Network economy or just a new breed of multinationals?

relocation of eWork as a window to the
restructuring of value chains

Jörg Flecker

*Jörg Flecker is the scientific director of Forschungs-und
Beratungsstelle Arbeitswelt (FORBA), Vienna, and an external
professor at the University of Vienna, Austria.*

ABSTRACT

The global information economy is subject to processes of profound restructuring based on new information and communication technologies. These processes follow different logics, with centralisation within international companies playing as significant a role as decentralisation or the development of networks. This paper makes use of findings from the EMERGENCE and Asian EMERGENCE case study research into telemediated work and relocation of work to shed light on the restructuring of global companies, the dynamics of boundaries between corporations and the emerging new international division of labour in the information economy.

Introduction

In discussions on economic globalisation, far-reaching changes in economic structures and patterns of organisation are attracting increasing attention. New information and communication technologies (ICTs) play a key role in the explanation of these changes in economic structure and organisation. According to the thesis of the 'network society', for example, ICTs make it possible to establish close relationships and intensive exchange between small organisational units across corporate and country borders. Centralised companies give way to decentralised network enterprises and networks of firms. This does not just lead to new structures and processes in the delineation of workplaces but also in employment relationships and skill requirements (Castells, 1996).

In the EMERGENCE projects¹, comprehensive investigations of relocation of eWork were carried out that not only provide valuable insights into the characteristics and incidence of telemediated work, but can also be used as a window onto the dynamics of the emerging global information economy. Our analysis of the motives and driving forces of outsourcing and relocation showed very clearly that the relocation of work does not follow a single inevitable path but can be part of diverse processes of restructuring. Sometimes the relocation

¹ see acknowledgements for details of project funding and partners.

of work indicates a hollowing out of companies and the emergence of value chains that resemble the global 'commodity chains' known from consumer goods industries (Gereffi & Korzeniewicz, 1994), but other relocation activities are more illustrative of the trend towards organisational centralisation and geographical concentration of business activities.

One example taken from the EMERGENCE case studies is a good illustration of the lengthening of value chains: Second Hand Print Ltd.², a UK company dealing in used printing presses, wanted to completely redesign its website, because a growing portion of its business was being carried out over the Internet. The requirements were defined and a project was put out to tender. A one-person company (in the same city) applied, with the intention of having the contract actually carried out by someone else, and won the contract on the basis of cost (it was the cheapest bid). Subsequently this one-person company sought a suitable subcontractor through the project outsourcing agency, Brightwork. After Brightwork had posted the job requirements on its website, twelve offers came in within a week. Fluidum, a Hungarian company, was awarded the job, having outbid a Nordic and a British company which also made the shortlist. Fluidum then employed programmers and web designers in western Siberia to do the job. In all, six people are employed on the sales and project management team in Hungary and a further eleven people in a development office in Russia.

This example illustrates that ICT-based relocation of work, or 'offshore outsourcing', is not limited to large companies that can afford costly outsourcing projects or the establishment of their own subsidiaries in low-cost countries. However, such cases of outsourcing and relocation over the Internet without personal contact are limited to clearly delineated and specified tasks, such as the design of websites, and seem to be rather rare. One reason for this is that companies like Fluidum participate in Internet-based call for tenders only in order to get access to new customers and then try to establish long term business relations directly with them. Often these initial contracts are effectively loss leaders: prices have to be very low, often not even covering the costs, to win a contract in this way. Wherever possible, therefore, service providers try to avoid market co-ordination and entering into network relations.

Many more examples show that ICTs undoubtedly widen the possibilities for the organisation of work as well as its spatial distribution, yet overall there is no organisational convergence towards a network form. Rather, different logics of restructuring exist alongside each other, in which centralisation within the framework of international companies is as significant as decentralisation and the development of networks. Our research on telemediated work and on processes of relocation therefore sheds light on diverse change processes in the global information economy. It will be used in this paper as a window into the restructuring of global companies, to dynamics changes in the boundaries between corporations, and to the emerging new international division of labour.

Overall the paper argues that corporate restructuring and the emergence of 'a new breed of transnational companies' (UNCTAD 2004), the global IT-service providers, does not support popular assumptions that we are seeing a trend towards

vertical disintegration and increased opportunities for small firms. It is widely held that new information and communication technologies reduce transaction costs and thus make it easier for companies to concentrate on their core competencies and to outsource other activities (Hagel & Singer, 2000), and that this also leads to new business opportunities for SMEs that are in a better position than large enterprises to be successful in a flexible capitalism (Schmidt, 1996; Schienstock et al. 1999). In debates on the new economy the network metaphor has become dominant. Castells, who most successfully popularised this view, argued that the new economy is no longer centred on multinational corporations, not only because these have been replaced by networks of SMEs but because 'they have transformed themselves into a web of multiple networks' (1996:152-153). Hence, hierarchies and bureaucratic control are giving way to self-programmed and self-directed units within large companies.

While these views and the network metaphor have dominated the scholarly and policy debates during the last decade, they only give a partial account of developments in the real world (Hermann 2006). While ICTs and, in particular the internet, certainly might help to substitute networks of small firms for large integrated companies, the actual trends of ICT-based restructuring also foster trends towards capital concentration and the consolidation of activities in particular locations and metropolitan areas. In addition, it can be argued that within large corporations decentralisation would not have happened without the enormously enhanced potential for centralised control offered by new information and communication technologies. In the remainder of this paper, empirical evidence from the EMERGENCE projects will be provided to substantiate these arguments.

The contribution is in four parts. First, organisational change within transnational enterprises is discussed, focussing in particular on trends of centralisation and concentration of activities. Second, shifting boundaries and division of labour between companies are illustrated with a special emphasis on the role of IT service providers. A third point then discusses the consequences of outsourcing and 'offshoring' for the international division of labour in the global information economy. Finally, conclusions will be drawn on restructuring trends in the global information economy with special emphasis on the reorganisation of value chains.

A window to the restructuring of global corporations

It cannot be denied that outsourcing and relocation of work are indicative of a tendency for companies to disintegrate and the emergence of market or network forms of co-ordination of economic transactions. Global value chains are emerging in the information economy similar to those in the manufacturing and marketing of consumer goods (Gereffi et al. 2003).

'The logic of this restructuring, and the chain metaphor, suggest a skein of endlessly lengthening lines; the notion that the global corporation sits at the top of this line suggests that as the chain continues, the units get smaller, like fish tugged by the giant that constitutes the ultimate customer at the end of the line. In reality the emerging corporate landscape is more complex and contradictory than this.' (Huws 2006:71)

It is also true that ICT is used to concentrate work, to consolidate business activities and to integrate companies as has been shown by EMERGENCE case study findings (Flecker & Kirschenhofer, 2002). It is obvious that different types of restructuring logic do co-exist. This makes it impossible to generalise and herald one particular organisational form as the main pattern of work and organisation in the so-called information or knowledge society.

The 60 case studies carried out within the European EMERGENCE project were aimed at capturing a wide variety of instances of relocation of work. As already noted, the results showed that, apart from cases where relocation is limited to a single individual project, corporate restructuring is a major driver of such organisational change. Below we present some examples of ICT-based work relocation that can be traced back to strategic corporate decisions.

An international sports equipment manufacturer, called Sporty in the EMERGENCE project, decided to centralise its entire customer service function into a huge pan-European call centre near the location of its existing European headquarters in a Benelux country. The main motive given for the relocation of these customer service jobs, which also included the transfer of personnel, was the creation of synergies at a European level. The company expected to achieve economies of scale, improvements in processes and an increase in corporate control over its regional and national units by means of the greatest possible standardisation of operations. The staff and their representatives at the non-centralised national units were not involved in this decision; the relocation was planned in relative secrecy and the public announcement of the decision to relocate took most of those concerned by surprise. Locating in a multicultural metropolis in the Benelux region (which is home to a large number of expatriates from many other countries and which attracts natives of other European countries because it is home to so many international bodies), the company hoped that the local labour market would be diverse enough to enable it to cover the multilingual requirements of the service centre. It was recognised that the distance from local markets might be a potential risk factor, which could lead to a loss of sensitivity to these markets.

In another case, the global logistics company Parcel, which provides courier services, had already started to co-ordinate its activities in the four Nordic countries at the beginning of the 1990s. A joint management team was set up which acquired more and more responsibilities in the course of the 1990s. Around 1998, the Nordic management investigated the working methods of the departments for tracking and tracing in these four countries, which were activated if the customer service operators were unable to give the customer information on the whereabouts of a consignment. Management came to the conclusion that the harmonisation of working methods and a central unit with a greater workload would be more efficient than the previous arrangement whereby this function was handled separately in each country. Earlier, at the beginning of the 1990s, all customer service centres in one of the Nordic countries had been concentrated at the location of the national headquarters. As well as saving cost, another reason for this had been the opportunity to standardise procedures and information for customers. Building on their experience with this earlier consolidation

of work, at the end of the 1990s the Nordic management decided to relocate all back office tracking and tracing jobs from the four national units to a single location in one Nordic country.

The case of Cosmed, a large producer of cosmetics, shares some features with the previous two cases. Here, the restructuring involved the concentration of the ICT application and support function from 18 European countries where the Cosmed subsidiaries operate into a single centre at the company's headquarters in a European country. The main motives were economies of scale, the creation of advantages in the area of knowledge management and the attractiveness of a bigger unit for IT specialists. This attractiveness was confirmed by the fact that many of the most highly qualified IT experts who previously worked at the subsidiary companies were prepared to relocate to work in the new central unit. In one Southern European country, however, a number of experienced IT staff in the subsidiary left the company because of the relocation, which considerably hampered the passing on of experiential knowledge.

Centralising activities such as customer service geographically was seen by the management of Parcel as a means of standardising the disparate procedures of the various national offices. It was a similar story at Cosmed, where central management wanted to improve reporting procedures and enhance managerial control by establishing a single computing centre near its head office and centralise reporting tasks that were previously carried out at the individual subsidiaries.

These examples illustrate restructuring measures by transnational companies which are taking advantage of the increasing harmonisation and integration of markets to move over to a more cost-effective form of organisation which at the same time leads to a higher level of central control. The reasons for the relocation of telemediated business services within corporate restructuring processes are thus often not so different from those which lead to the geographical concentration of production for supranational markets.

These examples show that the relocation of eWork often needs to be placed in the context of the more general corporate restructuring used by global or transnational enterprises to seek the most favourable location world-wide for each of their functions (Kogut, 1985; Dicken, 1992; Dunning, 1993).

First, intensified competition in the face of globalisation and the increased profit expectations arising from the dominance of financial markets are putting enterprises under increased pressure. These lead them actually to exploit the opportunities for cost-cutting and innovation that such a distribution of functions can bring. The attractiveness of regions and cities as new locations is measured in relation to a particular function – be it production, research and development, marketing or accounting – and no longer with regard to the demands that a whole vertically integrated enterprise makes on a location. As a consequence, transnational companies reach simultaneously both a higher geographical spread and a higher degree of specialisation of individual locations and subunits.

Second, the restructuring of companies at a national, European or global level also aims to achieve economies of scale. European integration, in particular makes it possible for companies to orient their activities directly at a supranational market.

Costs can be cut by merging previously separate establishments and activities that were oriented towards national markets. A typical example is the establishment of pan-European call centres as an alternative to separate customer service activities in each country (Flecker & Kirschenhofer 2002). It can be assumed that the most favourable location will be sought for the consolidated activities, but as a rule in such processes this does not involve seeking a green field site. More commonly, existing establishments are expanded and others closed.

A third aspect of the restructuring of transnational companies relates to processes of governance. In many enterprises bureaucratic structures have to a certain extent given way to decentralised responsibilities and internal quasi-market relationships intended to increase both flexibility and management control. On the basis of standardised technical infrastructure and business processes, and under the surveillance of corporate headquarters using sophisticated management information systems, work can be relocated swiftly between the corporate units. For example, an order for an administrative service or software development can be advertised worldwide within the corporation and given to the unit offering the best value. It is important to note that not only the internet, but also EDI (electronic data interchange) and similar standards facilitate such relocation of work. In all sectors, integrated computer systems in the form of enterprise resource planning (ERP) systems have gained importance. These systems support the centralisation and standardisation of information processing and thereby make the delocalisation of work easier.

A window to the restructuring of the information economy

In addition to far-reaching changes within large transnational companies, the relocation of work often stems from external restructuring leading to shifting boundaries between companies. If these changes reflect general trends, they are indicative of recomposition not only at a company but also at an industry level. The case study examples below, drawn from the EMERGENCE and Asian EMERGENCE projects, are intended to illustrate this point.

The first case involves a major Southern European bank which we call T-Bank. Here, as in other credit institutions, information technology has become increasingly important. As a result of a growth in online services to private customers and business-to-business solutions, there had been considerable growth in demands on the bank's IT department and the company management decided to outsource the IT function to a specialist international IT company in order to guarantee the necessary expertise, reduce development costs and increase the speed of change. Previously, the 240-strong IT department had been based at a branch in a metropolitan city. As a result of the outsourcing they were relocated to another city where the headquarters of the IT company was based. The staff, who continued with their tasks, thus changed their employer and place of work in the course of the outsourcing.

In rural Thailand we find another example of an outsourcing strategy. This case involved a manufacturing company that chose an outsourced supplier for its IT function as an alternative to developing an in-house solution and, influenced by its parent company, signed a contract with IT@Solve, the subsidiary of an international

company in central Bangkok, rather than with a local software company. In a similar case, IT support was outsourced from the Rayong province in Thailand to a subcontractor, Nrepa, in Bangkok. Both these cases illustrate a preference for city-based, rather than rural suppliers for IT functions. It can be assumed that this is partly because many of the service providers are based in metropolitan areas for historical reasons. However other factors may also come into play, including better infrastructure in cities, and perhaps a reputation of metropolitan companies for being better or more up-to-date. Multiplied on a larger scale, this suggests that in addition to shifting boundaries between companies, jobs are moving from rural provinces to capital cities. Just such a tendency was confirmed by a survey carried out within the Australian EMERGENCE project (Standen & Sinclair-Jones 2004).

Other cases can be found from outside the EMERGENCE project. The European Monitoring Centre for Change has published some named case examples of offshore outsourcing of business services (Ramioul et al. 2005). These include a description of the British Broadcasting Corporation (BBC) decision to outsource its technology services to Siemens Business Services (SBS), which meant the transfer of IT staff from the BBC to SBS.

'In October 2004, SBS signed a deal worth almost €2.7 billion, to deliver technology services to the BBC over 10 years. The BBC expects this move to generate saving of €45 million 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 et al., 2005: 13 f)

This strategy of outsourcing the IT function to a multinational company specialising in business service supply emerged as a fairly typical one in the analysis of the EMERGENCE case studies involving the relocation of the IT function. In debates about value chain restructuring, outsourcing is usually looked at from the perspective of the company that uses subcontractors rather than its own employees for particular work. Since the early 1990s, there have been reports of companies reducing their activities and relying on suppliers for more and more business functions. As the research shows, networked firms can even control global activities with only a handful of employees of their own (Dicken 1992). This image, complemented by the icon of the dynamic small start-up firm in the internet business, contributed to the development of assumptions that the network economy was being populated by small and flexible enterprises. What is often overlooked, however, is where the work is actually moving to through outsourcing. Freelancers and SME subcontractors are only one part of the picture. The other part consists of large, global companies offering goods and services to other businesses.

'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)

In fact, this industry is highly concentrated. In Germany, the four biggest service suppliers (T-Systems, Siemens Business Services, IBM and EDS) between them cover 80% of the market (Boes & Schwemmler, 2004). Internationally, 'the expansion of international outsourcing has contributed to the emergence of a new breed of TNCs that supplies services to other companies' (UNCTAD, 2004:157). These TNCs are not only active in business process outsourcing and IT services (companies such as IBM Global Services, EDS, Accenture and Hewlett-Packard) but also in the call centre industry, where the largest contract service providers are Convergys, the ICT Group, Sitel and Sykes (ibid.:158). The oligopolistic nature of the IT services business can be explained with reference to several factors (Miozzo & Grimshaw, 2005) including 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).

Another 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 any of its 60 international top clients to a new location (Ramioul et al. 2005). In addition, these international service providers take advantage of cost differentials between countries and continents by 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', by which they lower the costs of software development by establishing co-operation within projects between units in Germany or Austria and newly established subsidiaries in Central and Eastern European (CEE) countries. While customer relations and system design remain in establishments situated close to the customers, programming and coding are relocated within the transnational corporation to Central Europe, Russia or India. The EMERGENCE research findings highlighted the importance of restructuring within global IT service providers for the global division of labour. They also showed that the movement of jobs from rural areas and small towns to big cities and metropolitan areas may also be an effect of this very process (Huws & Flecker 2004).

A window to the dynamics of the international division of labour

Corporate restructuring and changing boundaries between companies and industries often imply a cross-border relocation of work. Obviously, if these cases of restructuring are indicative of general trends, they reflect major shifts in the international division of labour. This can be illustrated by means of some other EMERGENCE case study examples.

The company we nicknamed Crownsoft is part of a transnational technology company with several thousand employees specialising in the development of software for all areas of the group. At the end of the 1980s there was increased pressure on this

company to cut costs because, as a result of globalisation and the transformations in central and eastern European states, the purchasing and group headquarters management saw opportunities to have software produced more cheaply in other countries. In agreement with the management of the parent group, the management of the software enterprise developed a strategy to expand into the newly transforming central European countries as an alternative to participating in the establishment of the group's software factory in India. During the course of the 1990s, with the support of the parent company, existing companies were taken over and subsidiaries founded and built up in four CEE country. As early as 2000 the new subsidiaries already employed some 1,500 people between them. The underlying rationale for this expansion was to be able to shift work to locations with lower personnel costs, enabling the whole company to stay within the limits of the maximum annual increase in costs set by group headquarters.

Management argued from the beginning that expansionary relocation did not endanger domestic employment, but, on the contrary, guaranteed it. The mixture of high and low wages would make the company more competitive through lower prices, and thus enable it to maintain or increase its turnover. In terms of numbers, after strong growth up to the mid 1990s, employment remained more or less stable. However there was a steady increase in pressure from company management on middle management and project managers to relocate project work to the new subsidiaries across the border by stopping domestic recruitment. In qualitative terms, the content of the work in the traditional sites began to change: programming work was being relocated to the new locations, while project management tasks were kept back.

The role of the subsidiaries has, however, changed over time. At the beginning they were a de facto 'extended workbench', because their personnel capacity was used according to the need for projects that were planned and managed from elsewhere. This had disadvantages for staff at the new locations.

'In my view the best tasks are in [the source country], because that is where work is distributed at a higher level. One of the disadvantages of [town name] is that we get the worst type of work here, even from [the country's capital]' (programmer, Q3, p 10).

The subsidiaries are increasingly striving for more skilled and challenging tasks and more independence. As soon as alternative employment for software developers, or even competition on the labour market, arose in the region, Crownsoft had to take account of their employees' dissatisfaction with the subordinate role and monotonous work and take measures to counter it. As a first step, responsibility for parts of projects was transferred, and subsequently entire projects, including customer contact, was scheduled to be carried out in the new plants. Finally, as company management emphasises, it is also conceivable that the management of entire business areas will migrate to a new location. In the source country, the foreseeable trend towards upgrading the subsidiaries in the neighbouring CEE country is leading to the worry that serious competition will emerge there in a few years time.

'Of course, we see the risk in developing our own competitor. I have already discussed this with the managing director several times. What happens if our customers decide to employ the subsidiaries directly?' (Works councillor at Crownsoft, p 7).

Meanwhile not only the qualitative but also the quantitative aspects of employment have changed: after the crisis of the IT industry in 2001-2002 the 'source' company announced a 5% annual reduction of the headcount at the old location.

A similar development could be observed in another EMERGENCE case involving the relocation of IT work from Europe to Asia (Hirschfeld, 2004). During the 1990s, the Swedish software manufacturer nicknamed Ivy wanted to develop some new products but was not able to recruit enough new IT experts on the local labour market in Sweden. In order to be able to meet its requirements, an affiliate was established in Sri Lanka in 1997. In the initial phase, up to 2000, all R&D staff members were needed to implement projects in a phase of rapid growth. After this phase, Ivy was affected by the market crisis and sharp cost pressures. As a consequence, 100 IT professionals were made redundant in Sweden. Most of them had difficulty finding another job on the local labour market. By contrast, the Sri Lankan unit became more important in terms both of quantity and quality: growth only takes place in Sri Lanka (already doing 50% of Ivy's R&D). In the words of the senior vice president of R&D, we can employ more people in Sri Lanka and still cut costs.

The division of labour in the initial phase of the relocation was reviewed and changed: in order to achieve more realistic estimates during the specification phase of software projects, the Sri Lankan staff members are now involved right from the beginning, whereas previously their activities started only in the implementation phase. The Sri Lankan unit is also assuming more responsibility for complex projects. Internally, the job reduction led to tensions between European and Asian employees. There is considerable resentment of their Asian colleagues among the Nordic staff members owing to the continuing job uncertainty. 'Sri Lanka will take over,' is a comment frequently muttered in this context. In line with Swedish labour law, during lay-offs the rule of 'last in, first out' is applied in redundancy situations. Under this regulation, some key personnel had to leave the company, leading to a loss of important knowledge at the source. The Ivy management has now been forced to relocate some 'really difficult tasks to Sri Lanka, which they really cannot cope with,' as a senior designer put it. The relocation-triggered redundancies therefore had some unintended consequences, with relocation 'by force' leading to even more relocation.

In the Asian EMERGENCE cases, a factor in the selection of specific locations emerged that was not so apparent in the European EMERGENCE cases (Hirschfeld, 2004). Because of the extensive growth of the Indian outsourcing market, there is some hesitation on the part of some companies, at least in Europe, regarding their own weight as client. Since many western companies have been relocating work to India, small clients, in particular, are afraid of being just a 'small fish' for Indian outsourcing companies. The Norwegian IT company Worldcentre, for example, felt that the company could only be a very insignificant partner for Indian companies, owing to its small size, and that it would be competing with much

bigger international software development companies if it sourced from there. Worldcentre management therefore decided to establish Data as its own affiliate in Sri Lanka.

Similarly, the management of the publishing company Townsetter decided to outsource its typesetting to SIR, a small and quite inexperienced Indian company: 'Looking at bigger places you felt you were a very small fish in a big pond and we wanted to learn with someone else and change things,' as the production director put it. The efforts of Western source companies to become an 'important client' of Asian vendors sheds some light on the changing distribution of power between Western and Eastern companies. Some of the relocations to Sri Lanka, Thailand and Vietnam (especially, but not exclusively, from non English-speaking countries) have been influenced by conscious reactions to the scale of the Indian 'big pond' of outsourcing.

In general, companies relocate work – or expand activities – to other countries in search of particular advantages. Access to the market, (labour) costs and available skills and knowledge seem to be the main motives. This has already resulted in a considerable shift in the global division of labour within the information economy. In particular, India has been able to reach a prominent position on the world market for software and IT-enabled services (UNCTAD 2004). In the literature on foreign direct investment (FDI) a distinction is made between different phases of activities of foreign companies (Dunning, 1993).

The EMERGENCE case studies on eWork confirmed that relocation is best understood as an open-ended process rather than a one-off measure. Although part of the relocation strategy may be cost-oriented and, in the early stages, the new establishments or service providers are clearly in a dependent position, these may develop further and gain a more stable position within the company or the network of firms. Whether one looks at the relocation of software development to India or in the CEE countries, the general trend is in the direction of upgrading the new plants, in the sense that over time they are granted more independence and greater responsibility, often for entire projects, is transferred to them (Hirschfeld, 2004). In India this has very much to do with the local labour market situation. Companies must endeavour to be attractive in order to recruit and retain highly qualified IT specialists against fierce competition. If the work is too boring, staff will simply leave. High employee turnover is especially problematic in the context of the communication difficulties that often arise between Indian IT specialists and their European customers, that often take some time to overcome, as a result of which full productivity is only achieved after a period of learning.

In CEE countries too, a trend towards upgrading software plants to simplify organisation and increase staff motivation can be observed. Staff turnover has recently become an issue in several CEE capitals, and the outsourcing strategies here are changing. Companies have started to upgrade the locations and devolve responsibility to their subsidiaries for whole projects, sometimes even including customer relations. Although 'skill shortages' were the main reason given by European companies for relocating work in 2000 (Huws & O'Regan, 2001:55), the 2001 crisis in the IT industry and the resulting oversupply of IT specialists on the labour market in high-wage

countries did not result in jobs coming back. On the contrary, downsizing seems to continue while the 'destination' locations in low-wage countries are still expanding.

The case study of Shore-Offshore provides a good illustration of the upgrading of Indian units in business process outsourcing and IT-enabled services (Hirschfeld, 2004). The international financial services company Shore is a company with about 28,000 employees worldwide and a strong market presence in Asian countries. In 2000, its senior management decided on the global re-engineering of the HR function. All the activities of the national HR departments were to be centralised, national diversity reduced and duplications of effort diminished (e.g. the number of retirement schemes). Once standardised, the processes were digitised, centralised in Offshore's shared service centre and outsourced to India to an affiliate of Shore. Part of this two-year programme also involved the automation of many processes, allowing online self-service for Shore employees. A hundred HR employees of national departments lost their jobs while 140 Indian employees are now working in the centralised global HR department.

The role Indian IT companies play on the world market is a further indicator of the shift in the international division of labour. Companies like Infosys, Satyam or Tata have become global players. Recently Indian companies have strengthened their presence in Europe and North America in order to be able to be more responsive to their customers there (Huws, 2003). The Australian EMERGENCE team also discovered some cases where Indian software companies had bought up small Australian software companies to act as their Australian 'face' (Standen & Sinclair Jones, 2004). In some cases the reason for investing in Europe is not to improve customer service but also to take advantage of low costs in Eastern Europe. Rumania, in particular, has become the target of Indian direct investment in software development because the wages are considerably lower than in India (Ramioul et al., 2005).

The shift in the international division of labour is strongly accelerated through the rise of transnational IT service providers. The cross-border relocation of work is often not sought for its own sake but is a side-effect of outsourcing to companies such as EDS, Accenture, SBS or T-Systems. These outsourcing service providers based in the US or in the EU operate internationally and are therefore in a position to allocate tasks to subsidiaries in different countries taking account of cost differentials and the availability of skills. This means that even when a European company has no conscious intention to send work offshore, when it decides to outsource a given function the end result may well be a partial relocation of work to Eastern Europe or Asia. It can thus be said not only that 'offshoring' may be an indirect effect of the restructuring of companies and value chains but also, conversely, that the internationalisation of IT service provider companies is an important driving force of further cross-border outsourcing. This dynamic can be expected to gain momentum because it is precisely these global players that have increasingly become 'key targets for investment promotion agencies seeking to attract FDI into export-oriented services' (UNCTAD, 2004:158).

Value chain restructuring in the information economy: some conclusions

In this paper we have argued that investigating the ICT-enabled relocation of work does not only provide valuable insights into the characteristics and incidence of telemediated work,

but can also be used as a window into the dynamics of the global information economy. The analysis of motives and driving forces of outsourcing and relocation have already shown that the relocation of work can be part of diverse processes of restructuring. Whilst in some cases the movement of work may indicate a hollowing out of companies and the emergence of networks of firms, other case studies illustrate processes of organisational centralisation and geographical concentration of business activities.

Research on telemediated work and on processes of relocation therefore sheds light on a range of different change processes in the global information economy. In particular, it can be used as a window into the restructuring of global companies, the shifting boundaries between corporations and the contours of the emerging new international division of labour. Focussing on the micro-level, as they do, and being limited in number, of course case studies cannot provide an overall picture of the global information economy. However they can improve our understanding of the driving forces, the dynamics and the consequences of contemporary restructuring.

The boom in the software and IT services business in the second half of the 1990s and around 2000 and the related scarcity of IT skills (both in public discourse and in reality) induced many US and European companies to explore the options for relocating work to other countries. With hindsight it can be maintained that this particular historical constellation was the crucial trigger for the development of cross-border outsourcing and offshoring. Outsourcing, or the establishment of subsidiaries in central and eastern Europe or in Asia, was not only seen as a solution to immediate business problems. At a time when further expansion was expected, this development did not seem very menacing and was thus acceptable to labour. The crisis of the 'new economy' at the beginning of the new millenium changed this situation drastically: IT departments were no longer employed to capacity and many IT specialists faced the new experience of unemployment. However this did not lead companies to undo the relocation of work and bring activities back to the 'old' EU member states. On the contrary, employment seems to have been reduced even further in high-wage countries within the companies concerned³, while capacities have increased further in low-cost countries.

Dynamic value chain analysis has shown that the governance of particular value chains is not stable but changes over time (Gereffi et al. 2003). This also applies to service industries. The acquisition of knowledge and the enrichment of the services provided make it possible for dependent units in the value chain to upgrade. Research findings from the EMERGENCE project on the relocation of work in software development demonstrate that selecting only simple coding tasks for relocating or outsourcing offshore was often not sustainable in the long term. Particularly in India, companies faced the problem of high personnel turnover because IT workers chose their jobs according to the learning opportunities they provided. High attrition rates forced European and US companies to utilise the technical skills of their IT workers in India more fully by assigning them more demanding tasks, and thus moving more stages of the development process to their Indian subsidiaries or outsourcing service providers (Flecker & Kirschenhofer 2002).

³ This does not mean that overall employment in the IT and Business Service sectors has fallen in Europe, however. Because of the continuing growth in outsourcing from other sectors and general economic growth, this has increased since 2000 in every EU member state (Huws, Dahmann & Flecker, 2004).

Cost differentials and upgrading strategies were not the only factors sustaining the momentum in the shift in the international division of labour. The structure of the information economy has changed considerably, meaning that many organisations in financial services, public services and other industries increasingly rely on specialised IT service providers or call centre companies. This 'dis-integration', however, has only partly given rise to a network economy populated by small companies co-operating through the intensive use of ICT. On the contrary, the high degree of concentration of the market for IT services indicates that a key role is now played by a 'new breed of multinationals' – the global IT service providers. Because of the complementary competencies between and mutual dependence between these companies and their customers, we can expect what Gereffi et al. (2003) have termed 'relational value chains' to emerge within the information economy. What deserves more attention, however, is the nature of the hierarchical and network relations as well as the geographical spread of activities within these global IT service providers. These aspects seem to be crucial to the development of work and to the international division of labour in software development and the IT-enabled services.

IT outsourcing and IT service provider companies are of particular interest for several reasons. First, they offer a site where we find special conditions regarding the codification of knowledge and the modularisation of business activities. Value chain analysis argues that codification and modularisation are preconditions for outsourcing or, in general, for the lengthening of value chains (Gereffi et al., 2003; Huws, 2006). IT service provider companies, however, frequently take over workers from their client companies during the outsourcing process. What is more, workers of IT service provider companies often work on the premises of their client companies. As a consequence, the need to codify knowledge and to modularise activities inherent in any outsourcing relationship is considerably reduced. Second, the processes of codification and standardisation often take place within the service provider company rather than within the client organisation (Miozzo & Grimshaw 2005). Therefore, it is of particular interest how value chains are structured within IT service provider companies. This includes a third factor, the organisational arrangements within the global networks of IT service providers that not only allow them to follow their clients but also to capitalise on the cost or knowledge advantages of particular national or regional labour markets.

The research findings and arguments presented in this contribution point out the need to bring together the analysis of value chain restructuring with research on corporate reorganisation. The emergence of global supplier companies in a range of industries provides proof that it is not only small and medium sized enterprises that benefit from the tendency of large companies and public organisations to outsource parts of their activities. Research on the IT and customer service business functions clearly indicate the value of applying dynamic value chain analysis to the service sector. In addition to relations between companies, however, investigations need to cover the internal dynamics of corporate restructuring within the new service multinationals.

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