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Work without boundaries

Offshoring – Nearshoring – Outsourcing:
Complex production networks

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INHALT

1. INTRODUCTION: NETWORKED COMPANIES: DECENTRALISED AND FREE OF ALL TIES?

The 21st century enterprise has lost its clear contours. Instead of working with its own employees to produce what its sells, it can be likened to a "spider in its web", constantly creating links between various partners and suppliers and combining their output. The final product that reaches the customer – whether it is software, a Nike running shoe or a Hewlett-Packard computer – is thus the product of a globally networked, highly changeable production system. This description of the new topology of the global economy was put forward by Robert Reich, an economist and former member of the Clinton administration (Reich 1991). In the meantime, the term "hollow corporation" has come into circulation – a drastic overstatement drawing attention to the fact that the individual company is no longer the site of activity, but rather a complex network of interorganisational processes. This shifts the focus to the performance of activities along complex value chains, with different companies specialising in individual segments of the chain such as design, production, marketing and customer support (Gereffi et. al. 2003).

The development of enterprises in recent decades has been characterised by two overlapping trends. First, there is the progressive disaggregation of activities commonly associated with the term 'outsourcing'. Instead of doing everything themselves, more and more companies are electing to buy in services, thus transferring an increasing portion of the value creation process to other organisations. This trend extends across all sectors and functions. Outsourcing is not limited to services such as company canteens, cleaning or the manufacture of components. There is a growing trend towards the manufacture of complete systems by external producers. The buyers continue to perform mainly the development, design and marketing work – and sometimes not even that. Outsourcing arises in connection with material products as well as services. Many industrial enterprises have considerably reduced the degree of vertical integration (for the Smart car, it is down to just 20%) and have narrowed their activities down to the final assembly of their products (unless they have outsourced that phase as well). But it is also becoming a widespread practice to outsource administrative and innovative/creative functions involving highly qualified knowledge-based activities. The range of activities farmed out to other enterprises includes personnel management, financial accounting, software development and sophisticated analysis work.

The second trend, under the heading 'offshoring', is shifting the geographical dimension of corporate activities. Enterprises are no longer looking for suppliers only in the vicinity of their own location. Even highly complex activities are contracted out to enterprises at very distant locations, often in "low-wage" countries. Declining transport and telecommunications costs, the disappearance of trade restrictions and, above all, the increased potential of information and communication technologies have greatly increased the opportunities for global cooperation. Multinational corporations are also transferring activities to new locations, driven by the search for market access and regional know-how, skilled workers or cost savings. For some (developing) countries in Asia, Latin America or also in Eastern Europe, offshoring is associated with substantial growth opportunities as well as prospects for economic prosperity – at least for some sections of society.

The expanding role of outsourcing and offshoring is no longer of interest only to economists; it has now come to the attention of the general public and policymakers. Sparked by projections of job relocations on an enormous scale, there are heightened fears of major job losses in the west, even among highly skilled workers. Companies perceived as having no ties to their countries of origin find themselves the target of finger pointers who call them "unpatriotic". Across the entire political spectrum there are calls for protectionist measures against outsourcing to distant shores. In the USA, a number of legislative initiatives in this direction are in the consultation phase.

Nor is the controversy limited to the overall balance of the economic impact of offshoring. Despite the widespread visions of doom, however, there are indications that the positive effects predominate from the standpoint of the "countries of origin" (Drezner 2004). There is also a lack of conclusive data on the direct impact of offshoring on employment. So far, neither the opponents of such transfers of economic activity nor their adversaries have overcome the statistical/methodological problems and presented convincing data material (Kirkegaard 2004). Consequently, the current state of knowledge on outsourcing and offshoring

does not have any "universal truths" to offer. Nevertheless, it is possible to describe a few typical driving forces and tendencies in which a broad range of economic networking is evident.

An increasing segment of the workforce is involved in international or interorganisational network structures – for instance as participants in “virtual teams” of employees from several companies, or within outsourced project activities. Others are losing their jobs through outsourcing or are forced to take on new work. Consequently, this report also examines some typical effects of global value creation networks on individual employment and working conditions. Particular emphasis is placed on the IT-based relocation of knowledge-intensive activities. Data material was obtained from research reports on Silicon Valley and the relocation of “eWork” within Europe, as well as a series of interviews conducted by the author with skilled specialists involved in international cooperative activities.

2. ENTERPRISE NETWORKS: “GROWTH LIGHT” AND WORLDWIDE COOPERATION

Corporate cooperation and outsourcing have been prevalent since the 1980s. Alongside stable supply arrangements, enterprises enter into numerous forms of sporadic cooperation with other companies. Networks of enterprises represent – at least in theory – a form of flexible and demand-oriented capacity expansion that is not subject to the disadvantages of the vertically integrated major corporation. The environment in which networks are regarded as the “ideal” form of coordination is characterised by fierce competition, rapidly changing requirements and technologies, and heavy pressure to innovate and achieve fast results, combined with high risks. Networks are considered an organisational solution that combines capacity gains with the flexibility to adapt to changing demand.

2.1. Strategic alliances and cooperation among competitors

The business press is constantly reporting new joint ventures or strategic alliances. In some industries, such as the oil business or the aerospace sector, cooperation within consortia is nothing new. Since the 1980s, however, there has been an obvious trend towards cooperation among competing major corporations as well as mid-sized companies. For instance, Toshiba and Fujitsu are working together on chip development; some years before that, IBM, Siemens and Toshiba jointly developed several generations of storage chips. In the early 1990s there was practically a wave of cooperation in the German mechanical engineering sector. It is also uncommon for complex technological systems to be created by one company alone. One of the first digital mobile telephone networks in Europe was developed by a consortium made up of Nokia, AlcatelSEL and AEG. Shortly afterwards, the partners entered the market with competing successor systems. Cooperative arrangement of this kind can be short-lived or stabilise in the form of long-term cooperation beyond the limits of individual projects, but with the participating companies retaining their independence. The advantage of the cooperation is in the rapid access to broadly based know-how, the pooling of resources and risk sharing. Strategic partnerships “combine the flexibility of small establishment with the muscle of major corporations” (Powell 1987, p. 68). However, the parallel existence of common and competing interests make them at the same time precarious structures subject to the effects of hidden agendas and a rigorous development dynamic.

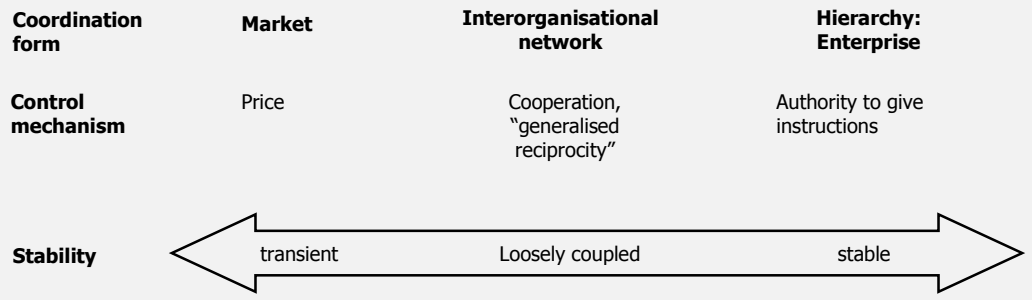
Enterprise networks: loose coupling between markets and hierarchies

A conceptional framework for discussing horizontal and vertical forms of cooperation is provided by the network approach. Unlike the purely market-based purchase of external products and services, networks are characterised by frequently very close and intensive relationships between establishments and the exercise of control not only through price-based mechanisms. The level of interdependence between participants is also high in many cases – but only takes on the form of total dependency in extreme cases. Ideally, interorganisational networks are characterised through “loose coupling”. This involves a certain degree of stability, which fosters trust and mutual adaptation, and a certain degree of independence, which reduces

the risk of being "locked in" to existing relationships and also safeguards the variety needed for innovation. If a supplier serves several customers, for instance, then the supplier can build a broader knowledge pool than if it works for only one customer. (For more details on the term “loose coupling: Weick 1976). Some companies require their suppliers to meet minimum revenue targets with other customers to avoid lock-in effects.

Network-type governance is positioned as a hybrid coordination on the continuum between the hierarchically integrated enterprise and the market interactions of non-affiliated, anonymous participants (Powell 1990). It is intended – in its ideal form – to avoid the rigidities and innovative weaknesses of vertically integrated enterprises. At the same time, it aims to facilitate – in contrast to a purely market-based approach – trusting cooperation and creative problem-solving.

Continuum of coordination forms of economic activity



The output of companies is not controlled by means of the hierarchical mechanism of issuing orders, nor by the exclusive operation of contractual regulations and prices. The more a company relies on activities that are difficult to codify, with a high level of innovative or creative content, or on the cooperative exchange of knowledge, the more that "soft" forms of cooperation will come to the fore. Theoretical discussions on networks speak of a „social embedding“ of the relationships which entails the establishment of mutual trust and generalised reciprocity. (The latter term refers to the fact that a price is not measured and paid for each individual activity; instead, there is a balance of give and take within a relatively long-term framework). Associated aspects of this are the personal nature of the relationships and the considerable amount of time required, since trust arises gradually. These two conditions are not satisfied automatically, especially in international relationships. Bringing them about takes a certain amount of time, energy and travel. And wherever there is latent competition and the fear of an outflow of know-how, the establishment of trust is a delicate balancing act.

2.2. Stable supplier relationships: outsourcing in manufacturing

Companies have increasingly been guided by the principle of decreasing the level of vertical integration at least since the time of the debate on Japanese manufacturing methods, just-in-time production and lean production. This trend has been most clearly evident in the car industry. In view of the heavy innovation and cost pressures, expanding product ranges and rapid technological change, it seemed increasingly pointless for car manufacturers to perform all activities internally. From this standpoint, the large corporation with a high degree of vertical integration as it existed in the era of stable mass production is considered too inflexible to encounter the demands of "turbulent markets" with sufficient flexibility, speed and quality. Since then, the motto of the hour has been “Concentrate on the core business” – a development that certainly owes something to management literature and the consulting sector, which periodically discover and intensify new trends.

Instead of handling all demanding functions internally, many companies create network-like forms of production coordination: parts of companies are spun off and goods or services once produced by the company are purchased externally. At the same time, companies are replacing formerly market-driven supplier relationships by forms of relationships with a more cooperative, long-term character. Suppliers are being upgraded from mere suppliers of parts to manufacturers of complex components. An interchangeable buyer-seller relationship is frequently being replaced by a more intensive cooperation based on research, product and process innovations and quality aspects (Sydow 1991, p. 7). Some supplier relationships are characterised by "quasi-integration", clearly exemplified in the production of the Smart car in France, where the "system partners", i.e. the direct suppliers of bodies, drive trains, passenger compartments, etc., are housed in the same manufacturing facility. Although independent in terms of ownership, the system partners are elements within a "quasi-enterprise". For employee representatives, this constellation is highly problematic: in principle, their influence does not extend beyond the boundaries of the enterprise, although the actual working and employment situation is largely dependent on the "virtual company"[1]. Another element in vertical supplier relationships is the existence of highly interchangeable subsuppliers who supply the system partners and have a comparably weak position in the network.

The car industry is not the only sector in which formerly vertically integrated supply chains are being broken down and distributed to external suppliers. Many manufacturers especially in the high-tech sector are outsourcing their manufacturing to contract manufacturers in order to avoid heavy investments in production infrastructure and instead to focus on other activities such as research and development. The suppliers achieve economies of scale and are in a position to distribute the high costs of technological innovation over a number of customers. In the USA, electronic manufacturing services have undergone dramatic expansion; the sector has achieved annual growth of approximately 40% since the 1980s (Benner 2002, p. 67).

Outsourcing can be driven by many reasons. Sometimes, simple cost factors are the primary reasons. The relocation of activities is often motivated less by the intention to gain access to highly specialised know-how or the need for close cooperation with selected suppliers than by the simple goal of cost-cutting. In particular, the establishment of factories for global markets in low-wage countries (e.g. China or India in the textile industry) since the 1960s are not to be seen in the context of highly sophisticated interorganisational relationships. This trend was driven primarily by lower labour costs and regulatory standards. Within vertical supplier pyramids, buyers also frequently exert cost pressures on their suppliers that threaten their existence. Thus the one-sided exercise of power and price pressures can play a central role in networks.

Another assumption that needs adjustment is the notion on the other side that cooperation-based forms of business relationships between independent companies are *the* coordination form of the future. Despite the break-up and transfer of portions of the value chain, internal growth, mergers and acquisitions are still with us as forms of capacity expansion. Particularly in the car industry, a concentration process is evident in which the major suppliers are strengthening their market position through acquisitions (Wirtschaftswoche March 29, 2004). Numerous contract manufacturers such as Solectron or Flextronics have in the meantime developed into major corporations. Specialisation and differentiation, integration and de-integration movements at the various levels of the value chain represent various dynamics taking place simultaneously. Multinational corporations in particular expand through acquisitions at the same time as they engage in insourcing and cooperate with large numbers of external suppliers and partners. Thus they are vertically integrated *and* externally networked.

However, it is important to state that companies are increasingly seeing outsourcing as an obvious option and are making more extensive use of it. More and more often, production is no longer centred around a clearly defined individual company, and is instead based on an inter-organisational network. Among the forms of cooperation seen in this context are cooperative models characterised by a long-term approach and a high degree of cooperativeness – but these are not the only forms that arise!

[1] These changes have led to modifications of some aspects of the statutory framework. For instance, Section 1 of the amended Works Constitution Act in Germany permits a single employee representation body for employees who are de facto within a single establishment even if companies are formally distinct.

Temping: "Outsourcing the employer's function"
- the example of Silicon Valley

More and more companies are also seeking to implement forms of employment as employers to permit a rapid response to technological change or new market opportunities. In Silicon Valley, the epitome of the high-tech cluster, we see a complex pattern of loosely defined employment relationships (Benner 2002, p. 102 et.seq.) Companies wish to avoid long-term investments in personnel, and instead try to gain access to the skills to match their current needs. Alongside employment contracts and the hiring of freelancers as independent contractors, a variety of intercompany arrangements play a significant role in this context. These include outsourcing of a number of functions such as payroll accounting, accounts payable and receivable, or manufacturing. At the same time, companies are increasingly outsourcing their function as employers to external service providers.

Temporary work: "Temping agencies" offer a number of services to companies. They recruit staff and lend them to their customers for a fee. In doing so, they play the role of employers and take on responsibility for training and social insurance. Employment with temping agencies has grown sharply in Santa Clara County from 1.6% in 1984 to 3.5% in 1998 (Benner 2002, p. 40)[2]. Temping is not limited to production work; it is growing fastest in the area of highly skilled professional work. It enables companies to "ramp up" and "ramp down" their capacity quickly. Many temping agencies are now involved in the long-term personnel strategies of their client companies. Under so-called "vendor on premises (VOP)" arrangements, a representative sets up an onsite office on the client's premises and performs a number of services there – ranging from job interviews to quality control – thus becoming more or less a proxy of the personnel department. The VOPs act as agents in dealings with the subcontractors ("secondary sourcing"), thus creating hierarchical networked structures.

Through temping, the workers gain steady employment without unemployment and lengthy job search phases. The changing assignments to different companies increase their opportunities to learn new things and establish contacts to potential employers. On the other hand, temping is often not the first choice of employment. Salaries with temping agencies are lower than those paid for comparable activities in regular employment. In addition, many temping agencies invest less money in training their employees, and thus provide very little support for their long-term development. They have only minimal control over the working conditions within their client companies, so that effective control of working conditions and health and safety is entirely lacking.

In Silicon Valley there are numerous other intermediary organisations that act as a "third instance" between companies and their employees, creating contacts, buffering risks and providing additional services. For instance, the professional employer organisations take on the risks and obligations of an employer, relieving above all small enterprises from the burdens of building up capacities. Here, too, the employees' formal employer and the establishment for which they work are not identical.

2.3. Multinational corporations: from the centralised multinational to the integrated network

When multinational corporations become the focus of public debate, this is often associated with the threat of jobs being moved to foreign locations and a poker game involving favourable business conditions for national competitiveness or salary cuts. The German multinational corporation Siemens was successful with this kind of "concessionary bargaining" in the summer of 2004 after it announced plans to move numerous jobs in cellular telephone production to Hungary. In return for a limited guarantee to keep the German factories open, company management obtained extensive concessions from the employees aimed at

[2] This trend is not limited to Silicon Valley. In German, for instance, the share of temps in the total workforce tripled between 1993 and 2001 – from 0.42 to 1.28 percent (IAB 2002).

achieving cost reductions. The negotiations were accompanied by complaints from business associations on German "competitive disadvantages".

Highly publicised debates on the departure of jobs usually place country-specific cost differences at centre stage. However, the “globalisation” of companies is a complex process that is only partly driven by the search for cheaper production sites and “extended workbenches” abroad. Foreign activities of corporations do not arise exclusively in the context of cost-related job relocations, but rather are an element of comprehensive internationalisation and market access strategies (Dörrenbächer 2004; Wortmann 2004).

In the unanimous opinion of economists, global economic conditions demand new organisational responses from companies. A range of idealised types of coordination styles can be described (the literature offers a large number of similar typologies on this topic; see Perlmutter 1969; Bartlett/Ghoshal 1990): *ethnocentrically oriented companies* are essentially guided by their home markets when defining product standards. International management structures are centralistic and tend to be top-down; strategically centralised activities such as R&D take place mainly at corporate headquarters. A highly decentralised type is the *polycentric corporation*. The foreign subsidiaries are primarily oriented towards development and production of products for their own markets, and are largely autonomous in their activities there. Links between group units are weak. The geocentric corporation is considered the “multinational of the future”: it aims to “use the advantages of high-volume markets while responding flexibly to local particularities and culturally rooted differences in taste". (Dörre 1996, p. 17); at the same time it is oriented towards gaining access to know-how that is concentrated in specific regions. This type of corporation, with its transnational reference frame, is characterised by strongly networked structures and a high degree of consultation between units. Functional or product-specific competencies may be distributed very differently across the national units. Even such strategically vital activities as R&D are not automatically located at corporate headquarters. The “geocentric corporation” is an ideal type that is hardly ever achieved in the real world. However, the goal of a global integration of activities and the simultaneous adaptation to local particularities (and the utilisation of these particularities) is a key challenge for multinational corporations that is leading to a rapid expansion of internal communication and cooperation.

The share of R&D performed abroad by multinational corporations and the amount of internationally networked R&D have been increasing for some time (de Meyer 1993). For instance, the US-based aircraft manufacturer Boeing 2001 opened its first aviation research centre outside the USA in Spain in 2001. The facility is integrated into the “Phantom Works” division for high-level R&D. Boeing also has development operations in Australia and Russia. The Russian site is developing a new aircraft type (Rohde 2003, p. 612). Numerous multinational corporations also come to Silicon Valley in search of specific skills. Many European high-tech companies have set up subsidiaries there or are cooperating with partners in order to participate in the newest technology trends and the development of industry-specific standards.

Several factors (in addition to internal power structures) play a decisive role when positioning specific value creation activities within multinational corporations. They include market access, the desire to achieve economies of scale, access to qualified personnel or the innovative or technological capacities of a region. An important factor – but not the only factor – is the cost advantages of individual regions.

Highly networked multinational corporations have a strong change dynamic. The internal organisation and distribution of tasks within a "global player” is characterised by a high degree of optionality and a large number of possible links and task allocation possibilities. In some companies, the decision on which units will participate as internal suppliers is made on a project-to-project basis within a “quasi market”. When development activities are allocated, for instance, the decisive factor is often successful marketing in competition with other units, and not so much the centrally defined specifications. When decentralised units contend for increased competencies, the exercise of power and internal competition within the company play a considerable role.

3. KNOWLEDGE WORK ON THE ROAD: THE RELOCATION OF E-WORK

For a long time manufacturing activities were the focus of transfer processes. Later they spread to take in repetitive back office activities such as data entry or transcriptions. However, particularly since the 1990s, the transfer of highly skilled work has become a widespread phenomenon. It gains attention especially when jobs migrate to "exotic" low-wage countries such as Malaysia, India or Vietnam. But the forms taken by such transfers cover a far broader range, as illustrated by the European research project EMERGENCE[3]. A few key results are presented below.

The transfer of "knowledge work" is made possible through the availability of cheap and efficient information and communication technologies. They permit the rapid transfer of large quantities of data, real time audio and video communication over long distances and shared access by remote teams to common data resources. Electronically based "eWork" uses these IT&C technologies; it takes place outside an establishment, but within its control.

The EMERGENCE project examined the frequency of various forms of eWork (Huws/ O'Regan 2001, p. 15 et. seq.). 8000 establishments were surveyed. The main result of the survey in 2000: 49% of the establishments were practising some form of eWork (i.e. the relocation of electronically based work – whatever form it takes). The dominant form was outsourcing to other enterprises, which was practiced by 43% of the establishments surveyed, as opposed to the employment of the establishment's own employees at another location (12% of the establishments). Pure telework is not very widespread: Only 1.5% of the establishments have fully home-based employees. By contrast, about one in ten establishments has "multi-locational" employees, i.e. employees who do not work exclusively at the office. An underlying reason can be seen in the weakening of communication ties, social isolation and loss of managerial control associated with pure telework. Approximately 11% of the surveyed establishments use so-called eLanders – i.e. freelancers who perform their assignments using telecommunication links.

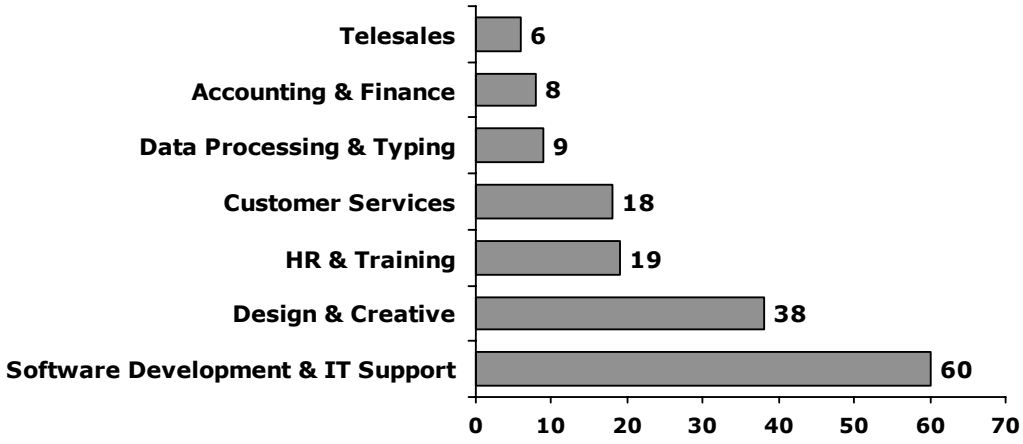
3.1. What tasks are being relocated? From data entry to legal consultation

The spread of IT-supported relocations since the 1990s has been accompanied by an increase in the range of outsourced activities. It extends from data entry or telephone-based customer service to activities involving high levels of innovation, creativity or analysis. This includes software development, computer animations, editing scientific texts or financial analysis. Complete business processes are also increasingly being outsourced (business process outsourcing), from personnel management to financial accounting to customer administration. The computing centres of many corporations are now operated from remote locations. At the turn of the millennium, a number of European financial service providers announced plans to outsource their entire IT operations to service providers such as IBM, HP or EDS.

An analysis of the outsourced functions – based on European establishments – reveals the following picture (Huws/O'Regan 2001):

EWork demand by business function (% of establishment engaging in eWork)
EWork describes information processing activities carried out away from an establishment through intensive use of telecommunication media.

[3] The EMERGENCE project (Estimation and Mapping of Employment Relocation in a Global Economy in the New Communications Environment) investigated the transfer of electronically based work by European companies between 2000 and 2002. Standardised interviews were conducted with 8000 companies, and more than 60 intensive case studies were carried out on selected cases of employment transfers. The subproject Asian EMERGENCE conducted a number of additional case studies to extend the analysis to Asia. The author was involved in both projects and conducted a number of interviews. Additional information is available on the site www.emergence.nu.



Source: EMERGENCE Employer Survey 2000 (EU + Hungary, Poland, Czech Republic)

A clearly evident phenomenon is the high volume of outsourcing of high-value work: Nearly 60% of European establishments that outsource IT&C-based work do so in the area of *software development or IT support*. Activities in the category *creative functions*, such as design, editing work or content production in the multimedia sector, ranked second among those most commonly affected. Other areas playing a major role are *personnel management* and *customer services* (primarily in call centres).

The range of white collar jobs included among the possible relocation candidates is accordingly large: "Any job that involves mostly ´... sitting at a desk, talking on the phone and working on a computer...´ is a job under potential threat" (Bardhan/ Kroll 2003, p.4). The spectrum of potentially affected professions ranges from legal assistants to software experts and doctors to mathematicians.

3.2. Outsourcing: not just to India

The outsourcing of services is usually discussed in connection with offshoring to certain countries such as India and Russia, Malaysia or China. Outsourcing, particularly in the IT sector, has indeed sparked a genuine boom and given rise to entire export-based sectors in some countries, above all India, which now has a mature service industry, numerous high-tech clusters and many first-class educational facilities. Nevertheless, most outsourcing tends to take place in an unspectacular manner within an establishment's home region. For instance, the survey of European establishments in the EMERGENCE project showed that 35% of the establishments outsourced IT&C-based activities within their own regions. Another 18% reported that they had outsourced work to a supplier in another region within the same country, and 5% had outsourced eWork to an external supplier located abroad.

A look at the destination countries of eWork shows that the notion that "all jobs are migrating to developing countries" is by no means true – at least when outsourcing originates with European establishments. They do not relocate knowledge-based activities primarily to Asia. The top 10 destination regions for outsourcing contracts include Poland, the Czech Republic and Hungary, alongside such high-wage regions as Baden-Württemberg or Hamburg, London or Brussels. India ranks 63rd among outsourcing destination countries in terms of frequency and Russia is in 69th place. The USA is higher in the table at 13th place.

The preponderance of destinations within Europe in the choice of outsourcing destinations becomes plausible when we consider the many motives prompting enterprises to outsource activities. Lower costs play an important role, but are not the only factor. Favouring the relocation of activities to nearby locations – and therefore opposed to intercontinental outsourcing – is the widespread need for frequent and intensive consultations with the partner enterprise.

3.3. Why companies outsource: the web of motives

As the quantitative survey and a number of case studies show, there are many different, frequently interrelated reasons for outsourcing. Cost motives are often the decisive factor, particularly in connection with routine tasks such as data entry or data processing. However, they are also an important factor for the outsourcing of other functions. The focus is usually on the differences in labour costs between the origin and destination countries, which are substantial in most cases; in addition, some countries link outsourcing to a reorganisation of processes (e.g. when combining activities at a single location is intended to yield further efficiency gains and a reduction in infrastructure costs). An important motivating factor for contracting out work is *rapid access to external capacities* and their *flexible adaptation* to changing needs. Another driving force is often the search for specific know-how when it would be too time-consuming or would make no sense to develop it internally. There is rarely just one reason behind outsourcing decisions.

Highly skilled IT services serve to illustrate that the logic of outsourcing can be multilayered over the course of time: Particularly in software development, many companies were incapable of filling their requirements for qualified staff locally at the turn of the millennium. The IT skills shortage threatened to become a real bottleneck for many companies, impeding development plans and projects. "We were not able to implement our planned projects internally," says one IT manager from the finance sector, describing the background of the decision to outsource software work to India in 2000. The low personnel costs of the offshore sites were usually a secondary benefit in this phase. However, in many cases it has since become a key argument for leaving outsourced activities abroad, or to carry out expansion only at the location with lower costs. Thus, an initially expansion oriented offshoring move has been tacitly turned into a downsizing measure at the original site. What begins as a move to overcome the shortage of IT specialists often takes root over the course of time and culminates in a steady enhancement of the status of the external unit (Hirschfeld 2003).

From expansion to reduction: the case of Ivy

In the 1990s the Swedish software company Ivy* wanted to develop new products, but could not find sufficient numbers of IT experts on the local labour market: "We hired anyone who could somehow do programming". To realise its ambitious business plans, Ivy founded a subsidiary in Sri Lanka, starting with a staff of 20. Until well into 2000 the company urgently needed all employees worldwide to implement its planned software developments. With the economic downturn since 2001, Ivy found itself facing increased cost pressures. Finally, 100 Swedish IT experts had to leave the company. Most of them had difficulty finding a new job in the changed economic situation. In the meantime, the importance of the software unit in Sri Lanka is being steadily enhanced. It now employs 300 people and performs 50% of Ivy's R&D activities. Growth is limited to Sri Lanka. "We can hire more staff in Sri Lanka and still cut costs," explains a top manager. The job cuts have led to serious tension between European and Asian employees – in a situation in which the IT experts from Sri Lanka still need to be familiarised with the company, and would be relying on cooperative support from their Swedish colleagues. Management now assumes that the resentment on the part of the Swedish employees will not simply vanish.

3.4. The significance of distance: the preference for "neighbourly" partners

When relocating manufacturing processes and knowledge-intensive activities, physical proximity remains an important factor in many cases. The long-anticipated "death of distance" has not occurred, despite the availability of IT&C technologies. In the case of manufacturing service providers in Silicon Valley it is evident that a significant portion of manufacturing work remains near the customer, i.e. the OEM, parallel to

* The company name has been changed. The confidentiality accorded to company names makes it easier for interview partners to discuss sensitive topics openly, and in many cases it is a precondition for access to the company.

production activities in Latin America. “The close relationship between manufacturers and OEMs that is made possible by maintaining production facilities in the Valley, rather than moving them overseas, allows for better communication and design assistance, especially in the early stages of production.” (Benner 2002, p. 67)

The opportunity for direct, face-to-face communication also plays an important role when companies must choose between "nearshoring" or "offshoring" of knowledge-based work. In many cases, existing contacts and personal recommendations are the decisive factor for selecting a location or partner. Obviously the “open market” is a less confidence-inspiring forum than personal relationships for company cooperative arrangements involving complex contents that are difficult to codify. The high relevance of close communication and trusting relationships may be an additional important factor, alongside regulatory conditions and mobility costs, explaining why domestic or at least European locations are among the most important outsourcing destinations for European establishments.

Some suppliers from distant continents have recognised potential customers' need for close and direct communication, and are establishing their own marketing offices near their customers to serve as intermediary units. Regional representatives are intended to help to establish trust on the part of potential customers and dispel any misgivings rooted in cultural differences. They function as contractual partners in dealings with the customers, thus creating confidence in the contractual arrangements. In addition, they perform operational coordination functions and serve as intermediaries moving between the various cultures.

3.5. Moving up the value chain? The cooperation dynamic over time

Corporate networks are highly mobile structures – after all, a high degree of flexibility is seen as one of their main advantages. Many outsourcing relationships are relatively enduring and become more intensive over time, while others are terminated after the completion of a project. From the suppliers’ standpoint, it is vital to know which factors will decide whether the work will stay with them, be reintegrated by the customer or move on to another supplier.

Approximately 30% of all cooperative activities are rated by the principal as only somewhat successful (Accenture 2002). Other sources cite a failure rate of 50%. Negative assessments of success are often at least partly the result of unrealistic expectations at the start of a cooperative arrangement. Cooperation between establishments, especially between partners separated by large distances, requires extensive internal adjustments, considerable coordination efforts and a great deal of travel. Frequently it takes a long time to reach the desired quality level with the supplier. “Fantastic cost savings” shrink rapidly when realistic cost assessments are applied. Potential causes for relocating activities back to the originating company or moving them on to another outsourcing partner are thus quality problems or the appearance of initially “invisible” costs of the relocation.

Technological changes can also prompt “the butterfly to flutter away again". Where new technological possibilities change cost structures, the previously favoured suppliers can quickly become obsolete, especially in the case of routine tasks. This was the experience of an Indian company with a long-standing contract to process tickets for a European airline. When it became possible to scan in the tickets, Bratislava seemed a more attractive site to the customer. Its relative proximity was a major factor (Flecker / Kirschenhofen 2002, p. 26).

Other outsourcing suppliers have succeeded in “moving up the value chain”, and establishing themselves as partners for more demanding tasks. This trend is very much in evidence in software development, where Indian companies are no longer limited to coding and testing, but also take on sophisticated architectural and design tasks. Gereffi describes a similar trend in the offshoring of textile production: “The key to Asia’s success was to move from (...) the mere assembly of imported inputs, typically in export-processing zones, to a more domestically integrated and higher value added-form of exporting broadly known in the industry as full-package supply” (Gereffi et.al. 2003, p. 12). Offshoring offers some companies, even in „low wage countries“, real opportunities for development by first taking on monotonous, low-qualified tasks under a Taylorism-based model of the division of labour between establishments. As many outsourcing companies

move up the value chain, highly complex activities that hitherto seemed securely in the hands of western specialists can become the object of outsourcing. However, one hurdle here is the high turnover which has impeded the development of complex know-how and knowledge gained by experience in many Indian firms, for instance[4].

The relocation of eWork is a process associated with a great deal of learning and adjustments. When it becomes established, additional outsourcing activities tend to become easier: "organisational and technological change necessary for relocating eWork will result in work organisations and information systems that make work easier to relocate again. Thus it can be concluded that the butterfly is not likely to settle for good, both because the conditions keep changing and because fluttering from blossom to blossom becomes easier every time" (Flecker/ Kirschenhofer 2002, p. XVIII).

The first indications of "transience" are being felt by Indian or Eastern European suppliers whose costs are beginning to appear (comparatively) expensive to their customers: With China or Russia, cheaper locations are already in sight. The identities of the winners and losers within the relocation dynamic can change quickly in the course of time.

4. WORKING CONDITIONS AND EMPLOYMENT SITUATION

Turbulent markets, high flexibility requirements and the increase in short-term ties are considered central features of the "globalised economy". Loosely coupled interorganisational ties and employment forms have gained in importance. Although there is certainly no clear evidence to support the widespread claim of the "erosion of the normal employment relationship", many employees are working within structures designed for flexibility. There has also been an increase in triangular employment relationships such as temping[5].

For employees, working in international networks or networks of companies involves numerous changes. When capacities and "human resources" are continually recombined, the people concerned face the necessity to reorient themselves frequently and adapt to new, transient structures and external colleagues. Mobility requirements are also increasing. When working within network structures, employees are exposed to a latent coexistence of cooperation and competition – particularly when we consider the strong dynamic of many structures.

4.1. The consequences for employment: from cooperation to job cuts

Relocations are usually discussed mainly in connection with job losses. In practice, some "relocations" are expansion-oriented (and create additional capacity at another location) and some are reduction-oriented. Even where outsourcing or offshoring entails a loss of jobs at the place of origin, this does not always require layoffs. Many companies offer other work to the employees concerned. Some employees are encouraged to follow the transferred jobs (either by changing employers or through geographical mobility)[6].

Transfers initially intended to expand a company's activities that do not appear to threaten jobs directly may gradually turn into instruments for reducing the workforce. This is the case when offshoring or nearshoring

[4] . A study of the development of Hungarian subsidiaries of German companies (Dörrenbächer/Gammelgaard 2004) also resulted in a skeptical assessment of the "upgrading" of foreign subsidiaries.

[5] There is a widespread opinion that individual employment careers are characterised by an increasing degree of discontinuity, frequent changes in activities, employment forms and employers: the century of the "patchwork career" seems to have arrived (Sennet 1998; Benner 2002, p. 32). These "erosion" theses seem to require differentiation. For instance, the average duration of employment within establishments in most western industrialised countries has hardly changed in recent years (Bosch 2003; Erlinghausen/Knuth 2003). The much-proclaimed dissolution of the "normal employment relationship" is disputed in the light of the available data. The same applies to the increase in self-employed forms of employment. At most, the rise in part-time work is unmistakeable, and strong growth in temping employment can be observed.

6 In this case, employee representatives – if there are any – get involved. Although they are seldom directly involved in the relocation decisions, they usually negotiate with the employer on the details of layoffs, reassignment or a change of employer. The negotiations include qualification considerations and maintaining the previous salary level.

has become established and personnel requirements decrease: many companies do not reduce their external capacities in times of crisis, but rather the workforce at their home site. Some relocations that start out as unproblematic employment growth thus gradually develop into job destroyers (from the standpoint of the employees with the originating company). This situation was experienced by some software experts with western companies after the IT boom was succeeded by the economic slump.

Another phenomenon also arises that does not lead to job reductions, but nevertheless endangers long-term employment at the originating sites. Many companies do not eliminate jobs when they outsource activities. However, when business expands, they do not recruit new staff for their home operations. Instead they increase only their external capacities. For the originating regions, this leads to "jobless growth"[7].

For the workforce of the originating company, the possible dynamic of relocations means an increase in insecurity and often a certain ambivalence toward the outsourcing partners. Employees of the originating companies often have the task of training their new "colleagues" at the destination site – thus providing training to the people who may be taking over their jobs in the distant or not so distant future. "I'm not going to raise my own competitors," says a German software developer, justifying his strategic/restrictive approach to sharing information with the Indian IT experts with whom he works.

Outsourcing is often not linked to quantitative consequences for employment, but rather with changes in the sphere of activity. Often there is an increased need for planning and coordination, monitoring and quality control. For many, this means a career move and liberation from "workaday routine tasks" (for instance when an architectural office outsources its drawing work to the Far East). Nevertheless, employees occasionally see this "upgrade" as a loss – for instance in the specific case of some software developers who rejected their employer's "offer" of new positions and left the company because they wanted to continue programming.

4.2. Asymmetrical employment conditions

The disaggregation of parts of the value chain is frequently associated with considerable differences in working conditions and terms of employment in the different companies. In vertical network relationships, the customers profit not only from the possibly lower labour costs and regulatory standards at other locations (especially in the case of offshoring). The focal companies often utilize the power asymmetries in the production networks to exert strong cost pressures in order to unilaterally take control of profits from the entire value chain. In the car industry, the rise of "networked cooperation" in the 1990s fuelled reports of rigid price negotiations that pushed some suppliers to the brink of bankruptcy (Bieber 1992, p. 282).

In Silicon Valley, the epitome of the high-tech cluster, increasing income disparity is evident not only between sectors (with the high-tech sector on top), but also between focal companies and their suppliers. There are also often major differences in terms of pay, social benefits and opportunities for advancement between temping agencies and their clients. Despite the strong growth of the outsourcing sector, the salaries paid there are far below those paid by other companies (Benner 2002, p. 220 et. seq.).

As a result, employees with very different working conditions and terms of employment are often brought together in company networks. Particularly temps spend their everyday working lives among the privileged members of the core workforce. Constellations of this kind easily lead to "two-class systems" within establishments which are also reflected in the interactions between "fixed" and "variable" staff, as one manager observed.

[7] A similar trend resulting in new employment mainly with the outsourcing partners can also be observed in the high-tech sector. For example, the telecommunications manufacturer Lucent eliminated many jobs in the period up to 2002. Instead of rehiring the laid off staff during upswing phases in accordance with the "lay off and rehire" pattern, Lucent will pass on the benefits of future growth only to outsourcing companies: "When and if Lucent recovers, large-scale in-house manufacturing will not resume in the Merrimack Valley because it has been outsourced and the complex sold to a local developer" (Gereffi et. al. 2004, p. 9).

Temps as flexibility buffers: subcontractors in Bangalore

The US high-tech manufacturer Globecom* established a software unit in the Indian state of Karnataka back in the 1980s. It serves primarily as a "resource pool" that is used flexibly in connection with project-related cooperation activities. The Indian subsidiary, whose own employees see themselves as highly privileged, secures this flexibility through the use of temps ("consultants"). Although the Globecom employees and the temps often work together in teams for the duration of several projects, some clear differences are evident in connection with their concrete employment situations. Not only do the temps earn less than their Globecom colleagues; they also often have to put up with late salary payments by the subcontracting company and inadequate administrative support (e.g. for business travel). The "consultants" swing themselves from project to project, never knowing whether they will be sent to another company shortly afterwards. "I don't know what they plan to do with me," said one consultant. The consultants' sense of belonging to Globecom always remains precarious.

4.3. Working globally: "adventure" and mobility stress

Cross-border work imposes a number of special demands on employees. They have to adjust their thinking to foreign cultures and approaches to work, bridge interorganisational control deficits and compensate for quality problems. Much of this takes place in a rather unspectacular manner, "on the side" and – although it is a stress factor – is rarely seen as a burden. A large share of those concerned consider the particularities of working in a "global network" as an exciting challenge, albeit interwoven with a few less appealing aspects.

This also applies to the heavy mobility demands that arise for a large number of cooperations. International cooperations and relocations require substantially greater personal mobility than the proliferation of information and communication technologies initially suggested (see Jaikumar/Upton 1993). Employees frequently move to another location for extended periods – perhaps to accompany the establishment of a new unit, transfer know-how or take on management or coordination responsibilities. Even when employees do not relocate, there is usually a great deal of travel between participating units. This is necessary for regular project meetings, building personal relationships (a vital "lubricant" for cooperation) and ad-hoc problem solving in critical project phases. On many software projects, IT experts spend approximately 50% of their working time travelling.

Although many see this mobility – particularly trips to distant countries – as exciting, some downsides are also described: During stays abroad, social contacts are usually limited to colleagues. Not everyone is keen on these contacts, which are half personal and half obligatory. Work goes on from early morning until late in the evening or night time because workers tend to ask, "What else should I do?" Intermezzos of tourism (such as day excursions into the desert or a visit to a temple in Bombay) alternate with a feeling of emptiness. Although companies sending employees abroad are usually generous in providing "infrastructure" support (visa, accommodation, per diems), there are substantial differences in subsequent support. The employees are often left alone to cope with the problems of everyday life (or must rely on the generosity of their local "colleagues"). Other companies provide comprehensive assistance ranging from help with setting up appointments with doctors to insurance advice and personal care.

Frequent travel greatly affects employees' ability to plan their personal lives. When people are unable to plan leisure time, social networks can easily thin out. Particularly employees with families of their own sometimes try to cut down on travel. In most cases, however, if they wish to keep their jobs, they cannot entirely avoid mobility requirements.

* The company name has been changed.

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