria): *NEA* is the National Employment Agency of Bulgaria, which has been affected by fundamental rationalisation since 2002. New technology was introduced with the aim of achieving a one-stop service, services were standardised and levels of hierarchy and the number of employees were reduced (Jeleva, 2007).
- *PCC* (Sweden): This case focuses on reorganisation of customer service in the Swedish police force. In 2000 the regional authority of Stockholm decided to implement telephone-based contact centres to take care of non-urgent customer requests. Contact centres still are part of the Swedish police force, but are organised as a separate unit with their own budget. This development was followed by a general development of contact centres on a national scale (Tengblad, 2007).

Services of general interest

- *Austrian Post*: Restructuring in the *Austrian Post* is characterised by the outsourcing of branch activities to private post-office partners. In 2001, postal management started to close post offices in rural areas, which have partly been replaced over the years, for example by cooperation with grocers, newsagents and tourism associations (Hermann & Schönauer, 2007).
- *Dutch Telecom*: The restructuring at *Dutch Telecom* is characterised by numerous manoeuvres of outsourcing and insourcing of telephone-based customer services. In the

end, *Dutch Telecom* outsourced all of its contact activities to CSN, one of the oldest and biggest private call-centre providers in the Netherlands. Nevertheless, *Dutch Telecom* maintained a high level of managerial control (Trommel, Bannink & Hoogenboom, 2007).

- *German Railways*: Since 1994, *German Railways* have been subject to fundamental restructuring which resulted in a division of the value chain into an increasing number of smaller companies, which nonetheless remain subject to the overarching structure of the concern. This restructuring was followed by reduction of personnel, building up of new services and an increasing degree of self-service (Dunkel, 2007).
- *Greek Post*: The case study on the *Greek Post* focuses on restructuring from 2001 onwards. The *Greek Post* founded a subsidiary for courier services, which operates under different organisational and labour relation principles than the parent company. The aim was to handle the expanding courier market more efficiently (Gavroglou, 2007c).
- *Swedish Post*: After the start of the closure of general post offices in 2001, services for delivering packages and special letters for private customers were outsourced to private partners such as food-supply chains and petrol stations. Additionally, postal business centres were set up for customer contact with business customers, including call-centre services for all groups of customers. Financial services had already been sold to private owners a couple of years beforehand (Tengblad & Sternälv, 2007c).

7.2 Company and value-chain (re-)organisation

Most of the restructuring presented here is embedded in a much wider context of reorganisation of public services. Also the history and the experience of countries in restructuring their public sector are very different. For some countries, such as Italy, outsourcing strategies are relatively new. Other countries, such as Britain, have already had years of experience of reorganisation of public services. Case studies on services of general interest show that a major factor in restructuring has been the privatisation for example of post and telecom and the ongoing liberalisation of this market. Since then, cost efficiency has become crucial to survival. Increasing customer orientation and the rising need for efficiency are other important factors behind restructuring processes in public services. It becomes clear that it is not only a question of time or how countries organise their public services, but more a question of country-specific factors, such as the institutional framework, that influence developments in the public sector.

The forms of restructuring of value chains that were found in the different countries and organisations are manifold. Examples range from full outsourcing of customer service to internal reorganisation of work. The *DVLA* in Italy, *Citylife* in Austria and the *Swedish* and *Austrian Post* are examples where restructuring was characterised by full outsourcing of parts of customer service to private contract partners. In the case of *Dutch Telecom*, there have been different manoeuvres of in- and outsourcing, buying and selling shares. An important form of organisation is a public-private partnership, such as *Customer* in the UK, where city councils cooperate with a multinational private-sector service provider. The *Greek Post* and *German Railways* have in common that for certain services they founded subsidiaries that are still part of the parent companies. In the Greek case, the city is the owner; in the case of *German Railways* the increasing number of smaller companies is subject to the overarching structure of the concern. Others did not make such profound

changes such as outsourcing, but had severe internal restructuring, like closing or founding of units, followed by standardisation of processes and rationalisation. Examples are *Intermed* in Hungary and *NEA* in Bulgaria. Furthermore, there are processes of centralisation, such as *EWA* in Belgium, where a particular ICT unit was given an autonomous status outside the administration structure. In the case of *PCC* in Sweden, there was the centralisation of telephone services to call centres, which are still part of public police administration.

It is not possible to analyse all these developments in detail, but the chosen examples offer a good insight into strategies, motivations and decision-making processes of complex organisations. People are often already used to ongoing changes and, as mentioned by a Bulgarian employee of the *NEA*, it is no longer possible to locate the beginning or the end of the restructuring: *'In the meantime other processes and other changes are going on. (...) So you can't differentiate. I personally can not differentiate between what is brought about by the process model [an internal restructuring programme] and what in the meantime is happening just like that.'* (Jeleva, 2007: 9).

Eastern European countries especially have totally different preconditions for restructuring due to their socialist past. Restructuring in these cases is often characterised by an orientation towards western forms of customer-relations management. In connection with restructuring, many organisations in eastern Europe have used consulting from abroad. *Intermed*, the Hungarian employment service, had the support of the PHARE (Programme of Community aid to the countries of Central and Eastern Europe) and cooperated with Swedish and Danish labour-market experts to create a nationwide, integrated system of local labour market offices. The Bulgarian *NEA* has also been the object of intensive assistance – especially from Britain (e.g. KPMG) – throughout its existence and was also supported by EU-funded programmes. Since its foundation, the *NEA* has been involved in numerous projects intended to contribute to its modernisation and to make it more effective and efficient.

Compared to this, western countries more often tend to use national consultants. In the British case, *Customer*, it was the analysis by a national IT consultant that intensified the perception of the need for modernisation and improvement of efficiency. In addition to consultants' suggestions, customer surveys, undertaken mostly by independent external organisations, have played an important role in the restructuring process and have often been used to legitimate changes. This is seen in the Austrian case of *Citylife* as well as in the Bulgarian *NEA*.

The aim of the two organisations dealing with employment services in Hungary and Bulgaria (*Intermed*, *NEA*) was to create a nationwide, integrated system of labour-market offices serving both job seekers and employers. Strategies to increase client orientation, standardisation of processes and rationalisation are very similar to all the other organisations analysed in this report. Services such as training and psychological counselling are mostly outsourced to private providers, whereas services defined as core business have not yet been outsourced. The priority instead has been to keep these tasks inside, but rationalise and standardise them. Under the assumption that the development in eastern Europe lags some years behind, this internal restructuring could be interpreted as kind of preparatory work, which might make outsourcing easier in the future. Devos and Valenduc have comparable thoughts on the Belgian case, *EWA*. In this case, there was an internal externalisation and centralisation of IT tasks at one provider within a regional administration. This ICT unit received a transversal role covering several departments, and was

given an autonomous status outside the administration structure. The authors argue that 'in other countries or under quite different political circumstances, the functions of EWA might have been easily outsourced to a private service provider.' (Devos & Valenduc, 2007: 5). In some countries this could have been interpreted as preparatory work to outsourcing, but no such strategies have been seen in the Belgian case.

Another group of case studies, *Swedish Post*, *Austrian Post*, *Greek Post* and *German Railways*, shows that customer service somehow merges with logistics, because the postal and railway services in fact involve the transportation of goods and people. Deregulation and privatisation play an important role in all cases. The time when these sectors were opened to the market was also the beginning of restructuring. Both the *Swedish Post* and the *Austrian Post* were transformed from public utilities into state-owned companies, thus being able to operate on the same legal status as private limited companies. In both countries, opening the postal market to competition has since been a slow process. A few private operators have focused on the most profitable, big-city markets (Tengblad & Sternälv, 2007c) and in both countries general post offices have been closed and more or less replaced by food-supply chains, petrol stations, tobacconists, pharmacies, municipal offices, etc., which store for collection and take delivery of customers' packages customers. In contrast, the *Greek Post* has not gone so far. It founded a subsidiary that operates under different organisational and labour-relation principles to its parent company and to which parts of courier services were outsourced. The situation at *German Railways* is very similar. *German Railways* is founding an increasing number of smaller companies, which fulfil several tasks such as running and maintaining stations and shops, keeping up the necessary sales system and sales infrastructure for the rail system, running the long-distance trains, running the local and regional trains, and so on. At the same time, all of them are still part of the main concern, the Deutsche Bahn AG (*German Railways*).

Power relations between organisations change as a result of restructuring within organisations and across organisational borders. Contracts between organisations have to be established where there has not previously been any contractual relationship. Practices in contractual relationships are very different from country to country, e.g. concerning the ownership structures. An example of a long-term contract is *Customer* in the UK, where the public-private partnership model is currently based on a ten-year deal. On the other hand there is the *DVLA*, which has already changed its call-centre provider four times within the last 10 years.

There are also big differences in the ownership structure. There are cases of full outsourcing, such as *Citylife* and the *DVLA*, where the duration of contracts is simple and clear, but there are a lot of cases between full ownership and full outsourcing. In cases like *German Railways* and the *Greek Post*, subsidiaries were founded that were 100 per cent owned by the parent companies. In the case of *Customer*, under UK government rules the council owns a maximum 20 per cent holding of the public-private partnership. In the Austrian case, *Citylife*, the public authority has the outsourcing contract with a city-owned intermediate organisation, which itself has a contract with a consortium of private call-centre providers. This intermediary has gained significant power over the years. It still depends on requirement of the public authority, but it has achieved a position where it is almost irreplaceable. The company owns the service number and the electronic knowledge base used by agents and it is totally independent of its call-centre subcontractors.

In all forms of contracts, service-level agreements (SLAs) with partners, in-house as well as subcontracting, are gaining importance and are also used to pass the risks caused

by changing workloads arising from unpredictable events on to subcontractors and their employees. At *Customer*, for example, the private contract partner is the largest shareholder and has to make sure that performance meets agreed targets every month; otherwise penalties have to be paid to the councils. In the case of *Citylife* in Austria, regulation according to SLAs is similar. The subcontracting company has to ensure that a certain service level, stipulated by the council, is maintained. Otherwise penalties have to be paid. There are also SLAs in public in-house call centres, such as the *PCC* in Sweden, where 90 per cent of incoming calls have to be answered within three minutes.

In many organisations there is an increasing trend towards self service. This way of involving the customer in the value chain and the process of service production is heavily dependent on information technology. At *German Railways* more and more sales tasks are being shifted to customers, with service being replaced by self-service. In this case, this also has to be seen in connexion with a reduction of personnel. To induce the customer to comply, alternatives are shut down (sales by personnel at the smaller stations), financial incentives are created (certain tickets can be purchased more cheaply at the machines than at the counter), there is advertising for self-service and travellers at the stations are encouraged and taught how to buy tickets at the machines. For this purpose two types of job have been created at main train stations: the head of reception and the ticket-machine guide (Dunkel, 2007: 2). At *Intermed* in Hungary an important part of modernisation has also been the introduction of self-service for job-seekers who have realistic labour-market objectives, adequate labour-market values and sufficient motivation to find jobs independently. They are asked to use the self-service information service, with minimum or no *Intermed* staff assistance (Makó, Illéssy & Csizmadia, 2007b).

7.3 Functions and overall workflow in the value chain

Central aspects of the restructuring observed in the various cases have been the reorganisation of the work flow, new division of labour and the establishment of new services. We will first take a look at cases in public administration.

When call centres started working for *Citylife* (Austria), their task was more or less to forward customers concerns to service employees in the decentralised service centres, mostly by an e-mail-based 'ticket'-system. Over the years their responsibilities have increased and more and more requests are arranged directly at the call centre or in cooperation with technical companies.

At *Intermed* (Hungary) administrative tasks (e.g. registration of unemployed, administering and allocating unemployment benefit, etc.) and service-type tasks, such as counselling, identifying the needs and attitudes of the job seekers, conducting psychological interviews, developing job profile, etc., can be distinguished. With a comprehensive self-service system, the job-seekers can do part of the data entry work themselves before meeting the labour-market intermediary. In this way the labour market intermediary can spend more time on activities like counselling.

At *NEA* (Bulgaria) the reorganisation along the lines of the one-stop-shop model involved a clear differentiation between front office and back office. The front office informs and forwards clients and provides customer registration and job brokerage. New work instructions mean that the efficiency of these functions should be improved.

In the Belgian case, *EWA*, the newly created ICT unit adopted tasks such as the coordination of governmental actions in the area of e-government, the exploration of opportunities of computerisation and simplification of procedures or the continuous monitoring and evaluation of the progress of ongoing projects.

At the *DVLA* (Italy) the idea of reorganising customer care (especially low level service) arose (quite similar to *Citylife*), when the workload reached a point that could no longer be handled with current staff. Instead of employing more people, which would have been necessary to ensure an adequate standard in the quality of services, the organisations decided to put out a public tender for parts of customer services. The call centre processes calls made to a toll-free number and provides information concerning the validity of the driving licence, the issuing of duplicate driving licences and the driving-licence points. It is the entity that acts as a link between the public administration and the citizen, and provides the information that clients require on a daily basis.

For *Customer* in the UK, the main reason for restructuring was the need for modernisation and improvement of efficiency. *Customer* centralised 400 different local services. One chief executive describes this quest for more efficiency: ‘Now we can deal with multiple enquiries in one phone call. (...) So instead of making two phone calls to the county about two aspects and one to us, they can do it in theory, most of the time, with one phone call’ (Dahlmann, 2007c: 4). The public-access centres provide generic telephone, e-mail and face-to-face advice on a wide range of local government services to the public.

At *PCC* in Sweden the reason for reorganising telephone-based services was ‘to increase availability and service to the public and, in doing this, free police resources for operational police work’ (Tengblad & Sternälv, 2007c). Many operative police officers were ‘locked’ into taking crime reports instead of being active in operative police work. The most important work process where the contact centres play a role between the public and the police operative work are the crime reports. The contact-centre operator receives a report on an alleged crime and documents it in the crime-reporting IT system. The report is then dealt with by the Preliminary Investigation Officer (PIO) and, if investigations are necessary, by the appropriate local police station. In contrast to the other examples, *PCC* was kept in-house. It has been organised as a separate unit with its own budget, but is still part of the Swedish police authority.

Looking at public services we start with *German Railways*. Customer service at railway stations was always an implicit part of the work of the stationmaster, who was responsible for everything, which had to be kept going in the station. The position of the stationmaster no longer exists – today the main German railway stations have service personnel specialising in customer service and located in newly established units such as the ‘Service Points’ (see below).

Dutch Telecom is the only case that had already created its own semi-autonomous call centre units long before they considered outsourcing such services. After numerous manoeuvres, such as selling the call centres and insourcing them again, *Dutch Telecom* finally outsourced all of its contact activities to one of the oldest and biggest private call-centre providers in the Netherlands. The contact activities vary from simple call campaigns, for instance announcing a particular event, to more complex tasks such as helpdesk support, political and commercial marketing and mail-order handling.

At *Austrian Post*, the post-office partners represent outsourced front-desk activities. They offer an almost complete range of services to private customers that are also offered in regular post offices. There are limitations in the giro and savings transactions and

above all in the sale of products. In recent years, post offices have greatly extended the range of products they sell. Alongside mobile phones, there is office stationery, CDs, DVDs and other gift items as well as a film and photo developing service. With a few exceptions, none of these products are sold at the post-office partners – not even stamps.

In the old *Swedish Post* almost all customers were treated alike. In the new post there has been a clear division between private and business. A general development of customer channels has been the replacing of face-to-face contacts by the use of call-centre technology and the internet. The contact-centre organisation has been built up and developed in different directions (business and private, in-coming and out-going). Over recent years attempts have been made to use self-service over the internet, for instance tracing messages and packages, estimating postage, searching for postal codes, mail boxes, payments and reclamations, etc.

At *Greek Post* the key functions that have been outsourced to a subsidiary company are: receiving orders from customers and tracking the status of their orders, charting a pick-up schedule, letter and parcel collections, delivery to hubs, parcels sorting, charting a delivery schedule, delivery of parcels to customers. This value chain can be viewed as a branch of a longer value chain that was all performed by the *Greek Post* before restructuring.

The processes of restructuring that were observed in the various case studies led to diverse forms of relocation of functions in the value chain as well as to the development of new functions. Furthermore, striving for a better performance through internal rationalisation of work organisation has been the dominant tendency in some of the cases.

Externalisation of functions – Outsourcing

Most common has been the outsourcing of customer services that can be standardised, formalised as well as technically empowered and supervised.

Public administration partially made use of a form of a value-chain restructuring that dramatically gained worldwide importance back in the nineties: the outsourcing of telephone services to call centres as a first possibility of outsourcing. Most of these cases have in common that there was no relocation of an existing department, e.g. of a separate call-centre unit, but they entrusted call-centre services to external companies right from the outset. In all telephone-service cases, the reorganisation led to a centralisation of services that had all previously been carried out by the different service units. In the Italian case *DVLA*, at *Customer* in the UK, at Austrian *Citylife* and at *PCC* in Sweden, telephone services used to be handled by employees in addition to their counter work and face-to-face service. In the wake of increasing customer orientation and technological innovation, they have now been entrusted to call centres.

In the case of *Citylife*, the spatial and personal separation of face-to-face and call-centre service led to an improvement in the working situation of employees engaged in face-to-face interactions with customers, because there were no more interruptions by telephone calls. On the other hand, employees had to fulfil additional functions and are subject to stricter time controls (each request has to be handled within 24 hours), so that work density and coordinating demands have not decreased but increased. The functions performed at the call centres, which serve as gatekeepers for the walk-in-centres, have been expanded over the years: more and more requests can be handled by the call centres without passing them on to the employees at the walk-in-centres.

Looking at the relocation of functions, the cases mentioned so far have a lot in common: Telephone services are centralised in a call centre, functions in call centres are highly standardised and the workforce is confronted with a comparably narrow range of tasks. A second and different form of relocation of functions is the outsourcing of a wider range of services carried out in a face-to-face customer contact. This applies to the restructuring of the postal services (see the Austrian, Swedish and Greek cases): Front-desk activities, which were formerly executed solely in public post offices, are now spread over a number of smaller and bigger private post partners, who sell postal services in food stores, convenience stores, filling stations and the like. In the Greek case, a different function of postal customer services – parcels delivery – has been outsourced to a subsidiary. But the overall process is the same as with the outsourcing of front-desk activities: Whereas outsourcing of telephone services coincides with a process of centralisation, outsourcing of face-to-face services leads to decentralisation (many private partners at different locations). Both processes are combined with an advanced technical infrastructure, which allows surveillance of the activities of the private partners. However, the autonomy of the employee working on their own as a representative of the post is much higher than the autonomy of the call-centre agent, who is acting under tight technical and personal control such as probe calls (*DVLA* and *Citylife*).

A third form of relocation of functions is ‘outsourcing’ to customers: Customers become part of the value chain and service companies are increasingly trying to make use of the potential of customer integration. There are some examples of this in the case studies. A very important component of restructuring the services for job seekers in Hungary (*Hungary Intermed*) has been the introduction of a self-service model, in which clients are treated as competent and self-conscious customers, who, having the proper IT-based instruments at hand, are able to look for a new job by themselves and in this way reduce the work-load of the *Intermed* staff. Quite similarly, *German Railways* have attempted to rationalise primarily through replacing labour-intensive sales by less or minimal personnel-intensive sales methods: sales via the internet and ticket machines. Outsourcing to the customer is taking place to a quite significant extent: service is to be replaced by self-service. Finally, strategies to establish the internet as a primary source of information customers can use without personal assistance of any front line staff are increasingly important. The Walloon portal (*Belgium-EWA*), designed to promote e-government, is an example of this, buying train tickets and making reservations (*German Railways*) or getting information about postal services (*Swedish Post*) by internet are further examples.

Development of new functions

Besides privatisation and rationalisation, the changing relationship between public administration and the citizen, between public service and service-receiver, is of major importance for understanding the restructuring of the value chain. Looking at the citizen or the service-receiver as customers, service quality has become a value in its own right and in this way has changed the value chain. Customer-service functions, which were previously not fulfilled or only implicitly fulfilled, have now become explicit tasks. This can be illustrated by the case of the *German Railways* (Dunkel, 2007: 2).

Customer service was only perceived as a separate task in the course of the railway reform (which started 1994 and is still under way). Before this, service at train stations was

subordinate to the many and varied tasks that track supervisors had to deal with. Nowadays, supervisors no longer exist. In the mid-nineties separate companies were established that were responsible for different services: *DB Station & Service AG*, responsible for running and maintaining 5,500 stations and smaller stops on the German rail system; and *DB Sales Ltd*, maintaining the necessary sales systems and sales infrastructure for the rail system. 3-S centres were introduced in the larger stations, with 3-S standing for service, security and cleanliness (*Sauberkeit*). The centres are manned around the clock and separated from the public behind a number of security locks. This is where the computer-based data needed to coordinate the services concerned with advice, cleanliness and security is stored. In addition, customers can reach the 3-S centre direct by phone. This is meaningful for the ever-growing number of stations without personnel where there is no addressee at local level.

In addition to the 3-S centres, the service points were introduced. These are open desks at central points of the stations available for use to everyone using the station. The service point is manned by between two and five employees providing information. The focus of the information is on supporting the customers' use of the *German railways'* traffic service. '*Our main task is to get the people from A to B as fast as possible so that they get away, get home, arrive at their destination, go on holiday or wherever*' (Dunkel, 2007: 7). Beyond this, the employees at the service points give information on all manner of topics travellers might raise, for instance on tourist highlights.

In this case there is also centralisation, but not only of functions, which before the restructuring were performed elsewhere, but also of new functions of customer service *German Railways* previously did not regard as part of the value chain. Looking at other case studies one finds more examples of additional tasks customer-service workers have had to confront during restructuring: employees at the Bulgarian National Employment Agency can meet most of their clients' needs themselves and so have had to accept additional tasks. At Austrian *Citylife*, staff have had to take on new tasks such as visiting clients at home, which are regarded as positive for service quality.

Internal Rationalisation

In many cases internal rationalisation measures can be found. These include modernisation of physical working conditions (*Hungary-Intermed*, see also the architectural redesign of the sales situation at *German Railways*) and improving the IT infrastructure (e.g. introduction of SAP at the *Swedish Post*), making work more effective (*Bulgaria NEA*, *Belgium EWA*) and more productive (strategies to encourage staff to sell harder by training sales skills at *Swedish Post* or by paying individual commission for upselling at *German Railways*).

In some cases, internal rationalisation has been combined with outsourcing or developing new functions, in other cases (*Bulgaria NEA*, *Belgium EWA*, *Hungary Intermed*) internal rationalisation is all that restructuring is about.

A crucial role in the restructuring of the value chain in all of its forms is played by new information and communication technologies (ICT). A manager of the Italian *DVLA* puts his finger on it: '*To talk about outsourcing without talking about the changes triggered by new technology is practically impossible.*' (Piersanti, 2007, 7). Most reorganisation cannot be implemented without far-reaching changes in technical infrastructure. For example restructuring at the *DVLA*, *Citylife*, *PCC* and *Dutch Telecom* depends on the introduction of call-

centre technology; without this the reorganisation of value chain and functions, in the way it happened, would have been unthinkable. The introduction of new forms of ICT often pursues the aim of a one-stop service concept, which should enable customers/clients to receive all the information they need at one visit/one call or one access to the internet. But rationalisation and standardisation as it has taken place at *Intermed* and *NEA* would not have been possible without information technology.

7.4 Changes of employment

The cases analysed for this report show that restructuring has partly been followed by an increase in employment and partly by staff reductions. An example in which the process of internal restructuring (implementation of a one-stop service and new technologies) involved severe staff reductions is the Bulgarian National Employment Agency (*NEA*). At the time of the study, the *NEA* was finalising the reduction of the number of employees – more than 300 people. Apart from the cuts in administrative positions, there was a downgrading of certain positions, especially at middle-management level, to lower positions (Jeleva, 2007: 4). In the case of the *German Railways*, the setting up of subsidiaries was also followed by a reduction of personnel, which is part of a long tradition, but which did not lead to any work-related sackings. A manager said: ‘I’ll tell you the number, please don’t be shocked. (...) I’ve been with the railway since 1967. If you think of what has been cut, I think in my time back with the former Federal Railways there were nearly 500,000 railwaymen, then add the German Reichsbahn to that, which no longer exists, with around 300,000. That’s 800,000 and if we are at 230,000 today and, what of course is the positive side of that, what you can conclude: Nobody was given their notice’ (Dunkel, 2007: 5). In 2001 *German Railways* set up a temporary agency within the concern with main function of making the utilisation of the staff more flexible. In addition, in 2005 an internal employment agency was set up to help find new positions for those who had lost their jobs because of rationalisation. These measures helped the organisation retain its internal labour market as always had been, while reacting quickly to the needs of flexibility and providing a relatively high level of social security. Nevertheless this drastic reduction of personnel without sackings was only possible through special labour-policy programmes such as early retirement and part-time models for older employees in a socially acceptable way. And it went hand in hand with an increasing concentration of staff at the large stations, which meant that employees had to accept much longer journeys to work than they previously had. In many cases this also included to moving from eastern to western Germany.

This staff-reduction strategy is very similar the *Austrian Post’s*. Since 1996 there have been several waves of staff reductions, which were mainly achieved by early retirement and special payments to sweeten voluntary redundancies, because 60 per cent of staff had a guarantee of open-ended job tenure. Nevertheless, this development led to an increase in the intensity of work and thereby also of stress. Hermann notes that ‘compared to the post-office workers, the main difference to the workers in the post-office partners is certainly security of employment. As workers in very small and largely economically threatened businesses, the workers in the post-office partners certainly have far less job security (apart from those employed by a local authority)’ (Hermann & Schönauer, 2007: 5).

There are also cases in which restructuring was not followed by staff reductions. For example at *PCC* in Sweden, there have been big changes and reduction in employment at

least over recent years, but nevertheless there has generally been a small increase in overall staff numbers. This implies that the restructuring process (centralisation of call-centre services in an in-house department) has gone fairly smoothly and that the reduction of staff in one department was followed by increasing employment in another, e.g. the call centre. Looking at *Citylife* in Austria, the outsourcing of call-centre work was not followed by staff reduction in the parent company either. The outsourcing was followed by a creation of new jobs at the call-centre subcontractor. Nevertheless, it has to be mentioned that the quality of these newly created jobs is not comparable to the quality of the existing public-sector jobs. This also applies to other cases, such as the *DVLA* in Italy. Most employment in the public sector is characterised by high job security, which means open ended tenure, and – in some cases – comparably high wages. In some countries, like Sweden, the price of high job security in the public sector is a relatively low wage level. Public-sector jobs are more often full time, compared to work for subcontractors, which is often part time and precarious employment. It is also characteristic that these precarious positions have a high turnover. This problem is also mentioned in the case of the *NEA* in Bulgaria, where highly qualified staff tend to leave the organisation because of low wages. At *Intermed*, the national employment agency in Hungary, the situation is complementary. Due to the hardly marketable knowledge people acquire at the organisation, employees have rather limited chances of finding another job, according to Makó *et al.* (Makó, Illéssy & Csizmadia, 2007b).

Looking at gender composition at organisations, customer service is over-proportionally dominated by women in white-collar positions, compared to other business functions. For example in the organisations which underwent outsourcing of telephone service (like the *DVLA* in Italy or *Citylife* in Austria), 60 per cent to 70 per cent of call-centre agents are women. This gender composition has not changed as a result of restructuring. Because of the fact that customer service is generally dominated by women, it makes no difference whether it is organised in-house or outsourced. This accords with the Swedish example *PCC*, which founded in-house call centres and also has a 90 per cent proportion of women among agents. Comparably low wages, flexible working hours and communication work in customer services are characteristics of traditionally female-dominated sectors, which is also true of most customer-service occupations. At the National Employment Agency (*NEA*) in Bulgaria, about 70 per cent to 90 per cent of staff are women. Jeleva notes that ‘men are those who tend to leave the structures more often’ and she cites an interview partner: ‘We often talk to each other as colleagues that it’s difficult for men to take all the pressure, the heavy workload and work as performers. Besides, the remuneration is not that attractive. This is why, they do not really remain with us. That’s the main reason’ (Jeleva, 2007: 14). This shows that women are more likely to cope with tough conditions of customer service work than men. Gender distribution also shows that although women make up the majority of customer-service employees, their superiors and managers are more often men than women.

Looking at restructuring of Post services, employment structures at traditional state departments appear to be somewhat different. At the *Austrian Post*, for example, only 30 per cent of the staff are women. In the case of the newly founded post partners, the situation is very varied. ‘Inasmuch as it concerns grocery and retail outlets’, Hermann and Schönauer assume, that there exists ‘an above average ratio of women’ (Hermann & Schönauer, 2007: 7). The case of *German Railways* also shows that the restructuring (founding of subsidiaries for certain services) causes an increase in the number of female em-

ployees, which also changed the culture of the enterprise, both outwardly and inwardly. In the whole concern there are about 20 *per cent* of female employees. But there are considerable variations according to the subsidiary company and area of work. 'While the men continue to dominate in the technical vocations, women have expanded strongly into the service orientated sectors', explains Dunkel (2007: 7).

One of the most obvious results of the restructuring is the high degree of fragmentation of employment with respect to status, wages, intensity of work, degree of (involuntary) working-time flexibility, and job security for example. Due to the restructuring, not only have the number of employees but also forms of contracts and the way in which organisations seek to gain contractual flexibility changed. In general, employment contracts have become looser and more flexible, and employers are trying to recruit flexible staff who can deal with changing workloads and regional transfers. Not only do subcontracting companies increasingly tend to use these more loose and flexible forms of contracts, but so do organisations that have undergone restructuring; this also applies to fully owned subsidiaries.

In the case of the *Greek Post* and its subsidiary for courier services, factors such as the inherent race for punctual delivery and the customer-driven nature of the service caused sharp variations in the volume of work and a need for extended working hours. This led to shift-work as well as to extensive use of overtime. Additionally, due to these variations in the volume of work, but also due to inefficient and, as interviewees described it, politically manipulated management, there is extensive use of seasonal workers (about 80) and of temporary agency workers (between 250 and 300), who form the majority of the workforce. The *Greek Post* is a good example of worse employment conditions at the subsidiary going along with work intensification at the parent company. Referring to Wickham (2005) Gavroglou notes that this 'enhances the hypothesis (...) that the insecurity of the periphery that may have initially sheltered the core tends to gradually creep into the core as well: the working conditions of the peripheral workers begin to act as a benchmark for the core workers who feel increasingly pressured to accept a worsening of their working conditions' (Gavroglou, 2007c: 15). This is very similar to what employee representatives experienced at *Citylife*. A representative of the works council fears that older, highly educated employees are becoming too expensive and will be paid off with a 'golden handshake'.

At *Swedish Post* the restrictions that the unions enforced on working hours for the core workforce had a similar effect: employers started to use a more flexible workforce from employment agencies. A major change also occurred when the Post became a state-owned company instead of a public utility. This also meant a transfer from the sector agreement for state employees to the sector agreement for private-service employees. Nevertheless, the formal and rather stable contracts have led to an increase in using subcontractors and employment agencies in some parts of the customer service – especially in the contact centres (Tengblad & Sternälv, 2007c: 10).

Cases of call-centre outsourcing, such as the *DVLA* in Italy and *Citylife* in Austria, show that employment contracts at subcontractors are mostly fixed-term or even freelance contracts, which have very low employment security, lower salary and negative effects on individual social security (*e.g.* in the case of illness or unemployment), compared to the contracts for employees in in-house departments. This situation mainly concerns women, because, as most case studies show, they form the majority of call-centre agents. An interesting point is that in two organisations there are tendencies to reverse this development.

At the *DVLA*, the employers have recognised that these precarious employment conditions also have an adverse effect on other parts of the organisation. Piersanti notes that the precarious state of many call-centre workers has led those employers who had taken the option to outsource to assess the feasibility of stabilising their operators in future by insourcing the call centre (Piersanti, 2007). This would bring about greater job security and would allow the *DVLA* to work with partners that would not place the brunt of the burden exclusively on the workforce. At *Citylife* in Austria, social insurance organisations and unions put subcontracting call centres under pressure to change employment contracts, because they argue that companies are trying to circumvent social-security contributions by employing their agents as pseudo freelancers. This led to *Citylife*, like many other call centres in Austria, deciding to give their agents standard employment contracts within the following months. Of course, they may still be low-paid workers on fix-term contracts, if no longer freelance (Schönauer, 2007). Similar to the development at the *Greek Post*, the outsourcing in the case of *Citylife* also affected employees at the source company. For them, tasks became more standardised and customer oriented and surveillance increased. These changes are to a large extent influenced by the introduction of new forms of information and communication technologies and service-level agreements. Employees at the *NEA* (National Employment Agency) in Bulgaria also had similar experiences. A Bulgarian interviewee said: *'The correspondence is being scanned in the Centre, in particular. You could always see the particular person, the date when he or she wrote to us; you could see the respective opinion we asked from the territorial office; you could also see that they replied to us and that we replied in return to the specific claim. I have dates and numbers accessible at any time. I can trace them back to 2004.'* (Jeleva, 2007: 15).

There are a few examples of companies where a form of staff transfer took place. *Dutch Telecom* is one of the rare examples where a real formal transfer of employees from one company to another could be observed. Trommel and others explain that in this case 'the transfer to a call centre like CSN has enlarged the opportunities for careering as a contact agent, as the range of jobs at different skill-levels has become much wider' (Trommel, Bannink & Hoogenboom, 2007). Workers kept their permanent position, but the transfer implied a substantial wage reduction, though a complex system of temporary provisions was introduced to mitigate the effects of the transition. The authors add that staff of the private call-centre partner have not shown much interest in upward mobility thus far. One explanation for this can be deduced from the Austrian case, *Citylife*, where most of employees do not consider their work as a career, but as an opportunity to provide some extra income for a limited period (Schönauer, 2007).

In addition to newly recruited staff, *Customer*, a British public-private partnership for government services, introduced a secondment model for staff transfer. This means that staff were physically transferred but kept the contract with the seconding organisation. This was the alternative to a real transfer of employees, which seemed to overstrain the new organisation, and which would not have been easily accepted by unions and staff. At the beginning of the partnership they lacked the legal expertise to go through with a real transfer, and the secondment model was a good compromise. Nevertheless, employment conditions for transferred staff changed. For example, some found that their individual hours flexibility was reduced. Much stricter time schedules and work on Saturdays reduced their individual leeway for planning. An agent at *Customer* says: *'Flexi working is quite a modern thing, whereas you feel as if you're going backwards, don't you?'* (Dahlmann, 2007c: 6). This shows that increasing flexibility, which is one of the most important aims

of restructuring, is mostly very one-sided and that employees rarely gain any advantage from it of it. Dahlmann explains that 'the secondment model will not be sustainable for the long term: *Customer* has been created as a limited company with the strategy of generating income, a workforce on 'generous' public-sector terms and conditions is seen as not fitting with this strategy where plans may include to have a more flexible workforce or introduce more standardised mechanisms of workflow' (Dahlmann, 2007c: 9). Union officers welcomed the secondment model as an alternative to outsourcing, but in the meantime they feel that it will only offer a short-term safeguard. The secondment model has put transferred staff in a more precarious situation for the future. Union officers fear that downsizing might be more likely now and due to the fact that *Customer* acts as private-public entity, it is uncertain how they will treat the workforce in the long term.

Something very similar to this secondment model can be observed in the case of the *Greek Post*. In this case, 250 employees of the parent company were transferred voluntarily to the subsidiary in order to kick-start the operations there. 98 of them stayed there, but carried on working under a contract for the parent company. This contract differs from the contract of the 120 regular employees, and transferred staff are privileged especially with regard to wages. Looking at career paths there are big differences between the parent company and the subsidiary. The parent company, *Greek Post*, offers clearly delineated career paths, in which promotions are based on a specific set of criteria (years of service, performance, training). At the subsidiary, however, promotions are based mostly on supervisors' discretion. Very top positions are often filled through the external market (or political-clientilistic appointment). Gavroglou explains that for most regular workers at the subsidiary the goal is to transfer to the parent company one day (Gavroglou, 2007c: 5).

At *Swedish Post* most employees from closed post offices were transferred within the company. Some were able to get jobs in the previously established call centres that were under development. A specific agreement on redundancies was signed and a redeployment organisation was set up. Tengblad and Sternälv argue that all in all this led to an increase in employees and that 'recruitments have been made among those redundant when closing down the general post offices. External recruitment has mainly been used for special functions and on management levels' (Tengblad & Sternälv, 2007c: 11).

In the Belgian case, *EWA* internal mobility also increased; this was due to the centralisation within the organisation. 'Several *EWA* employees are detached from their original administration, after a procedure of internal candidature and selection, but they keep some formal administrative link with their department of origin', explain Devos and Valenduc (2007: 16). Trade union representatives confess that they have very little influence on internal mobility. They complain that internal mobility is a matter of authority, in which political influence from the minister is very common. Employees who have been transferred somehow have an exceptional position. Due to their direct dependency on the cabinet office of the prime minister, they have become more assimilated into cabinet personnel than into administrative staff. They receive a cabinet bonus, are no longer subject to working time registration, and have various qualitative or quantitative arrangements as compensation for the status they had before. They are required to offer extended hours flexibility, but they can also use it for their own interest, e.g. they can telework from home one or two days a week, unlike other civil servants.

The case studies dealing with the outsourcing of call-centre services, show that students are an important target group for recruiting, because they are an important supplier of flexible labour. As a result, in most cases establishments are located in or near cities

with large student populations. *Citylife* especially shows that this target group for recruitment has gained its importance mostly due to the outsourcing and the requirements for flexibility. The *DVLA* and *Citylife* have in common that they were staffed by external operators right from the beginning, so there was no staff transfer from the source to the destination company. Political strategies are often aimed at setting up call centres in remote or job-crisis areas, where they are used as job creators, as can be seen in the Swedish case of police contact centres (*PCC*) in the Stockholm archipelago. Recruitment has been made externally, especially among the island population, but there was also some relocation of staff within the organisation. Tengblad (2007) adds that nationwide there have been some problems getting internal recruitment due to the shift in location and the need for geographical mobility. In this case the public debates were more about better public service through contact centres and about creating new jobs in remote areas and less about the 'breaking down' of the investigation process by separating the reporting and information from the following police activities.

PCC and *Customer* are two examples of newly recruited and transferred staff working at the same workplace. This contrasts with the *DVLA* and *Citylife*, where there is hardly any personal contact between newly recruited and existing staff. This form of organisation also influences the kind of categories of workers an organisation trains. At *Customer* there are mostly generic agents, who are not specialised and work on the telephone or in web-support functions, but may also be involved in face-to-face work or other administrative support, which involves calling back customers. The *DVLA* and *Citylife*, on the other hand, have introduced a clear separation of staff: some work in the back office and in the face-to-face support, some in the call centre. In these cases – internal as well as external – labour markets are completely separate and mobility between organisations is non-existent. Because of this, human-resource managements act totally independently. Councils offer long career trajectories, which involve significant rises of wages, while call centres offer hardly any possibilities for internal promotion. They have no multi-level hierarchies nor are they really interested in engaging staff over a longer period of time. In most cases, call-centre work is seen as a transitional work, by employers as well as by employees – even though often it is not. The exceptions are the two call-centre case studies in Sweden. In the police force, unions consider call-centre work as a career option and call-centre work in the post office is characterised by ongoing specialisation.

7.5 Changes of work organisation

The dominant trends in restructuring that can be shown in most of the case studies, have been standardisation and intensification of work regimes. Standardisation in this context is meant as codification of knowledge and regulation of what has to be done and how it has to be done in customer service. A common feature of the customer service researched is that it is repetitive work, 'customer – customer – customer', that the service is generally about providing information and that customers are normally not known personally. Typically (possibly with exceptions in the cases of employment agencies), there are no re-

relationships but only encounters (Gutek, 1995) between front-line workers and their customers.⁷

On the other hand there are big differences regarding the average duration and the intensity of customer contacts. At one end of this continuum one finds very short (just a few seconds) and highly standardised call services such as the information delivery on telephone numbers (*Dutch Telecom*), which are nearly free from being confronted with the customer's personal problems. At the other end (e.g. the travel advisors at *German Railways*, who sometimes have customer contacts of 30 to 40 minutes length) one finds customer contacts that have elements of consultation and therefore require more time and a complex transaction between front-line workers and customers. In between there are many cases (telephone as well as face-to-face services) of varying durations of customer contacts of a few minutes or so.

There are also differences in the variability of customer needs front-line workers have to deal with (and sometimes are happy about the fact, that – despite the highly standardised nature of their job – customers are human and therefore individualistic beings) as well as in the stressful moments customer contacts might entail: comforting people who are upset may be a recurring demand of interactive service work, for example for the employees of the Swedish police contact centre (*PCC*), who have to do with people who have been victims of crimes and wish to report their experiences. Other examples are the service points of the *German Railways*, which have been installed in the larger train stations as lightning rods for customers' anger. The main problem employees of the service points have to come to terms with are angry travellers who hold the service-point employee personally responsible for a problem (frequently for a train delay) and attack them. Staff therefore have to be resilient.

A common problem for employees in customer service, besides high work load, work intensification and strenuous customers, is a working situation in which employees are somewhat tied to the workplace and with few opportunities to avoid customer contact. An example of the lack of such opportunities is the introduction of auto-dialling in the *Dutch Telecom* call centre, which minimised operators' self-regulating abilities. A contrasting example for resources of self control from *German Railways* case study is the possibility to change from the service point to the mobile platform service. Here staff can regulate customer contact more for themselves. They not only react but can act themselves, move around and take a break once in a while. *German Railways'* management's attempt to fix the work at the service point and the mobile service in the shift plan broke down in face of the employees' resistance. They did not want to relinquish an important means of deciding for themselves when enough is enough – this can be coordinated between colleagues (they decide ad hoc who works for how long at the service point and who works for how long on the mobile service).

The front-line worker's contact with clients as the people who are getting a service is at the core of customer service. But other totally different customers along the value chain also have to be considered. Institutions play the role of the customer in various respects. First, there is the parent company, which has outsourced special functions to another

⁷ *Encounters* are typically characterised by service giver and customer meeting just once and as a rule being unknown to one another (for instance on the railway or through a call centre). In contrast to this, with *relationships* both parties meet a number of times and thus get to know one another.

company or unit and is interested in having the functions fulfilled as cheaply and as effectively as possible. In this way the parent company is the client of the service company – and it might be a very powerful client, who is able to specify what has to be done and under what conditions. Second, there are other companies the service company does business with. In the case of *German Railways*, one of the major restructurings has been the dividing of the value chain into an increasing number of smaller companies which relate to each other as suppliers of services: *DB Station & Service* receives a certain fee for each train operated by *DB Long-Distance Traffic*, by *DB Regio* or by a private rail company that stops at the station. It provides extra services for its customers (as for example mobility services on the platform) and leases space in the station to different types of business, for instance to *DB Sales*. For its part, *DB Sales* provides services for *DB Long-Distance Traffic etc.* and receives commission for every ticket sold and so on and so forth.

For the employees, the division of the *German Railways* into separate enterprises has its consequences: formally speaking the employees of the companies have nothing to do with each other. Nonetheless, they are highly dependent on one another if they want to work successfully. Formal channels of cooperation between the enterprises often have limits. It is good to have informal contacts. It is the old, supposedly out-of-date structures of the Federal Railway (before 1994) and the personal cooperative relationships between the railwaymen, which grew up then, that provide a solving mechanism, especially if more complex problems have to be dealt with or if things have to be done quickly; it can circumvent both hierarchy and market: the mechanism of loyalty between former colleagues.

In the interest of a flexible use of manpower, front-line workers are expected to be interchangeable; all the employees working at the front should serve in a similar way and should be able to fulfil all the required tasks. This striving for functional flexibility can be seen in all case studies. To make this possible there is standardisation, often also some kind of specialisation of units and technical control to keep the tasks simple and to reduce the possibility of mistakes; there are contracts between the companies as parts of the value chain that specify what services have to be delivered, what quality is expected and what the prices are. A relatively low level of formal skills is required, so a short training is enough to enable staff to do their jobs. In this way, service quality in the sense of ‘one face to the customer’ might be gained. However, there is also the danger of ignoring the great importance of social competencies and of acting autonomously if individual customer needs have to be met.

Control of the labour process is not only exerted by technical control, standardisation and contractual specifications. There is still the old-fashioned way of direct managerial control by line managers and the like. These have to ensure that the staff are following the rules, but also serve as a resource for the front-line-workers if they need help or if customers want to talk to the manager.

Regarding working hours, there is usually only a low level of flexitime. In the public-administration cases there is a somewhat surprising stability of working hours. Opening hours of the various contact centres are restricted to the traditional nine-to-five day, as are the employees’ working hours. Obviously, public-sector employment regulations have been strong enough to withstand changes that might be more favourable for customers, i.e. longer opening hours. But these working regulations have remained inflexible not only in terms of accessibility for customers, but also in terms of flexibility for employees.

In some cases, options for part-time work or flexible working hours are still not hardly existent or non-existent.

But there have also been changes. The newly established jobs in call centres outside the public sector and its labour regulations show quite similar employment conditions to those in the private sector. Furthermore, seemingly minor changes in working time regulations are spreading: working one hour longer without being paid for it (*German Railways*), working at weekends (*UK Customer*), and overtime work as a rule (*Greek Post*). And there are, after all, also possibilities for time flexibility in the hands of the employees. At *Dutch Telecom* part-time work and flexible working hours are welcome (but also necessary, because the call-centre work with its short term repetitiveness is so strenuous that nobody can do it eight hours in a row) and at the small *post partners* in Austria and Sweden there are autonomous (but possibly also quite long) working hours, familiar in the work of the self-employed. It is important to note that one of the major motives for the Post restructuring in Sweden was not just to increase its service points but also use service points with more customer-operated opening hours (like filling stations and the supermarket chain 7/11).

Finally, flexibility in terms of mobility under specific conditions is of major importance for the front-line workers. In the case of *German Railways* very important processes of restructuring have seen a dramatic reduction in personnel and an even more dramatic relocation of job opportunities from the east to the west as well as from small to big cities. Thus workers have had to leave their hometowns and follow the jobs; the vast majority of the actual service-point staff who were analysed in the case study had to do this. In the Swedish case of the police contact centres, it has been the other way round: in order to bring jobs to regions with high unemployment rates the jobs came to the people, not the people to the jobs.

7.6 Skills, knowledge and learning

‘To work as a call centre operator’, female respondents highlighted, ‘you don’t need to have specific or professional qualifications, because the work carried out by a call-centre operator is linked to experience, practice and knowledge acquired over time’ (Piersanti, 2007: 13).

As stated in section 7.5, the customer service work portrayed in the case studies is about giving information to customers who are often personally not known. An additional common feature of the work situations covered by the case studies is the great importance of ICT, which not only helps to standardise processes and to monitor them (and in this way control the workers’ performance), but also constitutes common knowledge that front-line workers can use in their transactions with the customers. Therefore there is not only deskilling but also the facilitating of work. The Dutch case study is a nice example of these ambivalent consequences (cf. Kerst & Holtgrewe, 2002) of restructuring information services through outsourcing and establishing call centres:

‘Two contrasting tendencies have been observed. On the one hand much effort is put in technologies that ‘automate’ the communicative aspects of transactions. That is, in the area of simple inbound-activities, deskilling is a relevant trend, as scripts increasingly determine the actions of the agent while informal conversation with clients is pushed to a minimum. On the other hand, CSN [note: insourced call centre provider] is quite active in

raising quality standards and developing new and more complex contact work. These activities involve a process of up-skilling in different directions. First, due to increased activity in the area of marketing, cross- and up-selling, agents have to improve their commercial skills. Second, the demand for high-level communicative skills is rising, as agents are expected to develop into 'advisors' who explore and understand the life-world of their clients and pro-actively inform them on a wide range of topics. Third, this change also implies that interactive IT-skills become more relevant.' (Trommel, Bannink & Hoogenboom, 2007: 18).

Looking at the various customer-service case studies, the tendencies of the Dutch case as well as additional characteristics can be identified that seem to be typical of the kind of informational service work at the core of the front-line work analysed by the case studies:

First, formal skills and therefore formal qualifications are mostly of minor or even no importance. In the case of *Citylife*, for example, the formal skill structure of the call centre agents is quite heterogeneous. An important group of agents are students or other young people in secondary education or a phase of orientation about their intended careers. There is also a big group of agents, especially women, who do the job in addition to caring responsibilities. Another increasing group are older employees who entered the job after they had to leave another job in the field of customer contact or entered the job after a longer period of unemployment. Many agents have a higher educational level than the actual content of work demands. What counts at the call centre are the actual skills of employees, which are verified during an initial training phase.

Second, most critical for a successful performance of front line service work seem to be social skills and adaptability to variable customer contacts. Although customer-service work to a high degree is conducted on strict instructions about procedures and therefore highly standardized, acting flexibly in the service interaction is also a necessity. Skills of this kind often are understood not as the product of training but as a more or less given personal trait or as a consequence of practice and experience, which is gained over a period of time doing the service work.

Third, looking closer at the work practices it also becomes clear that the skills necessary for high quality working may be not so obvious at first sight. In the *Greek Post* the author tries to grasp this level of skills as 'tacit skills': 'work is highly standardised. However, the tasks of couriers involve important tacit skills: being a driver of a truck in a traffic-congested city, making 50 delivery stops without the benefit of a co-driver (to park or tend to the stopped truck) while being continuously contacted over the mobile phone for picking up parcels is a job requiring more skills than driving.' (Gavroglou, 2007b: 11).

Fourth, what is of increasing importance throughout the various cases under study are general skills in handling computers, handling customers and coping with high workloads, high pressure and repetitiveness. The use of ICT tools (software scripts in call centres, internet-supported documentation in contact offices, online e-government services) strongly fosters codification of knowledge and displaces the skills requirements from 'content-related' skills (increasingly codified) to communication skills and other 'soft' skills (tacit skills). This applies not only to call-centre work but also to face-to-face customer-service work.

Fifth, an additional 'skill' of high general importance is the ability to cope with the specific strains of the customer service. At *German Railways*, for example, the service personnel must be able to keep up general friendliness and preparedness to provide adequate service for customers, who behave in an angry or even hostile way (see section 7.5). In

call-centre work, problems of difficult customers may also arise, but there the problem of coming to terms with monotonous work and with the pressure to work fast seems to be most urgent.

How do the companies try to meet the skill profile of informational customer-service work that we have now briefly outlined? What are they doing in terms of training?

Since formal qualifications are generally quite unimportant and knowledge about customers and about the information for the customers is increasingly technically archived and retrievable by means of ICT, much of the training is focused on learning to interact with customers as smoothly and effectively as possible. The main training is therefore in social skills as well as technical skills. At *Customer*, for example, 'seconded staff underwent a training programme focusing on customer service which at that stage seemed to be more important than official qualifications. For transferred staff it was crucial to learn 'a new culture of customer service and understanding CUSTOMER's public access vision'. (Dahlmann, 2007c: 14). In addition, learning involved the use of new technology to handle telephone and e-mail enquiries.' Recruiting is also oriented on social and technical skills, for example in the *DVLA* case: 'The following criteria are those recruiters generally consider: good spoken language skills, the ability to use the phone as a means of communication as well as previous experience (employment at other call centres) and technical and IT skills (knowledge of computer software)' (Piersanti, 2007: 13).

Service companies especially have tried to enhance a generalised service attitude among front-line staff, which is intended shape interactive service work in a way customers were not particularly familiar with in the old days, when they were confronted with civil servants infamous for their lack of service attitude. Whereas the training of service attitudes have been quite successful, it still seems to be difficult to re-educate public-service people to become powerful salespeople, which is a more recent trend in some of the cases. In most cases majority of customer-service staff are female or female staff have acquired increased importance in the process of restructuring. Taking *German Railways* as an example, the restructuring can be summarised as follows: In comparison with the times before the railway reform a very much smaller number of increasingly female employees perform a noticeably more customer-orientated service.

Besides training organised by the company, continuous learning from experienced colleagues or team leaders as well as learning by doing are mentioned in several case studies as sources of gaining the appropriate skills to master the demands of front-line service work. In some cases (*Intermed* for example) these forms of learning have been the only possibilities to adapt to new challenges, because companies failed to offer training opportunities to their employees. In other cases the combination of short training periods and support by colleagues as well as by ICT seems to be sufficient for the front-line workers to feel secure in their daily work. An example for this is the *Austrian Post*: 'The specific expertise is either provided in the framework of the courses organised by the post office or by internal training through experienced colleagues some of whom were trained by the post. Despite the comparatively brief period of introductory training, the workers concerned found it sufficient. Information can be looked up at any time in the electronic handbook and in case of doubt there is always the support.' (Hermann & Schönauer, 2007: 11). Another example for training activities is *PCC*: 'The general skill demands for the work as operator is more on a personal level – service attitudes and social competence. (...) The necessary basic competence for the tasks was given through introductory train-

ing for four weeks combined with two weeks of practice under supervision' (Tengblad, 2007: 9).

7.7 Industrial relations & regulations

In general there is a high level of collective representation in the public sector. In most cases, unions were involved in the process of restructuring and were able to act for their interests. Because of these relative successes, negotiations appear somehow consensual, but they have not always been so. Although unions have been involved in processes of restructuring, pressure on the works council to agree to management plans has increased. The *Austrian Post* is an example where employees' participation is not in question – about 80 per cent of post office workers are union members – but, as Hermann and Schönauer note, 'the role of the works council is increasingly limited to getting the best deal possible for the staff out of a given situation. In the long term, the pressure on the high level of job security that post-office staff still enjoy will rise.' (Hermann & Schönauer, 2007: 13). Post partner companies are not represented by the post-office trade union. Most of them are workers in a retail business, so they are represented by the Union of Private Employees. Because unions have major difficulties in organising these workers, it must be assumed that only a very limited number of post-office-partner staff are trade union members or are represented by a works council. This assumption of low union memberships at Post partners is not true for the majority of the *Swedish Post* partners. They might be lower than in the postal unions, but not as dramatically as in Austria.

At *German Railways* the central topic of negotiation is job security. Thanks to the Employment Security Collective Agreement, job security is a given for the present, but after 2010 this will be precarious. Employees' representatives have been able to assert their interests in many fields but there have also been some disappointments, for example regarding pay. Dunkel notes that 'the price for collective agreement on the restructuring process appears to be that not only a drastic reduction of jobs was accepted, but also that the employees' representatives and the rail unions are pinned down to the position of co-managers.' (Dunkel, 2007: 13). Although the level of unionisation among employees was estimated to be decreasing, it still is relatively high at 70 per cent to 80 per cent. A comparable collective agreement also exists at *NEA* in Bulgaria. Jeleva explains that 'The CLA that is currently in force has a provision, according to which the NEA may not, in case of cutting down the staff, terminate its legal labour relationship with a trade union member without the consent of the respective trade union organisation' (Jeleva, 2007: 21).

At *Greek Post*, workers at the newly founded subsidiary used to belong to an independent union of their own, which was not affiliated to the national confederation of postal workers. A year ago they affiliated to the confederation, which can be interpreted as an attempt towards harmonisation, but seasonal workers and temporary agency workers are still not represented by any union. The continuing wage gap between the parent company and the subsidiary is an important negotiating issue. Since the two companies are covered by the same union, efforts to limit this difference are reasonable. Another union's demand is to increase staffing levels and to hire more regular than seasonal and temporary agency workers.

Employment contracts also are issues of negotiation at the *Swedish Post*, although this is an example of a very effective dialogue in the organisation. Management tries to involve

all personnel, there is early consultation with the union representatives, and there is a re-deployment organisation for those made redundant. The social dialogue is based on written local agreements and trust between the central players. The conflicting point nevertheless is 'the wish from the employer for more flexible contracts – more part-time and on-demand jobs. But this is firmly rejected by the unions. This in turn is linked to a general debate in Sweden on the need, especially for women to go from part-time to full time jobs' (Tengblad & Sternälv, 2007c: 17).

Compared to 'parent' organisations, units under restructuring have a much lower trade union density. Precarious forms of employment, which are also more common after restructuring, have an indirect and direct effect on the ability to stand up for one's rights. The Italian case, the *DVLA*, shows that people in precarious forms of employment are not keen on standing up for their rights or joining trade unions. 'The "personalisation of malaise" tends to concentrate in more contingent coalitions and ad hoc topics' (Piersanti, 2007: 14). One reason for this is the transitory character of these jobs and that precarious employees are still an under-represented part of workforce in unions. At the *DVLA* there are two trade union organisations within the call centre, one for employees and the other for precarious workers. The aim of both unions is to eliminate contractual differences. In the Austrian case, *Citylife* quasi freelancers are not represented by any union, are not entitled to elect a works council, and nor are they covered by any collective agreement.

An exceptional example of very high union density (about 90 per cent) in an externalised unit is the Swedish *PCC*. The establishment of the first three call centres was built up with the support of the unions of the administrative employees as well as the police union. 'This is because call centres are seen as an alternative career path for administrative employees and there have not been defined any redundancies as effects of the establishment of the centres', says Tengblad (2007: 5-6). There is also a very high degree of interest representation at call-centre level. Every team has a union workplace representative and an Occupational Health and Safety Representative. Regular workplace meetings guarantee that employees participate in planning their work.

Case studies show that outsourcing parts of customer service is often a way of circumventing standard employment contracts. For example, at *Citylife* in Austria the subcontracting call-centre provider employs cheap quasi-freelancers, which is a strategy the city council could never adopt. This is a general threat to the social security system and leads to the erosion of standard employment contracts. Additionally, it puts employees at the parent companies under pressure. In the Austrian case, social insurance bodies and unions have already realised this danger and are taking legal action to try to force employers to give their agents standard contracts. This has already been successful. Call centres in Austria are increasingly changing their employment practice. In reaction, some employers have threatened unions with the relocation of call centres to other countries, but unions are not taking this very seriously, as there have not been any examples of this so far. *Citylife* has also decided to change contracts into normal unlimited contracts in the coming months, and the management has announced that a works council is to be set up. It is questionable what could be expected from this top-down initiative (Schönauer, 2007: 13). Additionally, Austrian unions have succeeded in fighting for a slightly more social security for quasi freelancers. From 2008 they are going to be covered by unemployment insurance and a pay insurance in case of insolvency.

Looking at outsourcing and its implications on collective agreements, it can be seen that, after restructuring, many organisations are no longer covered by the same collective

agreement. In the case of *Swedish Post* for example, service partners and their employees follow the agreements for the trade sector between the Swedish Trade Federation and the Union of Commercial Employees. Looking at collective agreements, call centres are a special case, because in none of the organisations representing restructuring in the field of telephone services are call centres covered by their own industry-wide collective agreement. Consequently, industrial relations for call centre workers have so far been regulated, among others, by telecommunication, retail and postal industry-wide agreements. Nevertheless, unions aim to organise call-centre agents as a separate group of employees, like those at the *DVLA* in Italy.

The Dutch case on outsourced call centres of the *Dutch Telecom* also shows that outsourcing, which was originally planned to be an escape from the obligations of collective agreements, may not automatically be successful in this regard. The restructuring finally ended in an insourcing, because 'customer-relationship management is seen as a strategically interesting business for a telecom provider and (...) some of the outsourced services involve strategic risks (such as serious damage to corporate identity and image)', say Trommel et. al (Trommel, Bannink & Hoogenboom, 2007: 22). Due to this, all firms have the same owner again and are operating under one single collective agreement. Nevertheless, temporary work contracts are much more common in the insourced part than in the traditional in-house parts, so restructuring has weakened employment conditions although the subcontractor was finally insourced. At the moment, the unions' function increasingly is to defend and to justify wages, while - union representatives complain - the organisation would like to claim that its contact centres are operating on a higher level of quality. Evidently, *Dutch Telecom* 'wants to profit from relative[ly] cheap provisions for handling client contact. (...) a labour unionist has put it: 'They want a wage freeze because of presumed lack of quality, but at the same time they stick to the image that CSN is much more than just a call-factory' (*ibid.*, 20-21). Regarding the development of call centres in the Netherlands, one fear has always been that traditions in the area of collective bargaining, legal minimum wages and healthy work conditions would be put under pressure. Thus far, however, these effects have hardly occurred. One major reason might be, as Trommel *et al.* note, that 'flexible labour has a long tradition in the Dutch labour market and has become a regular, well-regulated phenomenon' (*ibid.*).

An interesting example of European regulation is the legal framework TUPE ('Transfer of Undertakings (Protection of Employment) Regulations') which lays down conditions governing the transfer of personnel from one employer to another. This regulation was directly relevant to the British *Customer* case. Due to the very high standards laid down in this regulation, management decided not to transfer staff completely but to introduce a secondment model, which rendered these regulations irrelevant and thereby reduced the likelihood of opposition from the staff and their trade union. 'It does not appear that the secondment model was chosen to deliberately circumvent a TUPE transfer', but that the organisation 'simply lacked the legal expertise to go through with it.' (Dahlmann, 2007c: 5). This has now changed, as they have acquired relevant experts and have been involved in other cases where staff were TUPE transferred. This 'softly softly' approach, as Dahlmann describes it, has clearly worked here and the 'secondment' device has minimised opposition from trade unions and staff. Union representatives fear that downsizing might be easier now and explain that it is uncertain how the workforce will be treated in the long run. In the course of restructuring, a joint consultation forum was created. This includes union representatives from all regions involved and it can address mi-

nor policy issues that affect staff. The forum has also been engaged when contractual differences between employees have caused conflicts. 'As a result, differences in pay scales have been resolved, and presumably the same will happen to difference in holiday time.' (ibid., 8). Although unions seem to be very active and there is a union representation in most places, union density is comparably low, it is around 30 per cent.

In the field of public services, political influence often comes into play. At *Citylife*, for example, apart from what is known as new public management, an important reason for increasing customer orientation is customer power within the democratic system. 'The social democrats have the majority of seats on the city council and tenants are potential voters. So it can also be seen as a political decision to orient as much as possible on customer requests' (Schönauer, 2007: 14). Political influence also comes into play in the case of internal mobility at *EWA* in Belgium. Trade union representatives confess that they have very little influence on internal mobility. They complain that it is a matter of authority, in which political influence from the minister is very common (Devos & Valenduc, 2007). The problem might also be that there are hardly any trade union delegates at the lower level in the administrative structure, so there are difficulties in organising any specific interest representation. Political influence on restructuring in the public sector is also seen in the Swedish case on police contact centres (*PCC*), where contact centres were used as an important job creator in remote or job-crisis areas. 'There was originally an initiative from the County Administrative Board on the assignment of the Government to create jobs through co-ordinated public administration in the Archipelago of Stockholm. The Police was one of the few authorities who responded in an active manner. The County Board as well as the Regional Employment Agency and the concerned municipalities took active part in the establishment of the contact centres.' (Tengblad, 2007: 3).

7.8 Summary and Conclusions

Restructuring of customer service is embedded in the context of reorganisation of public services: privatisation of formerly state-owned companies, liberalisation of markets, increasing customer orientation and rising need for efficiency. The forms of restructuring of value chains are various. They include full outsourcing of customer service, public-private partnerships, the founding of subsidiaries for services, which are still part of the parent companies, internal restructuring and centralisation.

The cases representing outsourcing of telephone services to call centres have in common that there was no relocation of an existing department, but outsourcing to external companies. A second and different form of relocation of functions, which could be seen in the cases of postal services, is the outsourcing of a wider range of services accomplished in a face-to-face customer contact. Whereas outsourcing of telephone services coincides with a process of centralisation, outsourcing of face-to-face services leads to decentralisation (many private partners at different locations). Both processes are combined with an advanced technical infrastructure, which allows surveillance of the activities of the private partners. A third form of relocation is 'outsourcing' to customers: This trend towards increasing self service can be understood as customer integration into the value chain. Finally, understanding citizens more and more as customers, service quality has become a value in its own right and in this way has changed the value chain. All three forms of re-

structuring cannot be conceived without the implementation of new forms of information and communication technologies (ICT).

With regard to employment conditions, restructuring was partly followed by an increase of employment and partly by staff reductions. Looking at the gender composition of the workforce, customer service compared to other business functions is over-proportionally dominated by women. One of the most obvious results of the restructuring is the high degree of fragmentation of employment with respect for example to status, wages, intensity of work, degree of (involuntary) working time flexibility, and job security. Due to the restructuring, not only has the number of employees changed, but so have the types of contracts and the way in which organisations seem to gain contractual flexibility. All in all, employment contracts are becoming looser and more flexible and employers are trying to recruit flexible staff who can deal with changing workloads and regional transfers. Various forms of staff transfer were identified: real formal transfer of employees from one company to another, the secondment of staff (i.e. staff were physically transferred but retained the contract with the seconding organisation) and transfer within companies. We see that the insecurity of the periphery workforces is also gradually creeping into the core, and core workforces are feeling increasingly under pressure.

Regarding the organisation of work, the main effects of restructuring have been standardisation and intensification of work regimes. A common feature of the customer service researched is that it is repetitive work, that the service generally is about giving information and that customers normally are not personally known: Typically, there are no relationships but only encounters between front-line workers and their customers. In the interests of a flexible use of manpower front-line workers are expected to be interchangeable; all the employees working at the front are to serve in a similar way and are to be able to fulfil all the required tasks.

Regarding working hours, there is commonly only a low level of flexitime use by employees. In the public administration cases there are stable working hours. Opening hours of the various contact centres are restricted to the traditional nine-to-five day – and so are the employees' working hours. Obviously, employment regulations in the public sector have been strong enough to withstand changes that might be more favourable for customers, i.e. longer opening hours. But there have also been changes. The newly established jobs in call centres outside of the public sector and its labour regulations show quite similar employment conditions to those in the private sector.

Formal skills and therefore formal qualifications are mostly of minor or even no importance. Most critical instead seem to be social skills, adaptability to variable customer contacts, tacit skills, and general skills in handling ICT tools. Also of great importance is the ability to cope with the specific strains of the customer service, e.g. the strain produced by unfriendly or even aggressive customer behaviour. Training in 'business and organisational culture' is also very common.

Training in customer service is predominantly focused on social skills as well as on technical skills. In doing this, service companies especially try to enhance a generalised service attitude of front-line staff. Training activities are complemented by learning from experienced colleagues as well as learning by doing, which seem to be of major importance for the quality of customer-service work.

In general, there is a high level of collective representation in the public sector. In most cases unions have been involved in the process of restructuring and were able to act in their own interests. Compared to 'parent'-organisations, units under restructuring have a

much lower trade union density. Case studies show that outsourcing parts of customer service is often a way of circumventing standard employment contracts. It can be seen that after restructuring organisations are no longer covered by the same collective agreements. Unions have taken legal action to try to force employers to give their agents standard contracts, and in some cases have been successful.

What conclusions can we draw for value-chain restructuring of the 'customer-service' business function? Just like in other business function, many forms of restructuring were found. But some features are specific to the customer-service business function. First, general characteristics of services play an important role: customers may be regarded as part of the value chain, because they are able to add value to the service, the characteristics of service goods like intangibility, perishability and simultaneous production and consumption preclude specific options of restructuring (such as separating time and space of production and consumption of goods) as well as opening options (such as communicating intangible information services via the internet). Second, it makes a difference that part of the services are locally and personally limited: face-to-face customer contacts are localised and the public-administration services are in part exclusively for country citizens. These characteristics set limits on globalisation. Third, it makes a difference that we are dealing with the public sector. This is not only because traditional labour regulations are partly still in effect, but also because restructuring may become a public affair and therefore has to be legitimated politically.

Finally, what are the conclusions for the occupational group of front-line staff in customer service? This group does not have share formal qualifications and therefore does not form an occupational group or even a profession based on vocational or academic education or specific career patterns. On the other hand, it can be described as an occupational group in a broader sense: members share a working situation, which is characterised by direct customer contact (face-to-face or by telephone) and the transaction of informational services. Furthermore the members of the group share employment conditions, which are – although in different ways – influenced by the processes of restructuring typical for the public sector: downsizing, privatising, increased customer orientation, outsourcing. At the same time, traditional high levels of job security in the public sector still plays a role, albeit a diminishing one. Summing up, the front-line service workforce in the public sector may be an occupational group of increasing importance, because service orientation as well as efficiency have recently become criteria of quality not only in the private sector, but also in the public sector. As a result, the business function of customer service and the personnel fulfilling this function became more prominent.

8 Conclusions

JÖRG FLECKER/URSULA HOLTGREWE

The case studies within the WORKS project aim to contribute to a better understanding of the impacts of value chain restructuring on employment and work. For our research questions, a crucial finding is that the position in the value chain, the degree of dependence and the way power operates in supply relations has direct consequences for work and employment. Existing literature on global value chains pointed out that there are different forms of value chain governance and that inter-firm relations involved are often highly dynamic (Gereffi & Korzeniewicz, 1994). However, the aspect of work organisation is rarely covered in the research following the value chain approach.

Research in the field of industrial relations has repeatedly suggested that external restructuring of companies through outsourcing and the reorganisation of the value chain weakens labour and destabilizes institutions of industrial relations. There are two reasons for this: First, outsourcing accelerates tendencies of deregulation and decentralisation of bargaining because suppliers and service providers are less likely to be covered by (sector) collective agreements (Hendrix, Abendroth & Wachtler, 2003). Second, similar to internationalisation and relocation of work, outsourcing options change the power relations between employers and labour and thus put pressure on the core workforce to make concessions regarding their employment conditions (Caprile, 2000; Marginson, 2005; Doellgast & Greer, 2007).

Another prevailing view on supply chains was that subordinated companies, mostly SMEs, help large companies to save costs and reach flexibility and thus have lower wages and unfavourable working conditions (Rainnie, 1991; Semlinger, 1993). Thus, restructuring across the value chain creates segmented labour markets. The traditional view has been that outsourcing and thus segmenting work serves the interest of buffering the core workers, and leaving the peripheral workers with all the disadvantages and risks of cost cutting and flexibility. The assumption was that core and periphery are clearly distinguished according to levels of skills and commitment needed (Atkinson, 1984). More recently labour market segmentation theorists argued that subcontracting 'may be motivated by interests of tapping into different market segments where wages are at a lower level, even though the work still requires commitments and skills' (Rubery, 2006: 9). While subcontractor or supplier companies are usually rightly presented as being in a dependent position with their clients passing on risks and flexibility demands to them, outsourcing can also be seen as part of a larger structural shift in the economy resulting in the emergence of large and powerful service provider and supplier companies (Flecker, 2007). This has consequences for power relations within the value chain. In this perspective, the peripheral workforce of one company, created by way of outsourcing, is the core workforce of another. Thus, even in outsourcing relationships, workers may be integrated into internal labour markets and benefit from employment stability and workers' representation.

Nevertheless, flexibility is a central issue both in inter-firm relations and within the organisation. Organisations increase their flexibility by outsourcing activities to suppliers and service providers and these usually pass on the flexibility demands to their employees. Thus the external flexibility of organisations intensifies the pressure for flexibilisation within service and supplier organisations (Arzbächer, Holtgrewe & Kerst, 2002; Lehndorff & Voss-Dahm, 2005: 293).

Furthermore, given the overall changing dynamic in power relations between employers and labour as a result of outsourcing and restructuring, it is an open question to what extent outsourcing and subcontracting still buffers core workforces and how these are, on the contrary, negatively affected by value chain restructuring. The growing dynamics of value chain restructuring as such certainly leads to increasing insecurity for an ever larger part of the workforce (Huws, 2006).

Overall, the case studies showed that restructuring often deeply affects employment and working conditions. Differences in wages levels and employment regulations between countries, sectors and companies directly impact on employment conditions in the case of value chain restructuring. The research findings also show that contractual relations at the level of the value chain, *e.g.* between the client organisation and the supplier or service provider organisation, have consequences for or even directly shape employment relations and working conditions within the organisations. Moreover, the cases illustrate that the power relations between organisations within the value chain have immediate consequences for labour. The position that an organisation holds is not static, however, and thus a movement along the value chain also impacts on the quality of work-life. In spite of some general findings, the empirical material on different sectors and business functions also reveals great differences in these aspects. Quite diverse logics seem to be at work both regarding the restructuring of value chains and the impacts on work and employment.

In the *clothing industry*, we observed the transformation of former outsourcing destinations, manufacturing and retailing companies in Southern and Eastern Europe into providers of higher value-added functions covering design, co-ordination of production, consulting and/or logistics. In other European countries, the industry has mainly evolved along a path involving considerable job losses accompanied by an upgrading in skills and increasing demands for the remaining workforce. Value chains are becoming longer, so that fragmentation of labour and employment often only becomes visible if we include sites outside the EU in the analysis. Italy and Portugal still seem to be the exceptions where pronounced differentials could be found between the core firms and their local suppliers. Moving up the value chain does not necessarily shift much power to companies who are upgrading their business in Europe. The clothing industry value-chain remains buyer- or, more specifically, market-driven, even when clothing companies are 'verticalising' and moving into retail themselves. The upgrading may also be temporary, if manufacturers outside the EU, faced with their own low-wage competition, pursue a similar upgrading strategy or if (less likely) large retailers take over these functions themselves.

In *software development* the dynamics of outsourcing and relocation is certainly initially driven by differentials in wages and employment conditions. However, offshored or outsourced operations can also move up the value chain of the core firm as a result of their high-level skills and experience gathered in the business. Although management often initially argues that outsourcing and relocation secures employment of the core workforce because the overall 'mixed wages rates' make the company more competitive, the upgrad-

ing of subsidiaries and external service providers in the long run tends to build up pressures on core firms and their workforces. One of the case studies showed the strategy of a market leader in a particular business segment of leaving the adaptation and implementation of software to local firms or independent consultants thus keeping away excessive demands for flexibility and mobility from the core workforce.

In the case studies in the *food industry* we find a variety of forms of value chain restructuring: Outsourcing and subcontracting, insourcing and centralisation, mergers and acquisitions. The engagement in mergers and acquisitions happens for a number of different reasons: logistics and processing companies engage in take-overs to control raw material supply and buy up competitors to secure access to a variety of different markets. In both logistics and production, the centralisation of functions by large multinationals often resulted in redundancies at the local level. Another outcome is standardisation of reporting systems and procedures as well as a formalisation of organisational practices. Additionally the growing attention to customer demands resulted in some cases in work intensification and in demands for more flexible working time arrangements. Some of the flexibility demanded due to time and cost pressures involved in highly concentrated and coordinated global food chains results in the outsourcing of poor working conditions outside of the main production or logistics companies. Some of the worst working conditions are being shifted on to companies in low cost countries or to workers with precarious employment arrangements. For the regular workers remaining in the core companies, restructuring has not resulted in broader, more challenging jobs. The general outcome has been increased standardisation and some flexibility in time use, while sustaining existing wage and overall working time levels. We also see that restructuring and also internationalisation are based on the sector specific traditional segmentation of the workforce along gender and ethnic lines.

The case studies on *IT research and development* focussed on start-up and spin-off companies at the boundaries of university or publicly funded and for-profit research. There are tendencies of commodification and marketisation, and these organisations attempt to become integrated into the value chains of the corporate sector. This leads to long-term, ongoing relations with their customers, who need their services, in part, because they eliminated or outsourced in some cases their own R&D departments. Workers in these small units experience changes brought about by commercialisation, in particular, higher levels of formalisation and, to a certain extent, standardisation of work. In general, the need to be attentive to the market and market pressures are increasing.

In the two cases of set-up or takeover by international IT companies, small R&D companies with special expertise and knowledge are part of the lengthened value chains of their new multinational owners. In both cases, being part of the multinational's value chain implies high levels of dependency (having no direct contact to customers and interfacing mainly with the multinational's headquarters), and affected their product range. However, the units were able to retain a large amount of independence in the operation of their sites and the work organisation of their employees. The units as well as their workers seem to be able to keep their relatively high bargaining power resulting from the expertise knowledge they command. The expected intensification and worsening of working conditions were not found in the cases under investigation.

The outsourcing of IT from the public sector or from public services to *IT service provider companies* often leads to highly contested relationships in which the public organisation aims at limiting the dependence on the external service provider. This seems to result

in rather balanced 'relational' value chains. In one exceptional case the public administration ended up in what could be called a 'reverse captive' value chain relation because it became fully dependent on the private service provider. There is a general tendency, however, that outsourcing IT entails a shift of knowledge from the public organisation to the service provider that in the long run will have effects on the power relations between these organisations. Regarding employment conditions, no big differential were found between the public organisations and the service providers. Rather than different levels of terms and conditions, there are different systems of employment relations. Both a fragmentation of employment and attempts at harmonising diverse conditions for workers doing similar jobs could be found. There are clear indications in this business function that value chain restructuring and the power relations in the value chain have consequences for work and employment: The demand on workers for mobility and working towards service level agreements were the most obvious issues. Although the internal labour market of large service provider companies offers opportunities to the transferred former public sector workers, the possible career prospects have little relevance for them.

In contrast to IT, the business function *customer service* shows big differentials regarding employment and working conditions between the public organisations and the private service providers. The centralisation and externalisation of telephone customer service makes it possible for public employers to circumvent employment regulation and to use new transitory workforces. This could be found also in the case of face-to-face customer service where a decentralisation of the business function takes place. Service level agreements that are implemented to monitor subcontractors impact on working conditions at the subcontractors characterised by high levels of standardisation and direct control. Surprisingly, such tendencies could also be found with the core workforces of the public client organisations. Occupational mobility within call centre companies and between the service providers and public organisations does not play a role: Partly workers showed no interest because they define their job in customer service as temporary; partly mobility is blocked by the strict barriers between the public and private sector organisations and the recruitment and grading rules in the public sector.

Overall, the case study evidence showed that the dynamics of change are much more varied than portrayed in the literature on labour market segmentation and value chain typologies. For one, a simple core-periphery dichotomy or dependency-non-dependency relationship does not always apply. Also, the sectors and business functions seem to be worlds apart regarding value chain relations, differentials in employment conditions and consequences of value chain restructuring on work and employment. There are some general tendencies however we will describe in the following: Fragmentation of employment, standardisation and formalisation of work, the emergence of new functions and work roles, temporal and spatial aspects, and knowledge and skills.

Fragmentation of employment

The blurring of organisational boundaries and the emergence of multiple employment relationships lead to a growing fragmentation of work (cf. Marchington *et al.*, 2005). The restructuring of value chains contributes to this in various ways: Fragmentation of employment can be observed in the case of externalisation of business functions or activities. Here, fragmentation means that different employment relations and conditions apply to

workers carrying out tasks that were previously performed within an organisation and for one employer and thus usually under less diverse employment conditions. Fragmentation of employment may also mean that employment relations become heterogeneous within one organisation. This can be the other side of the coin of externalisation if employment conditions with a service provider depend on the individual project or contract with a client organisation or if workers are taken over from the client organisation and keep their terms and conditions. Often, these forms of fragmentation correspond with segregation along gender and ethnic lines.

The case studies on several business functions and sectors in fact showed such a tendency of fragmentation of employment conditions both between and within firms. In IT services workers, formerly employed under the same contracts, now have different terms and conditions although they sometimes still work within the same organisation doing the same job. The taking over of employees from client companies, which is quite common in this business, often leads to heterogeneity within the workforce of the IT service provider company. In customer services, subsidiaries and external service providers operate under different labour regulation regimes than their public sector parent or client organisations. Here, the differentials are much bigger than in IT services and refer not only to wage levels but also to the type of labour contract, social security coverage, and working hours' arrangements. In software development, external, leased employees work next to full time employees on permanent contracts. In clothing, the fragmentation of employment often only becomes visible at a global scale because low wage work was relocated outside Europe. Only the Italian and the Portuguese cases showed externalisation to subcontractors with considerably lower social standards within the same region. Obviously, big differentials in wage levels and terms and conditions are incentives for outsourcing and relocation. As a rule, companies down the value chain, even within the same country, carry out more standardised tasks under more precarious labour conditions.

The employment at the parcel delivery company set up by a national post company as a subsidiary very well illustrates tendencies of fragmentation accompanying value chain restructuring: 'Currently there are 4 categories of workers in the subsidiary company, beyond 15 managerial staff hired from the external market: 98 employees transferred from the national post (working under a national post contract), 120 regular employees (working under the subsidiary company contract), 80 seasonal employees (working under a 4- or 8-month contract and for the national minimum wage), and 250 to 300 temporary agency workers (hired for a 2-month period which can be renewed up to a total of 18 months)' (Gavroglou, 2007c: 8).

However, there are also limitations to fragmentation and countertendencies could be observed in rare cases. Employment insecurity and personnel turnover for example in external call centre companies may be detrimental to the quality of the service. To reach more continuity a public client organisation in Italy considers insourcing its customer service again. In the German railways different companies were established to deliver the services at railway stations. For lack of coordination between these companies the necessary cooperation is based on informal relations between the workers as former colleagues. This would not work if the workers had other backgrounds. In the business function research and development in the IT industry the high skills of the employees and the highly specialised work they are doing seem to prevent any strategies of fragmentation. Similarly, in IT services the differentials between employment conditions with the public client organisation and the private service providers are rather limited. And there are at-

tempts by IT service provider companies to overcome the internal diversity of terms and conditions that results from the taking over of workers from different customer companies by way of harmonisation of employment relations on a voluntary basis.

In IT services and in customer service new internal labour markets emerge within large service supplier companies that could in principle offer new opportunities to workers. Although such internal labour markets actually exist in some of the cases, partly at an international level, the findings suggest that workers are not necessarily interested in seizing these opportunities. While IT workers with a public service background are put off by the mobility that would be needed, call centre workers often do not seek development opportunities within the organisation because they define their job as transitory.

Apart from marked differences between business functions and sectors the case studies showed clear national variations. The diversity of national employment models in Europe impacts on company strategies to reach flexibility (Schief, 2006) which has consequences for value chain restructuring and its employment outcomes. The case studies in the food industry, for example, showed how companies in different countries reach numerical flexibility in different ways: While the Italian and the Bulgarian companies relied on fixed-term contracts, the Danish slaughterhouse uses standard employment relationships both because of the strong institutionalised industrial relations system and the low degree of employment protection in Denmark. This company however also uses more precarious forms of flexibility in a plant that was set up in Germany and employs Polish workers.

Variation in employment conditions driven by value chain restructuring weaken traditional industrial relations and tend to destabilise labour market institutions. Fragmentation should not only be understood in terms of differentials between core and peripheral or internal and external workers. There is in fact a strong interrelationship which means that externalisation often retroacts on the core workforce. The traditional view was that segmenting work forces along the flexible firm model (Atkinson, 1984) serves the interest of buffering the core workers, and leaving the peripheral workers with all the disadvantages and risks of cost cutting and flexibility. Recently, however, times seem to have changed for core workers in many industries and countries, so that they have to bear more and more of the risks of flexibility themselves (Flecker, 2005). Outsourced activities and the conditions for external work forces may not only provide a benchmark against which core workers are increasingly evaluated, employers may actively seek possibilities to externalise to keep their core workers in check (Ackroyd/Procter 1998, Rubery 2005). In fact, the case study evidence suggests that today value chain restructuring and externalisation only rarely have the effect to buffer core workers. Rather, core workforces are subject to greater pressures for flexibility and work intensification, both when services are externalised to private providers and work is relocated abroad, and also through increased competition between units within the value chain and even within the firm.

Standardisation and formalisation

A wide variety of work organisation forms exists in the business functions and sectors under investigation ranging from project organisation in R&D and software development to repetitive customer service work in call centres and Taylorist production work in the clothing and food industries. Here, we are interested in the consequences of value chain restructuring on work organisation. In many cases the findings show more pronounced specialisation, increasing levels of standardisation and formalisation. In addition to possi-

ble general tendencies not conditional upon value chain restructuring, there are several reasons for this: *First*, value chain restructuring often means a centralisation of activities within an organisation or with a supplier or service provider company. Centralisation makes it possible to establish a more detailed division of labour leading to more specialised work roles. *'We are no longer potatoes'*, the Norwegian IT workers said, meaning that they lost their role as generalists. *Second*, through outsourcing, activities, and sometimes also workers, are transferred to another organisation that is, as a rule, specialised in the kind of service provision required. The procedures in place are the basis of the competitive advantages of these service provider companies. This means that they often have higher levels of standardisation and formalisation of work compared to their client organisations. In manufacturing, suppliers that are often situated in different institutional contexts may offer cost advantages by paying lower wages and putting more pressure on workers using more pronounced Tayloristic forms of work organisation. *Third*, organising work across company boundaries and at a distance makes it necessary to codify knowledge to a larger extent, to describe the tasks in more detail and to more clearly define the interfaces between different activities and tasks. This leads to higher degrees of standardisation and formalisation. *Fourth*, control strategies in outsourcing relationships not only impact on the supplier or service provider companies but also on their workers. Service level agreements, for example, regulate the service in detail and usually also contain contract penalties in case of missed targets. In IT service and in customer service the contractual relations between the involved organisations directly affect the working conditions because the performance of workers is monitored against the service level agreements.

Increased standardisation and more rigid management control were most obvious in customer service. Here, outsourcing was preceded by separating the customer service tasks from other activities which increased the degree of specialisation and prepared the ground for a standardisation of work. In this context, standardisation is based on extensive codification of knowledge and includes detailed rules governing the service provision and the customer contact. Standardisation serves the interest of a flexible use of staff because it makes front-line workers interchangeable. However, this involves the danger of ignoring the great importance of social competencies and of not being responsive to customers' needs. At a different level IT service provider companies apply standardised procedures and firm-specific capabilities to reduce costs and to integrate new workers and new knowledge in particular in the case of transfer of workers (cf. Miozzo & Grimshaw, 2005). The IT workers in these work contexts thus experience higher standardisation and less autonomy. In addition, the inter-firm linkages clearly shape, depending on the type of value chain, the work organisation. The service level agreements between the client organisation and the service provider company are crucial in this respect.

In software development in the IT-industry, formalisation of the work process is more prevalent than simple standardisation. Often, the term 'industrialisation' is used to describe the formalised development processes that span the whole lifecycle of software, coordinate work on a global scale within the company, and try to assure quality control of a range of very complex products. A German case study found pronounced tendencies of increased specialisation, compartmentalisation, a loss of task diversity and more documentation and code review work. The developer *'is becoming less of an artist and more of an engineer'* (Krings, Bechmann & Nierling, 2007a). An Austrian case study revealed problems in geographically distributed work that were caused by a too low degree of formalisation of task description (Flecker & Schönauer, 2007). In software development, the more em-

bedded an organisation is in a multinational value chain, the more pronounced job categories and job classification become. Also competition between departments and sites becomes more prevalent. There is pressure for an increasing commercialisation of work results. Levels of autonomy remain high, especially in organisations that are at the top of the value chain or have a strong intermediate position, but within the constraints of meeting tightly scheduled project goals and needs.

Changes in work organisation may also mean increasing latitude and upskilling. In some companies such tendencies were a direct consequence of value chain restructuring. For example, *Wonderwear* of Belgium relocated production to Hungary and Tunisia and turned the production unit in Belgium into a prototyping department (De Bruyn & Ramidou, 2007a). This entailed a pronounced job enhancement for production workers. Taking a value chain approach to research on changes in work it becomes clear that such changes are caused by the move of more repetitive work abroad and therefore the change cannot be mistaken for a general tendency of work organisation.

Information technology and coordinating functions and work roles

The case study findings reminded us of the fact that it is advanced information and communication technology that enables companies and networks to develop complex and geographically distributed value chains. Information technology makes it possible to integrate fragmented work processes and to support information sharing and communication in geographically distributed work. It enables the control of remote activities for example in externalised call centres and to quickly adapt strategies to market developments as, for example, in the immediate adaptation of fashion design to the feedback of sales figures we observed in the clothing industry. The use of ICT in work processes requires the digitisation of all information, the adaptation of work processes and reliable access to information systems across organisational boundaries and geographical distance. Advanced 'informatisation' thus impacts on work organisation usually further contributing to tendencies of standardisation and formalisation. However, informatisation does not replace skilled human labour. Indeed, the IT-enhanced integration of value chains and work flows it is complemented and enabled by new functions and work roles that are needed for liaison and coordination between organisations and the digitised information they exchange (Braczyk, 1993). Outsourcing brings about new tasks and specific new work roles that are needed not only for coordinating workflows across organisational boundaries, but also for (re)negotiating and monitoring outsourcing contracts.

A Dutch case aptly illustrates the increasing demand for coordination (Bannink, Hoogenboom & Trommel, 2007): A local government outsourced the front office system and the back office system to different IT service providers. The front office, through encounters with citizens and citizens' direct data input via the Internet, generates data that are then fed into the back office system. In order to avoid problems of data integrity, the private provider of the back office system, retains control over all inputs. The municipality, interpreting this as an attempt to erect barriers against other service providers and to monopolise the function, established internal strategic ICT units, one for front office and one for back office support. In a Norwegian case as well, a new liaison and coordination function was set up. After hospitals' IT units had been transferred to the new central IT service provider, no IT specialists were left in the hospitals who could bridge the gap be-

tween the hospitals' various departments and the new service provider. The problems, however, could only partly be solved by establishing the new roles of 'IT managers' and 'IT procurers' in the hospitals. A clearer distinction seems to be needed between those dealing with the contracts and those who cooperate with the service provider on a day-to-day basis. Also in other cases new and usually complex processes – obviously much more complex than the previous internal procedures – can be observed relating to contract negotiations, legal aspects, definition and monitoring of service levels, renegotiation of terms of reference, revision of agreements, *etc.* Thus, with externalisation, new tasks are being introduced into the value chain that can be termed 'transaction work', some of which are bundled to create new functions and units.

The social implications of the outsourcing and restructuring processes we investigated may also be addressed along the lines of time, space and knowledge. As Castells argued in the 'network society', electronically mediated, networked relationships between companies and people have fundamentally changed social structures and processes, times and spaces. In general, the circulation of capital and knowledge compresses time and space, which leads companies and investors to *manage* time in new, relational ways: 'Time is managed as a resource not under the linear, chronological manner of mass production, but as a differential factor, in reference to the temporality of other firms, networks, processes or products' (Castells, 1996: 439). In analogy, space matters in terms of the relocation of business functions, but also with regard to the physical delivery of actual products and services to where they are needed. Indeed, while value chains are expanding across time and space, time and space are not rendered irrelevant but are both managed and articulated in different ways.

Acceleration and temporal pressures

Across industries, business processes are accelerating, and time horizons are becoming shorter and more heterogeneous. Increased speed and simultaneity concern the software industry where work is mostly project-based as well as the clothing industry, where traditionally, work used to be structured around the seasons. Software research and development are aiming to speed up the time-to-market of innovations, and where these markets still need to be discovered, 'time-to-demonstrator' or prototype is supposed to be shortened. In the research organisations that are partly publicly funded, increasing proportions of funding are tied to contractual research and project-based funding, which requires researchers to articulate the diverse time spans of projects. In the clothing industry, the traditional seasonal cycles of fashion are nearly obsolete (with the exception of underwear specialist *Wonderwear*). Collections are incrementally changed and adapted, with new pieces added throughout a season. Such adaptations and new designs may even be initiated by analysis of current sales figures. Designers thus, like industrial researchers, need to react to market changes more quickly, generally move their work closer to the market and work on more stages of developments and projects simultaneously. While parts of the value chain in food are also seasonal, less is changing here. Seasonal work in agriculture and the following steps of production are divided along quasi traditional lines of gender and ethnicity.

The business functions of logistics in food and clothing and customer service have a different temporal logic. Here, services need to be provided 'just-in-time' and the increas-

ing responsiveness of production to the market generally, or to the demands of large buyers in retail increases both the pressure on and the strategic importance of logistics. This importance and the need for reliability and responsiveness in logistics partly limit outsourcing options. In both food and clothing, logistics functions are occasionally insourced again, or companies develop the logistics function into specialist services for retail. As in customer service, the specialisation of logistics providers consists in providing the value chain with flexibility reliably, and for that reason, such service providers can hardly outsource flexibility further.

In outsourced customer services, work is also speeded up. Service levels and responsiveness are monitored closely both by companies and their clients, i.e. the organisations where the outsourcing originates. In a second step, these monitoring practices may be transferred back to employees in the originating organisations and increase the pressure there – although interactive service delivery to customers or citizens still cannot be standardised as it depends on these customers' needs and requirements that an organisation can only shape to a limited extent. IT services for the public sector apparently have the longest time horizons. Here, contracts may run over 10 years, with options for evaluation and renegotiation in between. While public administrations are hoping for improvements in efficiency, legitimacy and access to new technology, their service providers apparently manage to gain long-term business opportunities that are somewhat protected from the volatility of other service markets.

In some areas, the increased and varied temporal pressures of value-chain restructuring become dilemmatic. Research organisations are designed to speed up commercialisation of research findings and move research closer to the market. However, the creation of networks that span the boundaries of academia and business, and indeed, the discovery and creation of new markets, require time and careful maintenance of social relations. However, this is not a simple dilemma of long-term versus short-term orientation. The development of co-operation and trust itself benefits if a research organisation demonstrates its capability to quickly produce results. Hence, most success stories of commercialisation and sustained innovation in co-operation with partners involve a very incremental build-up of innovation and co-operation simultaneously. Otherwise, where top management or funding agencies are oriented towards very short-term successes, this needs to be tempered by middle management and project leaders. Overall, the management of both increased temporal pressure and the articulation of multiple and diverging time horizons (Brose, 2004) puts increased demands on experienced researchers especially. For junior researchers, priorities may be difficult to arrange, especially when project work gets into the way of academic advancement, writing theses and publications. Hence, whereas Lam sees the development of a 'hybrid scientific community' (2005: 272) in between academia and industry, such positions may be more contradictory than can be easily managed.

Spatial relocation and mobility

At first sight, the case studies seem to suggest that restructured value chains compress time while expanding spatially. However, expansion may mean different things in different contexts. Work and companies may be relocated, demands on workers' mobility may

change, and the role of regions as environments and resources for value creation changes as well.

Relocation of work and production is neither arbitrary nor entirely driven by cost differentials. Indeed, in clothing and food production and logistics, where physical products need to be delivered, we see that the compressed time horizons put particular constraints on spatial arrangements. As reliability and responsiveness to customer demands matter, work is relocated in the (extended) region rather than globally. For the manufacturing of clothing, this often means outsourcing to Central and Eastern Europe and to countries in the Mediterranean Rim rather than China or Vietnam. This is less of an issue in software development as products there are immaterial. Here, company strategies and ownership histories make most of the difference. However, Continental European MNCs here combine their offshoring of programming for cost reasons with attempts to move closer to foreign markets. Hence, they tend to own their subsidiaries abroad. Outsourcing moves to India or South-East Asia mostly occur in companies with a US involvement in ownership or top management. In the case of Bulgarian *SoftServ*, itself a software outsourcing destination, customers participate in decisions whether to locate part of the coding work in Asia or have it all done in Bulgaria. In both clothing and software production, there are also examples of failed outsourcing attempts for quality reasons. IT services often need to be even closer to their customers. This is often achieved by transferring personnel from customers to service provider companies.

In addition, here as well as in software development, employee mobility becomes an issue. Logically, with the lengthening of value chains, interfaces and 'transaction work' roles multiply, specialisations emerge, and not all co-operation across company and national boundaries can be done virtually. Thus, needs and demands for employee travel increase, and they often become a conflictual issue or even a constraint for business, especially since the employees concerned are often experienced experts with considerable bargaining power. Short-term business trips or troubleshooting missions intensify work and affect work-life balance in the short run, especially where workers have families and where such travel cannot be planned far in advance. Longer-term secondments to work on customer sites are even more difficult to reconcile with family and private life. Bulgarian *SoftServ* admits the company has had to turn some projects down because of employees' reluctance to go abroad for longer periods of time. IT service providers thus either seek to locate subsidiaries close to the customer or try to negotiate limitations on work to be done on the customer's site with their customers. The most striking example of sought-after experts' bargaining power in fending off demands for mobility is the Norwegian *A NOR* where Norway-based researchers collectively refused to move to the US to consolidate the company's research activities there. As employees were able to confidently argue that, if they wanted to move to the US, they would have done so already, workflows and communications were rearranged to suit distributed research. On the other hand, due to the centralisation of French *Comtel's* research activities researchers were faced with unwanted mobility demands they could only refuse at the expense of their careers. Hence, the bargaining power of even highly qualified specialists is contingent upon both external labour markets and exit options and organisational configurations.

In both the IT and the clothing industry, the role of regions is changing. Regions used to be resources for innovation and knowledge with the location of spin-offs (NO, DE, AT) or new company research facilities close to universities (UK) in IT research, and with innovation centres and training institutions in the industrial districts of the clothing indus-

try. Where the reconfiguration of value chains relocates key activities to a critical extent, these regional bases may erode. In IT this is observed in France, where research sites used to have their own specialisations until 1997 when specialisations were assigned across sites ('multisites', Muchnik, 2007a). This separation of expertise and location occasionally has diluted the 'critical mass' that renders a regionally based unit recognisable and attractive for potential partners. It also has increased inequalities between sites in terms of collaboration opportunities. These opportunities are not affected where the sites fit into a dense research environment. The greenfield research sites that the company had established previously for political reasons of regional development especially tend to isolate their researchers and restrict them to virtual collaboration.

In Hungary and Belgium, clothing companies who upgrade their activities in the region by relocating production complain that they lack the skill base in the region to recruit skilled production workers. As young people observe and anticipate the industry's demise, they avoid the respective occupations even when the remaining work is being upgraded and becoming more skilled. Consequently, training institutions also erode through lack of trainees or political perception of a declining industry, and the skills shortage may even become a reason for relocation of work abroad. In other regions, where there is a sufficient amount of companies and institutions which collaborate, such social and knowledge capital is retained and may attract new business as *JapTech's* UK Lab in Cambridge. *WW-DK* in Portugal also successfully collaborates with the clothing technology centre in the region. However, it appears that the increasing options of companies for relocation and restructuring can be risky for regionally-based social capital and knowledge, especially in non-academic fields.

Skills and knowledge

Overall, the restructuring of value chains is both influenced by sector- and company-specific configurations of knowledge and in turn, has repercussions on such configurations.

In Europe we found few instances of actual deskilling. The outsourcing of customer services is the most striking example. Here, the public-sector-specific knowledge of civil servants and public-sector employees is replaced by more generic interactive service skills of new, more precarious employee groups. It is quite possible, that customer service in the public sector moves in the direction of the paradoxes found in private sector work in call centres (Callaghan & Thompson, 2002; Holtgrewe & Kerst 2002; Grugulis & Vincent, 2005), where employees are recruited for their service-oriented personality traits and then are given very little discretion to employ these talents. In software development, developers see the increased specialisation and standardisation of processes as a loss rather than an enhancement of creativity, but their skill base is not visibly eroding.

Across the board, employees in the restructured value chains need new skills in project management, intercultural communication, management of inter-firm relationships and 'transaction work'. Such competencies are often not certified, or they are certified in a more informal way than the skills learned in traditional occupations, as training and coaching in these fields becomes a part of marketised further education. They are also developed individually, based on experience with flexible and volatile work situations that cross organisational or disciplinary boundaries. Hence, new types of 'tacit knowledge'

(Polanyi, 1967) may emerge that are connected to generic networking experiences rather than to traditional craft bases of the job in question. Yet, even in large, integrated companies with established HRM systems, efforts to enhance employees' skills in project management, intercultural communication and networking get under pressure through the intensification of project work.

Restructuring of knowledge is particularly salient in the business functions of design in clothing and research in software where innovation and creativity play a central role. Researchers and designers, as they move closer to the market, need to articulate more varied types of information and knowledge that range from aesthetic or technical input to a knowledge of market data and trends. In fashion design, one Portuguese manager comments that '*Speed has to do very much with flexibility, and taking yourself not too seriously*' (Woll, Vasconcelos da Silva & Moniz, 2007b: 15) which suggests a specifically detached and pragmatic attitude to the varied inputs and to employees' own creativity. Creativity and professional pride are still required, but innovative employees must be increasingly ready to make concessions and abandon their commitments to ideas that are not immediately marketable.

Where regional knowledge bases erode in the clothing industry, they are not necessarily substituted by transregional, virtual ties and networks. Some evidence of such a substitution is found in the industry. Hungary's *Copy Fashion* managers say they benefit from their German client's knowledge although it is a problem that tailoring expertise leaks away with the relocation of production to other countries. The pattern makers in the German Trousers Co. have established an international network or 'guild' (in line with Benner, 2003) that organises company visits and professional exchange across locations.

In the public sector, sector-specific knowledge takes on a specifically contested and institutionally embedded meaning. In Scandinavian countries, public sector organisations and unions insist on the specificity and professionalism of such knowledge as a rationale to avoid outsourcing. In the UK, on the other hand, involvement of private-sector companies is considered the most adequate or 'businesslike' approach. A shift of knowledge from the public to the private sector could be observed in the case studies on IT services, but there are also attempts, e.g. by Dutch local governments, to re-establish IT expertise in the public sector in order to avoid becoming fully dependent on private service providers.

It remains to be seen how the knowledge bases of the public sector will develop. Knowledge, on the one hand is inevitably intertwined with power in the value chain. On the other, it is a resource which can be shared without losses to either party. Indeed, in many cases, the public sector's own professional identities and competencies need to be maintained and developed in order to supervise service providers. On the side of service providers' strategies, so far they mostly stay close to the customer by locating nearby or transferring personnel. However, they can be expected to aim for accumulation and synergies of knowledge and expertise in the long run, which will give them a more powerful position in the value chain. This in turn may mean consolidation of expertise and/or a more flexible deployment of expert personnel. The former public-sector IT experts thus may find new career opportunities or pressures and 'offers you cannot refuse'. Mobility of highly skilled and experienced knowledge workers thus is likely to become even more of a contested issue in all IT-related fields.

Under a knowledge perspective generally, the Scandinavian countries emerge as the most institutionally embedded knowledge societies, where workers manage to convert their sector-specific knowledge and professionalism into actual bargaining power -

which, in turn, is deployed to strengthen their regionally-based roots and networks. This institutional recognition of knowledge extends even to the less-knowledge-intensive areas of the food sector where Norwegian and Danish workers are encouraged to obtain apprenticeship certificates for their skills.

However, the valuation of knowledge for both value-creation and worker empowerment do not always go together. The general speed-up of production and innovation processes and the implementation of internal competition generate a specific dilemma with regard to knowledge exchange and circulation. While this is generally deemed a key dimension of innovation across both external and internal boundaries of a company or network (Brown & Duguid, 2001; Tuomi, 2002; Hippel, 2005), central aspects of company restructuring get in the way. The implementation of internal tenders for projects in the case of *Domainsoft* effectively blocks the exchange of knowledge with other units who are or may become competitors. We might say that here, the intensification of competition within a firm introduces a problem of innovation that markets generally fail to solve (Beckert, 1997). New and strategic knowledge thus needs institutions to protect it, and established markets draw on the institutions of intellectual property protection for this (Leadbeater, 2001). Functional equivalents of intellectual property protection within a firm are hardly in sight, and in the face of this conflict of interest, the instruments of knowledge management are not likely to help.

In sum, the institutions and prerequisites of sustainable value-creation and innovation in a knowledge society appear at risk in some fields. Regional and professional networks, institutions of training and education, and the circulation and exchange of knowledge across domains require organisational slack and societal resources that may be dedicated to uncertain ends, and they apparently require a 'critical mass' of these resources. The fragmentation of value chains, the relocation of business functions and the extended management options to further relocate put existing institutional and social configurations at risk, and the reconfigured – and continuously reconfiguring – value chains do not appear well equipped to support the generation of new ones. Some of the developments we observe are dilemmatic in the sense that they present organisational contradictions or even processes that tend to erode the very bases of regions and companies for innovation and value creation. Such dilemmas have been observed by other authors with regard to innovation (Rammert, 1988) and organisation (Kühl, 2000), organisational boundary-spanning (Holtgrewe & Kerst, 2002), and knowledge (Heidenreich, 2000; Ortmann, 2004), and also for the demands of new and networked forms of working on subjective dispositions and capabilities (Honneth, 2002; Holtgrewe, 2006; Wagner, 2007). Neither companies nor individuals under pressure of expanding market relations in these dilemmatic configurations are able to sustain the institutional bases of value creation without societal and institutional support that goes beyond traditional boundaries and frameworks.

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