

Chapter 4

Relocation, the restructuring of the labour process and job quality

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1. Introduction

Organizations restructure their activities and relocate work to other subsidiaries and companies, both in their own countries and across borders. The key question of this chapter is whether work is transformed when it is moved and with what effect. Do companies simply duplicate the processes at the destination or are the activities restructured along the way, leading to changes in the division of labour? And what is the impact of such changes on job quality?

A central aim of this chapter is to better understand the spatial division of labour and how this is restructured in relocation projects. In doing so, we aim to help fill a gap in current knowledge on the impact of globalization on work. Economic globalization, its key characteristic of growing global interconnectedness between companies and regions, and the intensified international division of labour have been investigated and debated in a variety of studies using a wide range of theories and perspectives. In economics and economic geography, the trade relations between economic players or regions, and the behaviour of companies as economic players, form the dominant perspectives. On the other hand, sociological theories investigating global value chains and the international division of labour tend to focus on employment relations and industrial relations (Morgan, Kristensen and Whitley 2003; Bronfenbrenner 2007; Edwards *et al.* 2007; Robinson 2010; Riisgaard and Hammer 2011) or on employment conditions (Marchington *et al.* 2005; Flecker 2010). The descriptions and explanations of the way in which work is organized tend to be underdeveloped or not extensively addressed. The inter-organizational and spatial separation of activities and tasks has been less systematically investigated or focuses on the organization of departments (Gospel and Sako 2010) or business functions (Huws *et al.* 2009). If we are to really understand the consequences that relocations have on work, changes in the division of work need to be examined

closely. To the extent that the relocation of activities is accompanied by an increased division of labour and more fragmented labour processes and jobs, we can argue that relocations not only affect the voice of workers and their employment conditions, but also job content and intrinsic job quality.

To gain a better understanding of relocations from the perspective of changes in the division of labour, we need an in-depth understanding of what workers affected by relocations actually 'do': what tasks do they perform and with whom do they collaborate and how do these change after relocation? The focus is on the distribution of tasks between geographically dispersed units and the relationships between these tasks. This means that our prime interest is in the labour process and how this is restructured when part of the process is moved to other domestic or international subsidiaries (in the latter case we speak of offshoring) or to domestic or international companies through a trade relationship (outsourced).

These research questions were investigated in three in-depth case studies, selected out of a broad sample of 58 cases undertaken within the WORKS project, a large European study on the restructuring of value chains.¹ The cases represented a variety of labour processes ranging from highly-skilled knowledge work to semi-skilled manual and administrative work. The first case study focuses on the relocation of administrative order processing in the logistics of a food processing company. The second investigates the relocation of part of a customer service to a call centre. The third case study concerns the reorganization of the information technology (IT) departments of a number of regional health organizations.

For each case study, eight to ten semi-structured interviews with management and employee representatives from the organization were conducted in order to reconstruct the relocation, how it had developed, what measures and strategies had been deployed, and what the final outcome was. The interviews were complemented by company documents, enabling a comprehensive picture of the relocation process to be drawn. In addition, seven to nine in-depth individual interviews with employees

1. The WORKS project, Work Organisation Restructuring in the Knowledge-based Society, 6FP funding from the EU, contract n°: CIT3-CT-2005-006193.

directly involved in the relocation were carried out, both at the source and the destination companies. The interviews were transcribed for analysis. The data from the cases were mainly interpreted by means of a within-case analysis, as the primary focus was on understanding the idiosyncratic rationale of each case study. Though we attempt to analytically compare the three cases, the research approach taken implies that we make no claim for a generalizability of the conclusions.

2. Theoretical outline

2.1 Looking inside the black box of relocations

Our key aim is to understand whether and precisely how work changes when the spatial division of labour is altered. How is the production process of a good or a service, as a flow of material or information, organized? How are the different functions and tasks designed and how do they relate to each other? Do these flows, tasks and relations change when they are entirely or partly reorganized at a distance? Answering these questions enables us to analyse in-depth the job content of restructured labour processes and hence to draw conclusions on core dimensions of job quality.

One of the key reference concepts used today in the literature on offshoring and outsourcing is the global value chain, emphasizing the economic value added by the different activities before a product or service is delivered to the market (Huws *et al.* 2009: 25).² The different ‘nodes’, ‘boxes’, or ‘steps’ making up the global value chain are defined in the literature as activities or business functions. Porter (1985) focused on the technologically and economically distinct activities that a company performs to do business, each of which adds economic value to the end product (and thereby contributes to the company’s competitiveness). A number of studies mapping the employment impacts related to offshoring and outsourcing and the restructuring of global value chains build on Porter’s definition and approach, using the concept of business function to classify the activities composing value chains for their empirical

2. In one of the books setting out the conclusions of the WORKS project, a historical account of the various underlying theories behind the concept of the global value chain, which date back to 18th century economists, is summarized by Huws *et al.* (2009: 11ff).

investigations (Geurts, Coppin and Ramioul 2007; Statistics Denmark *et al.* 2008; Sturgeon and Gereffi 2009; Huws *et al.* 2009; Vandekerckhove and Ramioul 2015). Mostly, and as also used in the WORKS project from which our empirical data come, business functions are classified into primary activities – production, assembly, transport and distribution, sales and customer services – and secondary or support activities, such as finance and accounting, HRM, training and product development. In WORKS, the offshoring and outsourcing of a number of business functions (R&D, production, logistics, customer services, IT) were investigated in a range of industries to better understand contemporary changes in work.

However, activities (as defined by Porter) or business functions as such do not necessarily offer clarity on the division of labour, nor do they enable us to specify work organization, job content or the tasks making up those business functions (Ramioul 2012a, 2012b). For example, ‘customer service’ or ‘logistics’ as technologically and economically distinct activities do not provide any indication of what types of jobs are included, what tasks make up these jobs and how they relate to each other and to other activities. There is in reality a range of organizational diversity in ways of organizing business functions, even within a single sector.

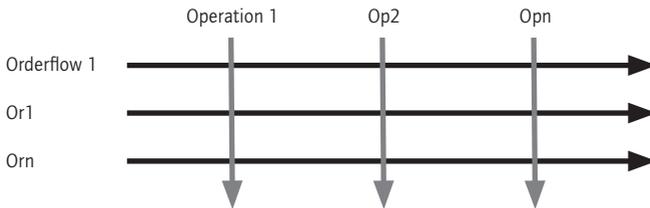
A related problem is the underlying assumption that global value chain restructuring involves the complete externalization of entire business functions. It is conceivable that corporate restructuring projects may also involve hiving off only some of the tasks and that, consequently, the division of labour *within* the business function changes through the relocation process. It is also imaginable that externalization is simultaneously preceded by or provokes changes in the division of labour. In such cases, it seems essential to look ‘inside the black box’ of business functions and analyse task composition at a lower level when seeking to identify changes in jobs and job quality in relation to relocation (*ibid.*).

2.2 Understanding the division of labour

In order to analyse the task composition of business functions and changes in these we need an analytical framework suitable to observe and understand the division of labour. Such a framework is provided by the SocioTechnical Organizational Structures Approach (STOSA) which finds its roots in a specific strand of sociotechnical systems theories

developed amongst others by de Sitter (1981) and other scholars from the Netherlands and Belgium (Christis and Korver 1992; Van Hootegem 2000; Van Eynatten and van der Zwaan 1998; Achterbergh and Vriens 2009; Ramioul 2012a, 2012b). As defined by de Sitter: 'An organisational structure is the grouping and coupling of transformations into tasks and the resulting relations between these tasks relative to orders' (cited in Achterbergh and Vriens 2009: 236). Variations in the division of labour are based on grouping principles of the different operations of a transformation process. These boil down to a choice between either a coupling of similar operations for a range of different orders or the coupling of all the different operations for groups of similar orders.³ For instance, 'production' can be organized, in broad terms, either by linking together all the technical operations (for example: sawing, milling, drilling, painting, assembling,...) involved in producing one product or by decoupling these technical operations and bundling them for all products on the basis of their technical similarity. This results in what is commonly referred to as a product-oriented or order-based *versus* a process-oriented or operation-based production flow. Operation-based production flows form the basis for production structures designed according to Taylorist division of labour principles where tasks are highly fragmented into shortcycled sub-operations. Figure 1 shows the basic ways of differentiating the grouping of operations in transformation processes.

Figure 1 Coupling all different operations for each (group of) orders or coupling all similar operations for all orders



3. Similar orders may refer to similar customers, similar products/services or similar projects (Christis 2009: 13).

By analysing the coupling or decoupling of the tasks of a transformation process, it becomes possible to explain organizational differences in the production of similar products or services. Due to the differences in these groupings, tasks in similar transformation processes can range from extremely fragmented, simple operations to wide-ranging, integrated and complex jobs (Van Hootegem 2000: 67ff).

Increasingly diverse products and services, heterogeneous clients and markets, and (sometimes unpredictable) fluctuations in orders and workloads lead to increased complexity in transformation processes. This forces an organization to break down the production structure into different and separate workflows. Following the principles set out, it should be preferable to do this according to order types and to integrate all different operations for one order (or a set of similar order types) rather than taking an operation-based approach. The reason for this is that the tasks involved in producing a single order (product or service) are highly interdependent. If these different tasks are separated and spread across different workflows, this increases organizational complexity and interdependency between, rather than within, workflows.

A core argument for reducing the complexity of production structures is that when tasks for producing one product are coupled, any disturbances that inevitably occur during the transformation process will be attenuated because the number of relationships and interfaces in the network of tasks and the variability within these relationships are reduced (Achterbergh and Vriens 2009: 261ff).⁴ At the same time, such order-based coupling will strengthen the regulatory potential to solve these disturbances. Especially in turbulent environments characterized by a high proneness to disturbances, an order-based structure is important. If, on the contrary, the different tasks involved in realizing a single product are assigned to separate flows, every product needs time to be passed on to the next flow which may generate disturbances. In addition, resolving such disturbances becomes more complex. Consequently, researchers in this area postulate avoiding the operation-based grouping of tasks and task fragmentation and instead striving for order-based flows generating so-called integrated tasks.

4. Christis (2009: 13) emphasises, however, that in the lean production model based on similar organizational principles and on just-in-time, the constant effort to achieve further reduction of in-process stock will increase the vulnerability of the production structure to disturbances.

Based on these important consequences of the design of transformation processes, a next question is: what will be the effect of these changes on the degree of disturbances and on the regulation potential of workers? An advanced geographical division of labour may result in complex (inter-)organizational structures and increase the number of relationships and interfaces within the network of tasks. The distance between tasks is likely both to amplify disturbances between highly interdependent and geographically and/or contractually dispersed tasks and to decrease the potential to adequately resolve these.

2.3 The link with job quality

In order to link the way the transformation process is designed (i.e. the division of labour) with job quality we apply the job demands/job control model, developed by Karasek and Theorell (Karasek 1979; Karasek and Theorell 1990) and tested, fine-tuned and enlarged by a broad strand of research. Job demands refer to ‘the physical, social and organizational aspects of work that require psychological and/or physical attention and effort’ (Holman and McClelland 2011: 17). Job resources enable the person to manage these job demands, facilitate the achievement of goals, promote learning and fulfil basic human needs (ibid.). Essentially, job resources refer to decision latitude but the concept has gradually been enlarged to include other work aspects, including feedback, social support, skills utilization and task significance (Demerouti *et al.* 2001).⁵

The link between the division of labour, as defined by the STOSA framework described above, and job quality is in fact easy to make. Processes designed as an operation-based grouping of operations and high levels of task fragmentation will confront workers with many disturbances and consequently place high job demands on them. At the same time workers lack the decision latitude, as a job resource, to resolve these disturbances. Jobs with high job demands and low job resources are defined as high

5. In addition it is now seen as common sense in the quality of work literature also to take into account other dimensions, which can be broadly grouped under ‘quality of employment’ (wages, working times, benefits, etc.) and ‘quality of empowerment’ (individual and collective voice and representation, access to training, etc.). Essentially, these additional dimensions include the core aspects involved in the allocation of workers to tasks, as well as their participation in the organization (Bustillo *et al.*, 2009; Holman & McClelland, 2011). Since our model places the emphasis on providing a coherent model of the organizational structure and its relation to job content, this broader set of dimensions is not included here.

strain jobs, characterized by concurrent high stress risks and low learning opportunities. In other words, job quality is likely to worsen with high division of labour levels because adequate levels of regulation potential and decision latitude will be lacking at the place where problems occur (and are more likely to happen) (Achterbergh and Vriens 2009: 257ff). Based on this premise, job quality is fostered by a low degree of disturbances and high regulative potential (van Eijnatten and van der Zwaan 1998: 303ff).

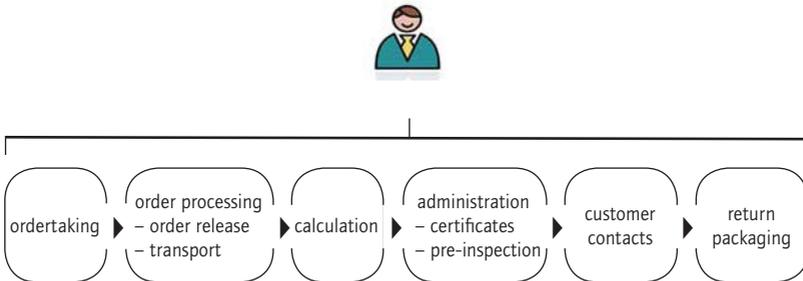
In conclusion, the key questions to address are: ‘Will the relocation of activities be related to changes in the division of labour?; and secondly: ‘What are the effects of these changes on the degree of disturbances and on regulation potential as key determinants of job quality?’.

3. Evidence from three disparate labour processes

3.1 The FOODLOG Logistics Business Shared Services Centre

The first case study, nicknamed FOODLOG, concerns the relocation of the logistics administration of a subsidiary of a global company in the food industry to a dedicated centralized Business Shared Services Centre (BSSC) (De Bruyn and Ramioul 2007). The rapid growth of FOODLOG and its evolution into a global company was accompanied by a huge number of subsequent comprehensive reorganization projects intended to optimize the dispersed activities and the links between them and harmonize processes and operations. The overall corporate strategy was to offshore and centralize operations into BSSCs. Due to the geographically dispersed nature of the various plants and activities and the global nature of the market, there was a vast and complex network of flows of raw materials, packaging, a variety of end products and flows of returned empty packaging between the different domestic and international sites, making logistics flows increasingly complex. Together with the logistics administration units of other European subsidiaries, the logistics department of the Benelux subsidiary – the subject of the study – was therefore relocated to a newly created BSSC. The original workflow is depicted in Figure 2. It shows that, before the relocation into the new BSSC, the work of the logistics administration departments was organized in such a way that one employee was responsible for the entire order workflow for a number of customers.

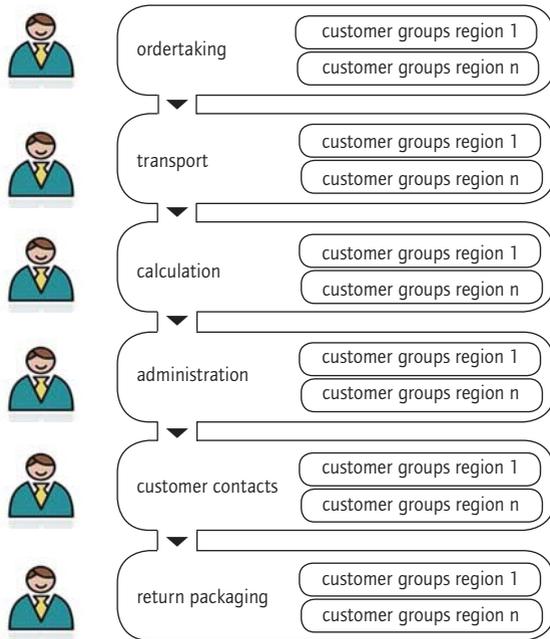
Figure 2 The logistics workflow of the unit before relocation



Contrary to the original idea, not all logistic activities were offshored: the key middle task in order processing, order release, was decoupled from the transferred workflow and not centralized, remaining at the Benelux site. The restructured process involved the following steps: the centralized BSSC entered the orders into the system, the Benelux site checked the availability of the different products at the different sites and released the order, which was then communicated back to the BSSC which in turn organized transport to the customer, calculated the required containers and processed the administrative formalities for the order. Order release was the most difficult task in the workflow. The main reason for this part of the process not being transferred was the fact that order release was based on IT inventory and production planning systems that were not integrated. Subdividing the workflow in this way meant, however, that the BSSC remained highly dependent on the Benelux site for processing its orders. For both parties, relocation complicated the whole process as an order had to move back and forth when being processed.

In addition to the incomplete transfer, work organization was fundamentally redesigned and shifted from an order-based to an operation-based division of labour. In the original (Benelux) set-up each customer had had a single point of contact for the entire order process. In other words, all operations for processing one order were grouped. In the new BSSC set-up, by contrast, individual employees were each only responsible for one subtask which they had to perform for a number of customer groups, as depicted in Figure 3. As a result, they had neither an overview of the whole logistics process for a specific order nor the potential to solve any problems occurring during order processing.

Figure 3 The logistics workflow of the restructured FOODLOG unit



This radically different work organization at the centralized BSSC led to considerable efficiency losses and unexpected costs: container loads were not correctly calculated, information on delivery schedules was missing, custom forms were missing, empty packaging went lost, communication with customers was inadequate, there were delays in transport, etc. These problems were more numerous and lasted longer than expected. The underperformance of the new unit was first and foremost caused by the lacking overview of the operation-based process and by the fact that not all order processing tasks were transferred. This in turn considerably reduced the decision latitude of BSSC employees, as expressed by the local manager:

‘What you lose is customer focus and some process visibility because if order acceptance makes a mistake and it is not spotted, it has repercussions on the next steps.’ (Supervisor Benelux export operations BSSC)

A second source of problems was the lack of experience among the new BSSC employees and the loss of contextualized, uncodified knowledge. The FOODLOG employees reported that, over the years, they had developed their personal work practices to handle specific situations and problems in order processing. These included the setting up of specific, personalized systems and tools, such as small notebooks or electronic files, to keep track of order processing and to store information on customers, forms, customs officers, etc. These working practices were highly personalized and not shared.

The persistent problems in the restructured order processing department prompted management to make certain corrections. These were mainly geared towards intensified codification of workprocess knowledge and intensified monitoring: the introduction of key performance indicators and the systematic recording and analysis of errors. In addition, they installed a 'rescue team' to fire-fight and temporarily help out the BSSC in order to minimize performance losses and partially compensate for the loss of uncodified knowledge.

3.2 Separating questions and answers: CITYLIFE

The second relocation case considers the outsourcing of inbound telephone customer services of an Austrian city's public housing administration (Schönauer 2007). The administration of the 220,000 city apartments was managed via a company, nicknamed CITYLIFE, which operated a range of decentralized walk-in customer service centres responsible for all tasks relating to renting apartments: the administrative and legal procedures related to the tenancy (contracts, payments and deposits), lawsuits in the case of conflicts (for example, over rent arrears), apartment sales, housing improvements, and maintenance and interventions in the case of technical defects. The main problem the management wanted to tackle was the poor quality of the telephone service: long waiting queues on the telephone and employees almost impossible to contact. The service centre employees were frustrated too because they were constantly interrupted by incoming telephone calls, which were most of the time very short requests for basic information (addresses, opening hours). These calls disturbed employees when handling more complex customer questions which required face-to-face, personalized meetings. The decision was taken to centralize and outsource the inbound telephone service of the service centres to a call centre, MULTICALL.

The management concluded that the best idea for reorganizing customer services was to subdivide them by decoupling what they called 'obvious tasks'. The call centre management stated:

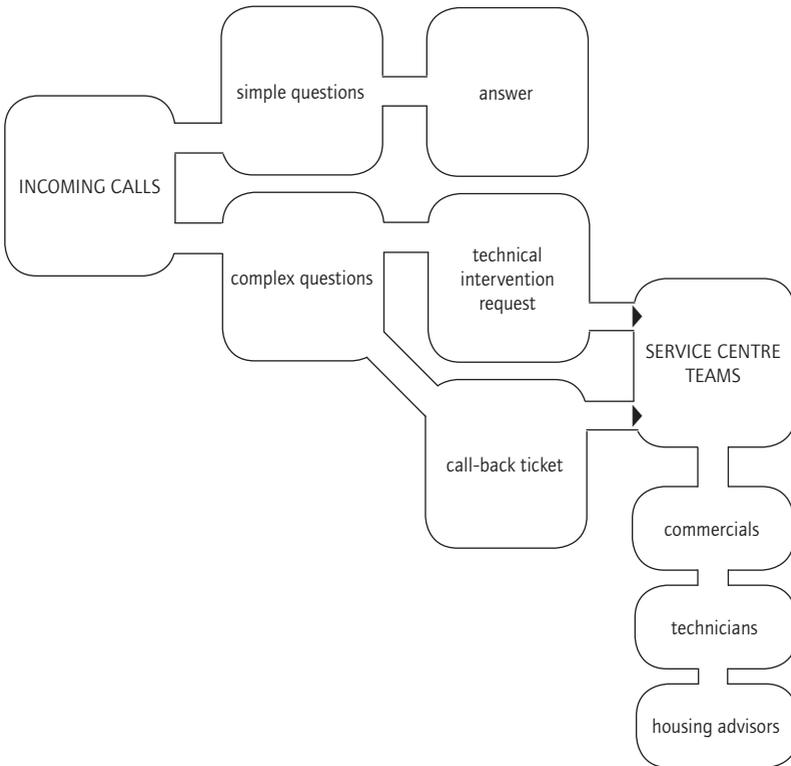
'... and so the idea emerged of outsourcing on the basis of differences in knowledge-intensity: very specific questions can be shifted to the call centre because there are many areas in which services can be delivered 24 hours a day by non-qualified rather than skilled staff.'
(Manager MULTICALL)

All incoming phone calls from customers were handled at the call centre, which acted as a filter. If the customer query concerned an issue that required intervention by the service centre team, the call centre agent entered an electronic 'call-back ticket' or 'technical intervention request' and forwarded it to the employee who could then provide the answer when he or she saw fit. This ticket included the contact details of the customer and a basic description of the problem or the question. At the service centre, the employees prepared the telephone call based on the information on the ticket and made the calls at their own convenience and taking into account the other customers with whom they had (face-to-face) appointments. Figure 4 depicts the restructured workflow.

In order to separate the inbound customer questions and relocate them to the call centre, the entire workflow was analysed, documented and also digitized into a central knowledge database. This was then used to guide the MULTICALL agents through an algorithm of questions aimed at refining the customer request.

The restructuring of the telephone services meant that task components belonging to the same workflow, question and answer, were first decoupled and then reconnected using an electronic ticket. A neat cut-off point between the two contrasting types of customer service was envisaged. For most simple questions, which concerned almost half of the 3,500 daily questions, the quality of service improved as a result. In the case of more complex customer requests, assessment was mixed. On the one hand, responses by the service centre agents could be better prepared and were no longer interrupted. On the other hand, decoupling the question from the answer created a complicated workflow which impacted service quality and increased the risk of errors. The link between the person receiving the question and the provider of the response turned out not to be entirely seamless in reality. In addition, there was no direct

Figure 4 The customer services workflow at CITYLIFE-MULTICALL



exchange or interaction between the respective workers. The call-back ticket turned out to be the Achilles heel. Mistakes in producing the ticket gave rise to additional iterative communications between customers, call centre and service centre employees. First, the time lag between question and response generated customer frustration since he or she had to wait for the call-back before the problem could be resolved. Next, the call centre agent had to rely on a personal interpretation of the customer's message. This became apparent in that it was often difficult for the service centre employee to learn exactly what was needed from the electronic ticket alone. A typical case was that customers exaggerated the urgency or seriousness of a defect, a situation difficult for the call centre

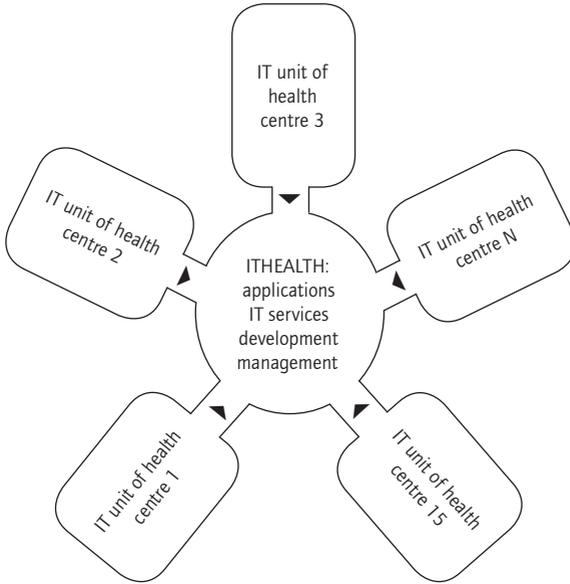
agent to assess. Problems were also related to the fact that the knowledge database contained a lot of errors and had to be constantly updated. Yet another important source of bugs in the workflow was the fact that the call centre agents were cut off from the decentralized service centres and the actions taken by the service centre employees. The latter were in turn not always informed either about actions taken by the agents or about what they had told the customer on the phone. In some cases, customers told the agents that they did not understand what the service centre agent had told them and asked whether the agent would be so kind to repeat this to them. However, the agent had no idea what the response was. The only solution in all those cases was to try to comfort the customer by preparing a new ticket with the same request. In other words: the outcome was a more complicated workflow with highly inter-dependent tasks and reduced capacities to adequately resolve problems.

3.3 IT Health

The last case concerns the outsourcing of IT services by a number of publicly-owned hospitals and healthcare service organizations in a region of Norway (Dahl-Jørgensen and Torvatn 2007). Originally nine independent hospitals and six health centres had their own IT units. The restructuring project included transferring these IT units to a new firm, ITHEALTH, which was still publicly owned but economically independent.

The fifteen IT units were centralized and their activities concentrated into a single unit process. In other words, rather than integrating the IT activities into each decentralized health centre, which was originally the case, all IT activities were pulled out of these and coupled to serve all. The local health organizations transferred all their IT workers, equipment and contracts to ITHEALTH, which consequently owned, operated, maintained and developed the whole IT-related infrastructure at the different health centres. This was expected to yield various improvements in costs and efficiency, such as centralized purchasing, coordinated use of resources and standardization of work processes. The health centres negotiated specific contracts with ITHEALTH to receive the required IT services. After a while, each of the health centres installed a specific IT procurement officer as their link to ITHEALTH, responsible for co-ordinating development and maintenance at their location. Later, some centres further divided the tasks of this liaison function between

Figure 5 Geographical centralization and concentration at ITHEALTH



a legal-contractual and a technical profile with the aim of co-ordinating the workflow between the health centre and ITHEALTH.

ITHEALTH was itself split up into four operational groups, each responsible for a specific aspect of IT services at all health centres: management, development, IT services and applications. The ‘applications’ team was responsible for all software development previously done locally at the individual health centres. This team tailored the databases to meet the specific requirements of the different health centres and maintained these over their life-cycles (for example, electronic patient records, patient administration, laboratory computer systems, etc.). The ‘IT services’ unit included a centralized customer service centre supporting all health centres and responsible for resolving first-level problems, while forwarding more complex ones to a central technical support group. Before restructuring, contacts between the helpdesk and the staff at the health organizations were direct, while after the restructuring every query had to go through this central helpdesk. In addition, helpdesk work organization was changed. Previously there was a job rotation

arrangement between first-level and second-level helpdesks, resulting in all staff having more versatile competences. After restructuring, IT consultants were assigned either to the first-level or the second-level helpdesk with no possibility of switching.

The objective of full centralization of all IT activities was not achieved. The main reason why not all tasks were eventually shifted was the existing IT infrastructures and related expertise required to maintain these, and the fact that some local health organizations still continued to develop their own IT applications. Moreover, the helpdesk could not be fully centralized and each location maintained its own helpdesk as there were still locally developed IT systems which required the specific skills of the former IT employees. The objective of a standardized, operation-based system and a fully centralized helpdesk was therefore not realized (at the time of the investigation).

4. Analysis

4.1 Relocations based on assessed knowledge requirements

A first observation is that in all cases knowledge requirements of the activities being restructuring were decisive for the design of the relocations – an observation backed up by the literature (Schamp, Rentmeister and Lo 2004; Gereffi, Humphrey and Sturgeon 2005; Mirani 2007; Petersen *et al.* 2008; Valenduc *et al.* 2008; Kletzer and Jensen 2009; Goos, Manning and Salomons 2009; Maenen 2010). The tasks that were least complex and required least interaction were decoupled and relocated. In all three cases, the common feature of the tasks retained at source was their complexity and/or required contextualization by workers, understood as the necessity to adapt the prescriptions by taking account of the specific and unique characteristics of orders or customers. At CITYLIFE, this dividing line was relatively easy to identify according to management. Those parts of customer services where customer interaction had the greatest chance of being limited to a one-off encounter and referred to standardized answers were decoupled, while the more complex personal contacts with customers remained in the service centers. But also at FOODLOG, order release as the most complex task of order processing was not relocated but decoupled from the transferred workflow.

4.2 No lift and shift operations

Second, it seems that none of the cases were designed as a pure ‘lift and shift’ operation. All cases involved changes in the division of labour in relation to geographical relocation. These changes were deliberately planned as part of the relocation projects. In the three cases these included shifts from order-based to operation-based flows, implying a decoupling of the different operations of the order flows and a coupling of the similar operations for all order flows. In FOODLOG and ITHEALTH the expected benefits of centralization and the shift to operation-based workflows were rationalization, increased efficiency and productivity, and economies of scale. Workflows based on functional groupings of operations are indeed expected to provide such economic benefits (Daft 2007: 91). In the case of CITYLIFE, the aim was to improve customer services provision for a public service in a context of expanded service requirements.

But in addition to this deliberately planned division of labour, the practical implementation of the relocation projects imposed *additional* interventions in the workflow. These resulted from the fact that the relocation projects could not be implemented as originally envisaged. In the three cases, fully shifting all tasks of the activities to be relocated was inhibited by the specific characteristics of certain operations, information, technical infrastructures, data or competences. As a result, management had to re-organize the workflows taking account of the non-transferred operations.

ITHEALTH convincingly demonstrates how additional interventions were necessary to solve unforeseen problems. First, the centralization operation could not be fully accomplished due to the existence of site-specific technological infrastructures and the fact that the local sites continued to acquire and implement their own IT systems. This situation generated the need to keep the previous employees on standby to provide support for the local infrastructures. The centralization of all IT activities further meant that new procedures were required to bridge the gap between the service providers and the various departments and to meet additional regulation needs of the spatially dispersed IT. This problem was partially solved by creating a specific liaison function between the concentrated IT unit and the different health organizations: the IT procurers. This new function was further divided into contractual aspects of collaboration with ITHEALTH and a technical liaison function to collaborate on IT projects on a day-to-day basis. In addition, it turned

out that the need for a helpdesk had grown as a result of the relocation. As has been explained, tasks were also further subdivided. These examples demonstrate that a further fragmentation at the level of the individual tasks of the operation-based flows was applied in the course of the implementation.

4.3 Growing workflow complexity

A third observation is that the relocations led to growing workflow complexity, associated with increased vulnerability in the case of errors and a reduced capacity to adequately resolve them. The reason for this is that in the relocated processes the decoupled tasks involved in producing a single order or customer request remained interdependent. Decoupled tasks need to be linked and coordinated in order to secure seamless processes. Geographical distance added complexity to these coordination requirements because remote communication and interventions are more complex and prone to misunderstandings than collocated interaction (Cramton 2001). Looking closer at the errors and disturbances that occurred in each case after relocation, there are indications that a number of problems seemed not to be primarily caused by the distance between adjacent tasks, but rather by the way in which the relocation process was designed and implemented. The fact that not all tasks were transferred was one cause. The outcome was that work had to be shifted back and forth in an iterative process, often involving several loops before a task could be completed. But the relocated jobs were also redesigned in a way that the workers had to take care of only one step of the process rather than being responsible for an entire order or customer. This shift to more fragmented tasks and an operation-based division of labour resulted in the loss of a comprehensive overview of the workflow (which prevented correct diagnosis of any disturbances by the workers at the outset), broken links between decoupled but interdependent tasks and a reduction in regulative discretion. It was observed that these problems triggered the need for additional organizational interventions in order to introduce new ways of coordination.

4.4 Impact on job content and job quality

It is evident from the overview that, as a result of these combined interventions, the relocations left few individual jobs unaffected. In

particular, the relocations eventually resulted in smaller and fragmented tasks at the destination sites. This increased division of labour and the spatial dispersion of labour processes and tasks tended to affect job quality because workers were confronted with new problems and disturbances but lacked the resources to resolve them. Increased problem-solving requirements, as job demands, can only provide challenges and learning opportunities for workers if they are indeed accompanied by adequate problem-solving capacities related to decision latitude and support (as job resources). Since that was not the case, the result was a deterioration of job quality, with workers facing more stress risks and having less learning opportunities. This was the outcome at both the new destination units and the source companies.

4.5 Managerial attempts to solve the problems

In all cases the companies attempted to reduce the (often unexpected and underestimated) performance losses associated with the relocation project, having to find solutions to the unforeseen problems that occurred during its implementation. In all cases, a range of interventions were intended to create additional regulation potential and establish functional coordination between decoupled activities organized remotely. These were often conceived from the start, but sometimes management also felt the need to intervene during the implementation of the restructuring process to solve the problems that had emerged. Overall, these interventions involved operational staff at both source and destination organizations.

Several of such coordination mechanisms identified in the literature (Mirani 2007; Flecker *et al.* 2008; Maenen 2010) are observed in the cases. These can be broadly grouped as follows: (1) implementation of information and communication technologies (ICT), (2) standardization and formalization of procedures and processes, (3) installation of boundary-spanning functions and (4) installation of dedicated communication channels.

First, it appears that a lot was expected from ICT in terms of integrating information flows and coordinating work, which is in line with observations that restructuring is generally supported by dedicated ICT infrastructures (Greenan *et al.* 2009). However, it seems that while ICT may perhaps show great promise in terms of increasing communication

capacities, coordination capacities are not necessarily improved. The role of ICT in bridging time and space was mentioned in several cases, but indeed was not necessarily described as unproblematic.

Second, original staffing capacity, for example a scaled-down ‘rescue team’, was kept in place at the source in order to solve the problems created by the relocation or pending full completion of the relocation process. This turned out to be necessary in particular because the required competences had not (yet) been acquired by the destination company, as in the cases of FOODLOG and ITHEALTH. Generally, this type of additional regulation mechanism was conceived as transitory.

Third, it seems that in several cases increased bureaucratization based on intensified standardization of processes, more procedures and monitoring, such as the introduction of key performance indicators, the use of surveillance and control tools and so on, accompanied the relocation (Flecker *et al.* 2008). Such formalization and proceduralization were observed at both ends of the restructured workflows. In other words, it seems not to be the case that it was only the destination unit where a greater division of labour was implemented and which faced these organizational challenges. The source units also took their share. At CIT-YLIFE, the team-based service centres were confronted with increased bureaucratization and monitoring of their work caused by the overall standardization of the workflow, ICT-based tools and data processing systems that underpinned the outsourcing and relocation of the inbound telephone service. Consequently they were subjected to the same detailed service levels, strict guidelines and surveillance as the call centre agents.

Fourth, functional coordination was achieved by creating additional layers in the organization, such as specific coordination units or boundary-spanning functions. Putting specific liaison staff in place was a common solution specifically designed to establish operational links between dispersed business functions and intended to safeguard opportunities for regulative intervention. In the three cases the boundary-spanning function was assigned to the existing first-level hierarchy at the source.

5. Conclusions

The first and most important conclusion is that the relocations investigated were not simple lift and shift operations but seriously affected

division of labour. And while, in search of productivity gains, a greater division of labour was an intended goal of the restructuring to begin with, it was further boosted by the unexpected problems associated with the restructuring. In the relocations analysed, the work changed profoundly and generated a sharp contrast in outcomes at both ends of what was originally a single, integrated labour process. Especially at the destination sites, tasks tended to be more divided and fragmented. The analysis further demonstrates that the separated activities often remained highly interdependent, leading to complex processes that were more sensitive to disturbances. This outcome can to a fair extent be explained by the combination of a shift to operation-based production structures, the incomplete transfer of tasks belonging to one workflow and the necessity to organize interdependent activities remotely. These increased the need for various forms of functional coordination. The increased division of labour and the spatial dispersion of labour processes and tasks tended to affect job quality because workers were confronted with new problems and disturbances, in other words more job demands, but lacked the resources to solve them.

From our research we have reached the conclusion that explicit awareness of the way labour processes and jobs are redesigned in restructuring projects may be just as important as fair compensation and decent alternative offers of employment. Sufficient time and resources should be allowed for true participation of workers, even in the design, preparation and practical implementation of restructuring.

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