Soft skills, tacit ties

An explorative case study about the relationship between knowledge types and migration patterns

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Cover photo: the main building of the Dutch office of Capgemini at Papendorp, Utrecht; retrieved from the website of Capgemini: http://www.capgemini.com/m/nl/img/totaalbeeld.jpg

Abstract

The Global City theory, with Saskia Sassen as its main scholar, explains the paradox of the growing concentration of economic activity in certain places in an era of globalisation, in which distance appears to be "tamed" by information technology, by stating that some of these places (notably Global Cities) manage the complexities that arise from the fact that firms increasingly operate in multiple markets. Increasingly, headquarters of multinational corporations outsource the complex business processes dealing with the coordination of international production to specialised producer service firms (for example, accountancy firms, law firms, consultancy firms). These firms tend to cluster in Global Cities because of the complex nature of the processes these firms are involved in and therefore require face-to-face communication of highly skilled professionals on a daily basis.

The urban areas and the firms dealing with the complexities of economic globalisation are assumed to have global connections with each other because of their need to provide services at a global scale. One of the assumed prerequisites of the advanced producer services involved is a hypermobile elite performing complex tasks in an economy in which firms operate globally.

However, the question is to what extent this elite truly is hyper-mobile in the sense of being entirely footloose. Recent findings in the geography of knowledge suggest that a certain type of knowledge (tacit knowledge) is hard to transfer without a shared context and tends to be spatially clustered, while another type (codified knowledge) has a much more universal character and is more or less flowing freely around the globe. This chimes with the perceived place-boundedness of occupations associated with operating in multiple markets.

So there is a tension between the notion of a hyper-mobile, footloose elite on the one hand and the geographical embeddedness of 'tacit knowledge' on the other. The central point of this report is that there are many realms – especially globally operating advanced producer service firms – that offer both the possibility of global mobility and function as a context for the development, distribution and utilisation of tacit knowledge.

Reviewing the body of literature on the geography of knowledge, there are a number of assumptions on tacit knowledge that are widely agreed upon: first, the distinction between tacit and codified knowledge; second, tacit knowledge needs a constant context for adequate transfer and communication; third, there are different kinds of skills associated with the different kinds of knowledge; fourth, the reliance on geographical proximity is greater for tacit knowledge than for codified knowledge; fifth and last, there could be other forms of proximity (relational, cultural, institutional) that play a role in facilitating the transfer of tacit knowledge.

These assumptions were used as guiding principles in an empirical study of highly-skilled Indian employees of Capgemini in the Netherlands. The most important finding was that there are multiple proximities that play a role in facilitating or hampering a smooth transfer from one context (be it a geography, a company or a culture) to another.

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1. Introduction

Scholars on the international division of labour and the migration that is part of it often report on both a professional elite from economically advanced regions and low-skilled migrants from economically less developed (but not necessarily the poorest) countries, flowing between the economically most important city-regions, the so-called "Global Cities" or "World Cities" (cf. Sassen 2001). Indian knowledge migrants do not fit into that picture: although they are skilled, India is economically still considered a peripheral region[1]. At face value, the case of the Indian knowledge migrants working for Capgemini thus seems to defy the dominant literature on Global City formation and its assumptions on the migration of highly skilled labour.

Newspaper articles on Indian knowledge migrants in the Netherlands contain suggestions of a rapid increase of the migration of skilled knowledge workers from India to the Netherlands and other Western European countries (Groot 2008; Moes 2007; Weeda 2009) as well as a growing number of Indian ICT-companies penetrating the European market (Groot 2008; Leupen 2008; Velthuis 2008). In these articles, the Indians are presented as highly skilled, hard-working and flexible. An often mentioned reason for the employment of Indians is the fact that the Western labour markets fail to meet their own, annually growing demand for skilled ICT-labour and therefore resort to the large number of Indians graduating from ICT-educations every year (Daling 2007; Groot 2008; Leupen 2007; Schouten 2007) who are willing to work for lower wages than their European counterparts (Leupen 2007). But there

[1] Many scholars on urbanism claim that in order to discern core and periphery on a global level, instead of comparing different countries, one should look at the relative impact and interconnectedness of Global Cities. However, even a prominent scholar like Saskia Sassen states that it is possible to speak of a 'global north' (Sassen 2006 [2002]: 90) in which most dominant Global Cities are located. This claim is empirically backed up by Taylor, Walker and Beaverstock (2002: 100-101), who charted the Global Cities and their importance: their map clearly shows that the vast majority of the Global Cities is located in the northern hemisphere.

were also other views: the work of Indian ICT-migrants is assumed to be rather routine and mainly involving writing programming codes (Leupen 2007; Leupen 2008; Moes 2007; De Ronde 2007; Schouten 2007). They are also perceived to lack the "soft skills" needed for the more highly regarded jobs in the European ICT-sector, jobs that entail frequent and intensive contact with other parties and partly rely on cultural and regional subtleties; consulting and managerial jobs, for instance (Schouten 2007; Velthuis 2008). This leaves one wondering what the actual content of these jobs is.

This research will look further into the content and context of the work these knowledge migrants perform, the restraints and advantages they encounter when working in an overseas ICT-environment and its consequences for their position in the company, as well as for their place in the hierarchy of the global workforce.

Hence the preliminary research question:

To what extent can the migration patterns of highly skilled Indian knowledge migrants working for Capgemini in the Netherlands be explained by existing literature on knowledge and migration?

Because of the explorative nature of this research, this research question will be refined later in this report. First, there will be an examination of what so-called "Global City"-theories have to say about the migration of highly skilled workers. This will be done by focusing mainly on the work of Saskia Sassen (chapter 2). Then, this approach will be compared to the growing body of research on the geography of knowledge (chapter 3). Subsequently, it will become clear that, although Sassen has taken the theory on the geography of knowledge into account, there still is research to be done on the extent to which knowledge flows freely around the globe (chapter 4, part 1).

One the one hand, Sassen sees crucial knowledge as embodied in members of a hypermobile elite. On the other, she recognises (together with scholars on the

geography of knowledge) the place-boundedness of the knowledge that is crucial for running the global economic system she discerns. Using the theoretical notions agreed upon by the scholars in the field of the geography of knowledge, the definitive research question, along with some subquestions, will be formulated (chapter 4, part 2). After that, the methodological approach will be presented, along with the case of Capgemini in the Netherlands (chapter 5). Following this presentation the findings of this research will be summed up and interpreted (chapter 6). The last part of this report will translate these findings into conclusions and implications (chapter 7).

2. The Global City-approach

Within the discourse on the transferability of knowledge and its competitive role in a globalised economy, two main approaches can be discerned. One sees the most crucial knowledge as basically embodied in individuals belonging to a worldwide, hypermobile elite, while another sees this knowledge as embedded in spatial networks.

In the following two chapters, an overview of both theoretical approaches will be presented. Subsequently, it will be argued that when it comes to the role of labour migration, the exclusive focus of both theories leaves room for further research. Finally, a possible synthesis of both labour migration theories is being offered, eventually leading to the research questions.

2.1. Sassen on Global Cities

Saskia Sassen opens the re-issue of her book *The Global City* with seven hypotheses, which, along with the more concise articles she wrote on the subject, provide a good overview of her main arguments concerning the urban consequences of economic globalization (Sassen 2001: xix-xxi):

1. The increased magnitude and complexity of transnational business and capital flows and their geographic dispersal call for central coordination.
2. The increasing complexity of these central functions makes a growing number of large global firms outsource these functions to highly specialised service firms[2].
3. The complexity of the services of service firms engaged in the most complex and globalised markets subjects them to agglomeration economies: only the local mix of firms, talent and specific expertise can

[2] Examples of such firms are: consultancy firms, law firms and accountancy firms.

deal with the complexity, uncertainty and required speed involved with these transactions. This specific local density of information constitutes a distinct urban milieu (the Global City), which is a production site for the leading information industries of our time.

4. The more headquarters outsource their most complex, unstandardised functions, the freer they are to opt for any location. The work that remains at the headquarters, after all, is decreasingly subjected to agglomeration economies.
5. The need of specialised service firms to provide a global[3] service has meant a global interconnectivity of service firms, transcending former geopolitical borders and is leading to a formation of transnational urban systems; a powershift partly facilitated by the growing importance of transnational investment flows and the reduced role of the government in the regulation of international economics.
6. The strategic role of specialised service firms raises the value and number of top level professionals. Workers lacking the qualifications needed for these jobs are likely to experience an opposite effect: the movement of manufacturing jobs and industrial services to economically less affluent – and thus less expensive – parts of the world forces them to settle for lower wages. These dynamics lead to a polarisation of the labour market in Global Cities.
7. This relocation of manufacturing jobs and industrial services leads to a growing informalisation of several economic activities in and around Global Cities: the increased global competition from high-profit making

[3] After all, these service firms deal with the complexities multinational corporations encounter when they locate one or more parts of their production process to non-domestic markets. Thus, their scope is inevitably global.

> firms makes that the only way to for firms in these cities to be profitable in meeting the local demand, is to informalise (parts of the) production and distribution activities.

Naturally, Sassen's Global City-theory is not the only theory on urban inequality and globalisation. However, she was one of the first scholars, together with John Friedmann (2006 [1986]), to pair theories on migration with theories on the international division of labour, and, more importantly, to discern Global Cities as key nodes in the complex network of transnational investments. By doing so, she created a precedent for a distinct type of research on this subject[4]. The rapid growth of research on this topic eventually led to the aforementioned re-issue of her *magnum opus*.

Of course, both her theory and the underlying research did not remain unchallenged; especially her hypothesis concerning the polarisation of the labour market of the Global City has empirically been toned down (cf. Fainstein 2006 [2001]; Van der Waal & Burgers 2009).

Although Sassen does not explicitly stress the importance of it in her seven hypotheses, global labour migration is a prerequisite for a truly global division of labour and its urban manifestations. The development of and growing demand for a low wage service labour market, together with a decline of importance of traditional geopolitical hinterlands and borders, almost automatically presumes an influx of low-skilled migrants, willing to accept below-minimum wages and deteriorated working conditions.

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[4] See, for instance: the Globalization and World Cities (GaWC) Research Network (http://www.lboro.ac.uk/gawc/), and, for an excellent overview of the main articles published on this subject, *The Global Cities Reader* (Brenner & Keil 2006).

In one of her earlier, to a certain extent still explorative works, Sassen (as Sassen-Koob) elaborates more explicitly on the link between globalisation, immigration and the organisation of labour in the Global City:

> The information on the labour market position of immigrants has to be placed in [the] context of an expanding supply of low wage jobs. Compared with the overall work-force, immigrants are disproportionately concentrated in manufacturing and service jobs […]. The supply of low wage jobs demands workers willing to take them. Because of their circumstances, immigrants are available for such jobs.
> (1986: 105)

And, in her conclusion:

> The presence of the new major growth sectors has contributed to an expansion of low wage jobs. This characteristic helps to throw light on several features of major cities like New York, notably the possibility of absorbing high, and continuing, levels of immigration into such cities and the informalization of a growing number of economic activities, the latter a feature once solely ascribed to Third World cities.
> (ibid.: 110)

In his formulation of a "World City Hypothesis", John Friedmann states that

> [i]n the semi-periphery, with its rapidly multiplying rural population, large numbers of unskilled workers migrate to the world city locations in their respective countries in search of livelihood. Because the "modern" sector is incapable of absorbing more than a small fraction of this human mass, a large "informal" sector of microscopic survival activities has evolved.
> (Friedmann, 2006 [1986]: 69)

Followed by the notion that 'World cities are a point of destination for large numbers of both domestic and/or international migrants' (ibid.).
So whether immigration contributed to the availability of low-skilled jobs or the other way around, a self-reinforcing process of low-wage, low-skilled labour migration into the lower, increasingly more informal echelons of the labour market is set in motion.

And although one cannot solely ascribe the new forms of labour migration to a growing interconnectedness of certain strategic regions, as there are many variables and theories explaining why and how migration flows manifest themselves, new forms of transnational investment play a crucial role in explaining the mobilisation of large quantities of people from economically peripheral areas to connected core regions, simply because traditional theories on migration fail to explain the distinctly different patterns that come to the fore (Sassen 1988: 115-119; 2001: 305). Perhaps the most striking of these patterns is the considerable employment growth in emigration countries. Thus, while she recognizes the various factors explaining labour migration, Sassen states that the distinctness of present-day labour migration to Global Cities can be ascribed to essentially economic factors.

Concerning migration in a context of a globalising world, Sassen mainly focuses on the migration of low-wage labourers. Friedmann is also primarily concerned with the emigration of low-wage services and the influx of foreign workers into the informal and local labour-intensive services:

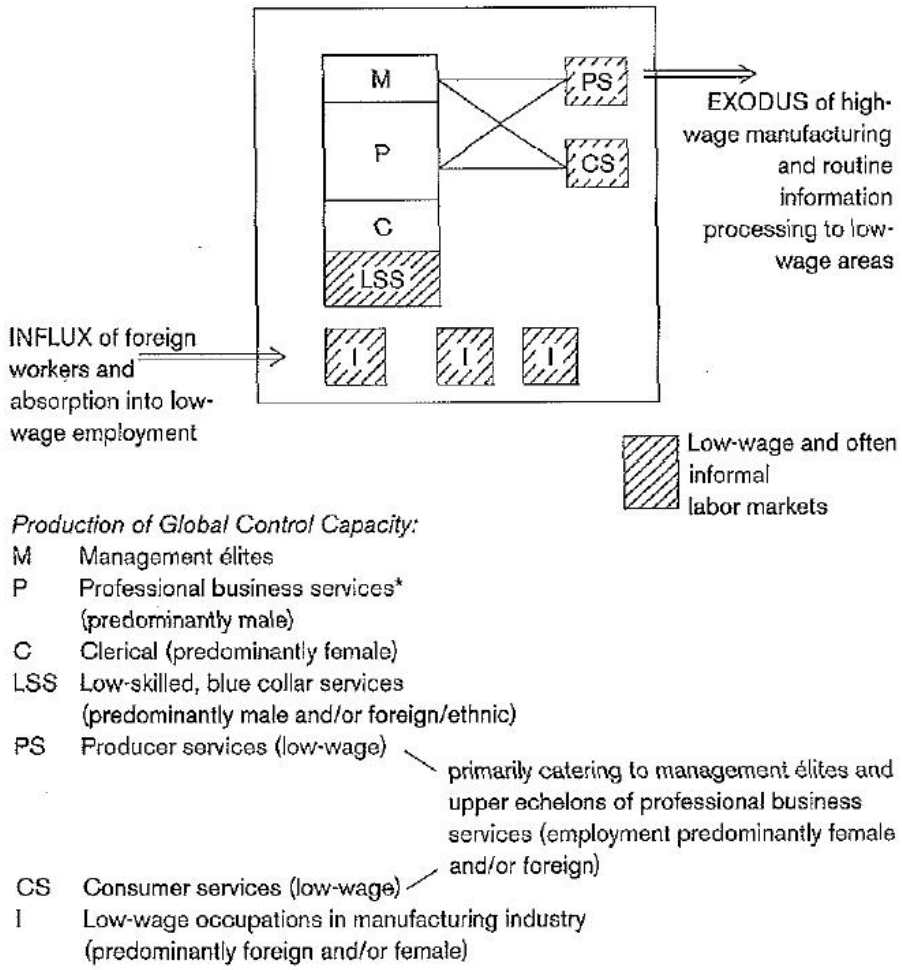

Figure 2.1: World city restructuring in core countries (Friedmann 2006 [1986]: 70)

The above figure presumes that the higher echelons of the urban labour market do not have anything to do with migration in a direct way. The only labour market divisions subjected to migration flows, are the low-wage labour markets. However, reading Sassen's seven hypotheses on Global Cities, there is no reason to believe that the factors accounting for a mobilisation of low-skilled labour do not positively affect the mobility of highly skilled labour as well. The global interconnectedness of regions through migration, trade and the operating in multiple markets does not limit itself to the lower echelons of the international labour market. On the contrary: the protagonists of the Global City approach explicitly link economic globalisation to the increased importance of work dealing with the complexity of operating in multiple markets. Not only does this raise the demand for highly skilled professionals, the

spatial clustering of these functions also results in an uneven distribution of this demand, possibly exceeding the supply of skilled labour on a national level and instigating migration flows of highly skilled labour.

Furthermore, when compared to the migration of low-skilled labour, the migration of highly skilled labour is subjected to less restrictive immigration laws and in many cases stimulated by national governments and/or businesses (Castles & Miller 2003: 82, 178; De Lange & Doomernik 2004: 148-149; Koser & Salt 1997: 286; OECD 2002: 344-348). Also, although Sassen sees the migration of poorly skilled migrants primarily as a result of an economic need for cheap service labour, catering to the needs of the urban elite, in reality the motives for migration of these immigrants are diverse (Staring 1999; 2001). Moreover, insofar as some of them migrate on economic grounds, they do not do so through a direct meeting of supply and demand, as they often still have to obtain a job upon arrival.

The migration of highly skilled migrants, however, is more demand-induced: the aforementioned governmental and corporate programs often entail an active recruitment of employees abroad (De Lange & Doomernik 2004: 148-149; OECD 2002: 28, 78-79, 196-197). This means that the migration pattern and motivations of the highly skilled actually correspond better to Sassen's notion of labour migration than those of the low-skilled.

The reason why the literature on Global Cities hardly ever elaborates on the position of highly skilled labour migrants is probably the fact that their mobility is not perceived as a social problem or a contested political issue, unlike low-skilled migrants. It is a category simply taken for granted. Nevertheless, their lack of socio-economic deprivation does not mean that this category of labour migration is irrelevant. The labour performed by this skilled urban elite often is either associated with the complex coordinating tasks performed at corporate headquarters, or with the firms offering advanced producer services to these headquarters. These multinational and specialised firms play a crucial organising and facilitating role in

shaping present-day economic globalisation. Their global influence thus makes it a class well worth researching.

As mentioned before, Sassen hardly ever mentions the migration patterns of the highly skilled. When she does, it is often in an indirect way. In the second edition of *The Global City*, when mentioning the locational pattern of the network of service firms, she states that 'their top-level professionals are *hypermobile*' (Sassen 2001: 123, emphasis Giorgio Touburg). In more recent work, she refers to 'a new stratum of transnational professionals and executives' (Sassen 2006b: 298; see also: Sassen 2006a: 73). Later on she states that '[t]o be global and *hypermobile* this class needs a state-of-the-art infrastructure in a growing number of [global] cities' (Sassen 2006b: 301, emphasis Giorgio Touburg). Apparently, she sees this hypermobility as an attribute of the class of transnational professionals. These professionals are, according to Sassen, indeed motivated by 'a rather narrow utility logic – the drive for profits' (ibid.: 300). Their "hypermobility", within this economically deterministic theory, implies an almost frictionless move of these professionals to wherever their skills are needed. It thus views the economic assets of these individuals as transferable, either fully possessed by the individuals themselves, or partly embedded in the "distinct urban milieu" of the several global cities she discerns.

2.2. The GC-approach on the geography of knowledge

A pivotal assumption within Sassen's thesis on Global Cities is the advantage of spatial proximity for highly specialised producer services: due to the innovative, strongly interpretive nature of the work involved, the centrality of both information and knowledge in the service sector, and the inherently spatial organisation of information, producer services tend to be spatially clustered, their mutual proximity allowing them to contribute to and benefit from the 'social information loop' (2001: 104; 2004 [2000]: 196). She also hints at the existence of different types of knowledge and the different spatial consequences of these types of knowledge:

> A second fact that is emerging with greater clarity in my research concerns the meaning of "information". There are two types of information that matter to [maximizing the benefits of the new information technologies]. One is the datum, which may be complex but comes in the form of standardized information easily available to these firms; e.g., the details of a privatization in a particular country. The second type of information is far more difficult to obtain because it is not standardized. It requires interpretation/evaluation/judgment. It entails negiotiating a series of datums and a series of interpretations of a mix of datums in the hope of producing a higher order type of information. Access to the first kind of information is now global and immediate thanks to the digital revolution. But it is the second type of information that requires a complicated mixture of elements, not only technical but also social – what we could think of as the social infrastructure for global connectivity. It is this type of social infrastructure which gives major financial centers a strategic role. In principle, the technical infrastructure for connectivity can be reproduced anywhere, but social connectivity cannot.
>
> When the more complex forms of information needed to execute major international deals cannot be gotten from existing databases, no matter what one can pay, then one needs the social information loop and the associated de facto interpretations and inferences that come with bouncing off information among talented, informed people. When this interpreting becomes "authoritive" it becomes "information"

> available to all. The process of making inferences/interpretations into "information" takes quite a mix of talents and resources.
> (2001: 120-121; see also: 2004 [2000]: 196)

The inability to reproduce social connectivity she mentions in the last part of the first paragraph of this citation could hamper the perceived hypermobility of the involved professionals: if the usefulness of their expertise relies on the 'social information loop' providing the necessary interpretational context, this would mean that their expertise is of lesser use outside this loop. Their mobility is thus limited by the social infrastructure needed for the correct use and interpretation of the skills and knowledge these professionals possess. Given Sassen's earlier reference to a 'distinct urban milieu', it would make sense to see the social information loop as embedded in this milieu. This would still allow these professionals to flow relatively freely between the world cities Sassen describes, given the constantly present facilitating social infrastructure. The notion of embeddedness of certain crucial types of knowledge and information, together with the distinct geographical patterns they display (the first type can be 'produced everywhere', while the second can only be found at specific places offering the right infrastructure), will be the main focus of the next chapter. This next chapter will look at what important authors in the field have to say about the geography of knowledge.

2.3. Main points of chapter two

The Global City-approach, with Saskia Sassen as its main scholar, implicitly assumes a hypermobile elite, performing tasks associated with the complexities that arise in an economy in which firms operate in multiple markets.
At the same time, Sassen sees that the work associated with these complexities (producer services) tends to be spatially concentrated, due to the complex and interactive nature of the knowledge and information the members of the aforementioned elite possess and deal with.

3. Geographies of knowledge

3.1. An alternative approach: Storper's "regional world"

While the aforementioned "global city-approach" is top-down and somewhat economically deterministic in its causal explanation, the geographical approach is actor-centered and more bottom-up: it focuses on micro-level interpersonal interaction and on the meso-level of regional aspects facilitating and amplifying those interactions. By drawing from the work of Michael Storper, the central points of view of this line of research will be illustrated.

Storper (1997) tries to explain the ostensible paradox between globalisation – facilitated by standardisation – on the one hand and new forms of regionalism – induced by specialisation – on the other, by focusing on the competitive advantages offered by spatial clustering. Besides the obvious scale advantages of agglomeration, the territorial clustering of institutions and people facilitates the transfer, formation and development of certain context specific knowledge and practices.

The arrival of the computer, combined with the emergence of the Internet, yielded an increased commodification and transferability of information; monitoring and automating (parts of) business processes took away many spatial constraints, allowing business processes to be relocated to places where production costs are lower. This ongoing process of codification and the subsequent weakening of spatial constraints raise the strategic value of uncodified or "tacit" knowledge (knowledge which is highly dependent on context and interpretation and therefore harder to share). This type of knowledge, due to its dependence on a shared context and a common way of interpretation, is mostly transferred through direct and interpersonal interaction. Therefore, geographical clustering of actors who deal with such knowledge significantly lowers its transaction costs. The clustering of actors who share a common way of interpreting and creating specific knowledge that is hard to replicate through formalisation and/or standardisation leads to the formation

of so-called "communities of practice": social settings in which actors share common 'action capacities' (ibid.: 52), 'frameworks of action' (ibid.: 53), or 'cognitive representations' (ibid.: 190) and therefore facilitate the transfer and formation of tacit knowledge.

Part of the tacitness of the described type of knowledge lies in the fact that it is highly reflexive, thus constantly subjected to revision or reformulation. This is the reason why tacit knowledge is often inextricably associated with highly innovative and creative industries. The fashion industry in Milan and Paris, the film industry in Hollywood and the ICT industry in Silicon Valley, for instance, are well-known and well-researched spatial clusters of reflexivity.

3.2. Geographies of knowledge: some general findings

The types of knowledge mentioned by Storper and hinted at by Sassen correspond largely to the notions of tacit and codified knowledge, conceptualised for the first time by Polanyi (1966). Using Polanyi's typology, several authors have either tried to explore the possibilities for a geography of tacit knowledge, or offered an overview of studies researching this phenomenon (Bathelt, Malmberg, & Maskell 2004; Gertler 2003; Howells 2000; Howells 2002; Roberts 2001). In what follows, the main and most relevant notions distilled out of these articles will be presented. Special attention will be paid to what the authors have to say about the influence of tacit knowledge on the mobility and importance of different kinds of labour. All authors directly refer to the work of Polanyi: they explicitly mention the concepts of tacit and codified knowledge. Howells gives the most concrete description of what both concepts entail:

> Explicit or codified knowledge involves know-how that is transmittable in formal, systematic language and does not require direct experience of the knowledge that is being acquired and it can be transferred in such formats as a blueprint or operating manual […]. By contrast tacit knowledge cannot be communicated in any direct or

> codified way. Tacit knowledge concerns direct experience and is not codifiable via artefacts. As such it represents disembodied know-how that is acquired via the informal take-up of learned behaviour and procedures. It is hard to conceive of situations where tacit knowledge can be acquired indirectly as this would involve some kind of codification and lack of direct experience […].
> (2000: 53; see also: Gertler, 2003: 77-78; Howells, 2002: 872; and Roberts, 2001: 100-101)

This does not mean, however, that the authors see the distinction tacit-codified as purely dichotomous. Both Howells (2000: 53-54; 2002: 873) and Roberts (2001: 101-102), while referring to Polanyi (1966), explicitly stress that knowledge is neither fully tacit nor fully codified and that codified knowledge always needs to rely on tacit understanding or application in order to be useful.

As briefly hinted in the introducing part of this chapter, tacit knowledge can be linked to innovation. Howells mentions that

> [t]o be able to innovate, invent and discover, involves both using existing knowledge but often also requires generating and acquiring new knowledge which in turn involves learning. Innovation also involves sharing learned knowledge.
> (Howells 2000: 53)

Although he does not explicitly use the term "tacit knowledge", new knowledge is by definition tacit, because there simply has not yet been an opportunity for codification. Gertler explicitly mentions the concept of tacit knowledge in his treatise on innovation:

> The idea is that, in a competitive era in which success depends increasingly upon the ability to produce new or improved products and processes, tacit knowledge constitutes the most important basis for innovation-based value creation.
> (2003: 78-79)

Another characteristic of tacit knowledge (and, to a lesser extent, codified knowledge) on which the authors seem to agree, is its dependence on context: although it is individually possessed, it needs a common way of interpreting in order for the knowledge to be transferred without significant loss of information. Howells, once again referring to Polanyi, mentions the relationship between knowledge and its context in the following fragments:

> We share information and data that flows between us, we go through similar learning processes with similar teachers in similar environments. Thus although we can only have individual knowledge, we can possess collective understanding.
> (2000: 54)

And:

> Polanyi's belief that knowledge can only be truly personal knowledge, does not diminish the importance of context – rather, indeed, it heightens it. Thus, although stressing the individual realm and its cognitive base, Polanyi also acknowledged that such cognitive frameworks were strongly shaped by external social, organisational and economic contexts. Indeed, he was one of the first to recognize the 'communal' and institutional aspects of knowledge formation (in the context of the role of scientific communities) which was subsequently taken up by researchers analyzing the role of knowledge-practitioners and communities.
> (2002: 873)

Both its dependence on context and its link with innovation make the geography of tacit knowledge different from the geography of codified knowledge. Howells nicely summarises the geographical characteristics of tacit knowledge when he states that

> the key issue here remains the importance of face-to-face contact in research and technical communication and the essential tacit nature of much that is being communicated. This makes geographical nearness a crucial factor in innovation.
> (2000: 58)

Simply put: while knowledge in its most codified form flows freely around the globe through channels of mass communication, tacit knowledge, through its dependence on learning-by-doing and a common interpretation, relies strongly on geographical clustering of the involved actors for its formation and transfer. In the part that succeeds the quotation above, Howells initially concurs with this view:

> Thus, although many parts of the innovation process can be codified and easily transferred over long distances, many elements of technological innovation remain tacit in form and indeed these may be the elements that have the most impact on corporate performance for the very reason that they are so difficult to learn off-site and to transfer to a different location.
> (2000: 59; see also: 2002: 873-874)

This distinction could lead one to think that the geography of knowledge can best be summarised by a tacit-local/codified-global matrix. All the discussed authors, however, state that such a subdivision is too simplistic.

First, as mentioned earlier, the two types of knowledge are complementary in the sense that they rely on each other for correct interpretation and/or application. Secondly, it was asserted that the distinction tacit/codified is not to be interpreted as being purely dichotomous. Thirdly and most importantly, the authors mention that

the proximity created by spatial clustering is not the only proximity we need to take into account when studying the dependence on context of tacit knowledge. Storper (1997: 191) already hints at a 'complex set of territorialities', some of which 'will be international in scale, often embodied in internationally recognized multinational corporate practice and professional behavior.' More concretely, the authors who more explicitly deal with the geography of tacit knowledge conclude that, besides simple spatial proximity, relational, institutional, or cultural proximity can also provide for a common context that allows for tacit knowledge to be exchanged and transferred (Gertler 2003: 86-87; Howells 2000: 59-61; Williams 2006: 600). This chimes with the recognition of the firm as a container of a distinct tacit knowledge by the aforementioned authors (see, for an early account on this: Straubhaar & Wolter 1997). While dealing with the theoretical construct of "communities of practice", Gertler states that 'according to this approach, organizational or relational proximity and occupational similarity are more important than geographical proximity in supporting the production' (2003: 86). He further adds that 'the communities of practice literature [plainly asserts] that tacit knowledge will also flow across regional and national boundaries if organizational or 'virtual community' proximity is strong enough' (ibid.). Quoting Bunnell and Coe (2001), he labels this phenomenon as the 'de-territorialization of closeness' (Gertler 2003: 86). In the latter part of this research, This deterritorialized perception of proximity will be woven into the research and interview questions and subsequently, the interpretation of the findings.

Less explicitly mentioned by the authors is the extent to which certain types of labour can be associated with the different kinds of knowledge. One can think of tacit knowledge as associated with crafts, a line of work that relies heavily on learning-by-doing rather than the taking up of formalised skills and routines. Indeed, Polanyi (1966) refers to the classic master-apprentice relationship when he tries to give an example of the transfer of tacit knowledge. I was also mentioned that especially in this day and age, tacit knowledge is often associated with innovation: the constant formation and reshaping of new kinds of information. This association is explicitly

made by Gertler, who states that 'tacit knowledge has come to be recognized as a central component of the learning economy, and a key to innovation and value creation' (2003: 76). Howells also hints at this connection when he states that 'innovation is […] an activity which involves complex interactive and feedback processes often initiated by the user ('pull') rather than led by research ('push')' (2000: 52). In a similar vein, Storper (1997: 238) associates work that requires customisation to the needs of the customer, be it an organisation or a single person, with the use of tacit knowledge. On the other hand, codified knowledge, due to its standardised nature, is associated in the literature with jobs that are heavily subjected to routines and procedures (cf. ibid.: 240, 256). This distinction between different types of labour will play a key role in the operationalisation part of this research.

A final point on which the authors seem to agree is the extent to which knowledge can be properly measured by social research: they mention that most of the recent research on the transfer and mobility of knowledge either focuses mainly on codified knowledge or only indirectly measures tacit knowledge; by monitoring the movement of people who are believed to possess more tacit forms of knowledge, for example (Gertler 2003: 82; Howells 2000: 51; 2002: 875-876). Directly measuring tacit knowledge however, is virtually impossible, since the ability to measure tacit knowledge would mean its codification.

3.3. Summarising the most important findings

- There are two forms of knowledge: **codified and tacit knowledge**; while common interpretation makes that formal and systemic explicitation such as written text or a map suffices for full transfer of the first category, the latter category relies on informal interpretation and learning. It should be noted, however, that the distinction between the two types is not dichotomous.

- In order for tacit knowledge to flow more freely between actors, a similar **context** in which the interpretation of such knowledge is common needs to be established.
- In the literature different **skills** are attached to the different forms of knowledge: the informal character of tacit knowledge means that jobs that involve customisation to specific needs, relying on interaction with the customer, are attached to tacit knowledge, while codified knowledge is associated with jobs that are heavily subjected to routines and procedures (e.g. factory work).
- The reliance on context and face-to-face interaction means that the dependence on **geographical proximity** of tacit knowledge is higher than for codified knowledge.
- However, many of the authors on the subject state that besides geographical proximity, **other forms of proximity** might also facilitate the transfer of tacit knowledge by providing a common context for interpretation (e.g. cultural or institutional proximity).

4. Research questions

4.1. Formulation of the research problem

Thus, on the one hand, the Global City-approach implicitly assumes and sometimes explicitly mentions the flexibility of highly skilled cosmopolitans, while on the other hand it contains notions of place-specific knowledge as the driving force behind agglomeration in an era of mass communication. Looking at the findings in the earlier chapter on theories of knowledge, one wonders if their hypermobility truly means that these highly skilled professionals are entirely footloose: theories of knowledge focusing on regional particularity mention that certain types of knowledge are hard to transfer without a shared context, while the professionals offering the producer services that are so crucial in her Global Cities theory possess exactly this kind of knowledge, which, according to the scholars in the field of the geography of knowledge, thus hampers their flexibility. The "de-territorialised" notion of proximity could fill this theoretical void: a constant institutional and/or occupational context on which these professionals can rely, even when changing locations, makes that the nature of their knowledge is still tacit while not hindering their mobility in a geographic sense (it should be noted, however, that this mobility can only be without loss of knowledge when the context is being held constant). A study testing this theoretical assumption, dealing with the knowledge of these migrants as well as their migration paths, is frequently called for in the literature. Already in 2000, Feldman (2000: 389) identified a need for a more thorough insight in the practice of knowledge spillovers. In a similar vein and more in line with the goals of this research, Williams states that: 'the role of different types of mobility, including human migration, in knowledge transactions within transnational companies remains imperfectly understood.' (Williams, 2007: 31; see also: Williams, 2006).

It is commonly known and experienced that every workplace has its specific "way of doing things". The question, however, is not whether this learning process takes

place, but the extent to which it takes place and the consequences for the international division of labour.

4.2. Research questions

In order to properly investigate this phenomenon, the main research question will be:

To what extent does the situation of the Indian knowledge migrants within Capgemini adhere to theoretical assumptions made about the transferability of knowledge?

The subquestions correspond with the theoretical findings summed up at the end of chapter three:

- *What **skills** do the Indian employees have **and how are they acquired**?*
- *To what extent are these Indians **dependant on context**?*
- *To what extent do these Indians rely on **geographical proximity**?*
- *To what extent do these Indians rely on **other forms of proximity**?*

5. Operationalisation

5.1. Using research on skill as a framework

The translation of these questions into a feasible research design is not an easy task: knowledge, especially tacit knowledge, is an intangible phenomenon, difficult to approximate through research.

In much of the literature on the subject, knowledge is explicitly linked to skill. Their precise relation, however, remains unclear. Some authors simply state that although they are used interchangeably, the two concepts are distinctly different (cf. Williams 2007). Attewell (1990: 493) briefly touches upon the subject when he says that 'skill implies understanding or knowledge'.

In a review of different approaches to the concept of competence, Delamare-Le Deist and Winterton (2005) use many conceptualisations of skill in relation to knowledge. Both skill and knowledge are seen as a subset of competence. Knowledge is seen by the authors as an 'underpinning' (ibid.: 34) dimension of skill. In their synthesising paragraph they come to the conclusion that while knowledge can be equated to cognitive competence, skill is treated as the equivalent of functional competence. However, the authors stress that in practice it is hard to separate the different dimensions (ibid.: 39-40).

Research on skill can be subdivided into two main methodological approaches. One approach involves macro-level data-analysis, using education and/or wage level as a proxy of skill. The use of such standardised data has one main advantage: the possibility of comparison.

This method of skill measurement and comparison also has its disadvantages, however. First, there is the ongoing debate to what extent educational and/or professional level stratification accurately reflects the actual capacities of the subjects involved (meritocracy), rather than reproducing social inequality (credentialism) (see, for instance: Attewell 1990: 426; Bills 2004: 37-60; Spenner 1990: 401). Secondly,

this standardised measurement of skill neglects the context-specific skills attached to the type of knowledge that is the main focus of this research (see also: Attewell 1990: 424-425; Bjørnåvold 2000: 14-15; Guile 2002: 262-263).

The other approach is more qualitative in nature and deals with the way workers experience and value their work, rather than with the formal description of their jobs. It also views skills and competences as dependent on organisational, cultural and institutional contexts. Shortly reviewing several studies that used such an approach, Delamare-Le Deist and Winterton state that

> [o]ne of the advantages of the interpretative approach is that it acknowledges workers' tacit knowledge and skills […], which can be overlooked if competence is treated as context-free since the way people work in practice seldom accords with the formal job description.
> (2005: 31)

It becomes clear from this quote that an interpretative approach is the preferred research method when studying such an intangible and embedded concept as tacit knowledge. In a similar fashion, Stasz favours the sociocultural view on skills (which can be equated to the aforementioned interpretative approach) over the dominant economic perspective:

> The sociocultural perspective shifts the focus of inquiry from individuals to interactive systems or social settings that are larger than the behavior and cognitive processes of a single person. The social setting in which cognitive activity takes place is an integral part of that activity and not just the surrounding context for it. The knowledge, attributes, or abilities needed for a certain job can be understood only within that particular working context, from the perspective of the individuals in the social setting.
> (2001: 388)

One study that explicitly embraces an interpretative approach is Fearfull's study of the skills used in clerical work (Fearfull 2005). Her methods of data gathering, besides her extensive experience in the sector, are on-the-floor observation and interviews with employees at different organisational levels. Lauder and Mehralizadeh (2001) also use interviews with employees at different levels in the organization and shop-floor observation in their assessment of skill development and transformation in a globally oriented manufacturing firm. Such an approach allows the researcher to dig deep into the respondent's motivations and point of view, while the triangulation by organisational position makes sure that the results will not be biased by a too one-sided view. Although, as Spenner (1990: 416) argues, workers tend to be quite accurate and objective when reporting on their own jobs.

5.2. Introducing Capgemini

As mentioned in the introduction, Capgemini Netherlands is the company where the research was conducted. Capgemini is a globally oriented IT services company, employing a workforce of 83,506 as at 31 December 2007 (Capgemini 2008: 16). The core business of Capgemini is to '[offer] its clients […] the methods, consulting, assistance and expertise it can provide in cutting-edge technologies.' (ibid.: 18). It thus can be described as an advanced producer service firm. What Capgemini claims to do is attempt to improve the client's profitability by applying, streamlining or ameliorating its business processes. More concretely, this assistance often entails the use of specific software packages customised by Capgemini to respond to the needs of the client. Such a software package is designed to provide the client better insight in and control over its business processes. The intervention of Capgemini could also lead the client to outsource entire business processes to Capgemini. What makes IT services companies like Capgemini so interesting and suitable for this research is the presence of more innovative and interactive work dealing with more tacit forms of knowledge (for instance: the consultant who is trying to translate the demands of the client into a suitable software application), along with work that, according to the

literature, deals with more codified forms of knowledge: the programmers who actually "build" the desired software applications. Although clearly part of a promotional strategy, the "tacitness" of the consultancy work is explicitly mentioned in the Annual Report 2007:

> [Capgemini] has none of the patents, plants, stocks or retailers – none of those "tangibles" that structure a manufacturing company and dictates how it is organized. Its only visible asset is its people, who bring with them their professionalism, their sense of initiative, their mobility and their commitment to the values that the company strives to cultivate. The other intangible asset is the relationship of trust that has been built up patiently with the company's customers over the years.
> (ibid.)

Also, a company like Capgemini does not only contain different kinds of knowledge through its diverse workforce, it also explicitly deals with different types of knowledge by monitoring (codifying) business processes that used to be harder to discern in the past. This raises the awareness of different types of knowledge or data by the employees, as is also shown by the aforementioned citation. This awareness could benefit the course of the research.

Furthermore, Capgemini employs a vast and growing number of Indian workers, as is demonstrated by the growth of the Indian workforce over 2007: out of the growth of the total workforce of 15,619, the Indian division accounts for a growth of 9,960 (ibid.: 15). Some of the Indian employees are working abroad in other branch offices of Capgemini. This is also the case for Capgemini Netherlands. They were interviewed on their job experience, job content, migration history and the possible barriers they experience on each matter. By interviewing Indian employees in as many different positions in the company (managers/supervisors as well as programmers and consultants) as possible, this report is able to shed some light on

the aforementioned theories regarding global labour migration and knowledge, while preserving the reliability of the data through triangulation.

5.3. From research questions to interview questions

Once it was clear what kind of method of data-gathering would be used, the research questions needed to be translated into interview questions. The association with different kinds of labour types in the preceding chapter was used to approximate the knowledge type respondents are primarily involved with. Jobs that are mostly associated with codified knowledge are expected to be more repetitive and formalised in nature and less sensitive to context. Tacit knowledge is associated in the literature with jobs that require constant feedback and innovation as well as with lines of work that rely heavily on learning-by-doing, such as crafts. In this research, we need not to account for the latter category because of the nature of the work in ICT. I will thus refer to the context-dependency, interactivity and routines of the job of the respondent in order to discern whether the respondent primarily uses tacit or codified knowledge. Sets of interview questions for the Indian interviewees were formulated, corresponding with the subquestions that were used to answer the research question:

General background:

- How did the respondent come to work for Capgemini?
- How did the decision to migrate to the Netherlands come about? Was the respondent actively recruited or did he or she apply by him-/herself?

On skills:

- How does the respondent describe his or her job?
- What is the respondent's education and work experience? (if available, resumes will also be used to answer this question)

- To what extent does the respondent experience a learning process in the Netherlands? What is the respondent learning/what did he or she learn?
- To what extent does the respondent's job involve routines and/or procedures?

On context-dependency:

- To what extent does the respondent experience being hampered or helped in his or her work or career by his or her (lack of) specific skills?
- Prior to migrating to the Netherlands, was the respondent already working for Capgemini? If so, for how long and to what extent was the work in India similar to the work in the Netherlands?
- To what extent does the respondent feel that he or she could perform the same job at another company, without having to adjust too much?

On geographical proximity:

- To what extent is meeting someone in person an integral part of the respondent's job?
- How important is it for the respondent to be close to his/her clients and/or colleagues?

On other forms of proximity:

- To what extent is familiarity with the local culture important for the respondent's job?
- To what extent is familiarity with the company culture important for the respondent's job?
- To what extent is work experience important for the respondent's job?

The key persons (respondents who have been working in the company for quite some time now and have a general overview of the situation) were asked the same questions, but instead of referring to their own situation, the questions were applied

to their perception of Indian employees. For example, the question on routines and procedures was formulated as: 'To what extent does the respondent think the work of Indian employees involves routines and/or procedures?'. Some additional questions for this type of interviewees were made as well:

- Which divisions of Capgemini Netherlands predominantly use the services of Indian workers? And, if applicable: Why is the use of Indian labour restricted to certain divisions of the company?
- What are the (skill-related) conditions Indian employees have to meet in order to be eligible for work in the Netherlands?
- What is the specific advantage of choosing Indians over domestic workers in certain company divisions?

While it is important to test to what extent the Indian employees make use of different types of knowledge, one would not want the concepts to immediately be revealed to the respondents. A job that mostly deals with codified knowledge and therefore is more repetitive and procedural in nature, could be perceived as having a lower status than the more innovative and tacit work of consultants. In order to reduce the possibility of getting socially desirable answers, terms like "common sense" and "shared frame of reference" were used when referring to more tacit aspects of working in the ICT industry.

6. Findings

6.1. Course of the research

In the early stages of this research, some conversations took place with Peter-Paul Tonen, the main contact at Capgemini. Being a principal consultant at Capgemini, he has an overview of the Indian consultants working in the Netherlands. Furthermore, his long tenure at Capgemini (since 1984) enables him to give a longitudinal perspective on the influx of Indian employees in his company.

When confronted with the theoretical findings and research questions, he suggested that there were occupational distinctions within the group of Indian employees working at Capgemini. He handed over a list of Indians who, as he described it, were doing "onsite" work which involved coordination at the customer's site and some coding and marked the names of the Indians who were working in the Utrecht area at the time. Mr. Tonen also gave a list with names of Indian colleagues who were part of the sales team. Both lists added up to 17 names (9 sales, 8 onsite). He gave the advice to interview a Dutch key person with extensive experience in outsourcing in order to grasp the motivations and processes behind the hiring of Indians. Of the 17 people on the list (18 including the Dutch key person), 14 agreed to an interview (7 sales, 6 onsite and the Dutch interviewee). A gathering at the office for the celebration of Holi, an Indian holiday, and other informal encounters resulted in six additional interviewees. All this added up to 20 interviews in total.

With the exception of one interview that was held at the office at the Daltonlaan, all the interviews were held at the Capgemini headquarters at Papendorp, either in a separate, quiet part of the canteen or in an available room at the office. The interviews lasted between half an hour and an hour and a half each. Because the interviews were explorative in nature and were meant to dig deeper into experiences and points of view, rather than to lead to generalisable conclusions about the

interviewee population, the "Responsive Interviewing Model" was udes as a guideline:

1. Interviewing is about obtaining interviewees' interpretations of their experiences and their understanding of the world in which they live and work.
2. The personality, style, and beliefs of the interviewer matter. Interviewing is an exchange, not a one-way street; the relationship between interviewer and interviewee is meaningful, even if temporary. Because the interviewer contributes actively to the conversation, he or she must be aware of his or her own opinions, experiences, cultural definitions, and even prejudices.
3. Because responsive interviews depend on a personal relationship between interviewer and interviewee and because that relationship may result in the exchange of private information or information dangerous to the interviewee, the interviewer incurs serious ethical obligations to protect the interviewee. Moreover, the interviewer is imposing on the time, energy, emotion, and creativity of the interviewee and therefore owes loyalty and protection in return.
4. Interviewers should not impose their views on interviewees. They should ask broad enough questions to avoid limiting what interviewees can answer, listen to what interviewees tell them, and modify their questions to explore what they are hearing, not what they thought before they began the interview.
5. Responsive interviewing design is flexible and adaptive. Because the interviewer must listen intently and follow up insights and new points during the interview, the interviewer must be able to change course based on what he or she learns. Interviewers may need to change whom they plan to talk to or where they plan to conduct an interview as they find out more about their research questions. (Rubin & Rubin 2005: 36)

It should be noted, however, that these statements were not being interpreted as if they formed a dogma; instead, they were used as guidelines in order to have a compass and to know what to pay attention to, as Rubin and Rubin (ibid: 36-37) suggest.

The Indian interview population consisted out of 17 men and 2 women, between the ages of 27 and 43. While every interviewee was asked about his or her own personal experiences, the ones in more senior roles were asked to give a general overview of the situation and how it developed, due to their experience in the IT field.

In the remaining parts of this chapter, the subquestions presented in chapter 4 will be used as themes for the separate sections, in order to present the findings in a well-organised way.

6.2. Roles, skills and learning processes

The occupational distinctions made by the interviewees, both when they were asked to give a general overview and when reflecting on their own situation, appeared to be congruent with the distinction Mr. Tonen already made when handing over the two different lists. As one interviewee[5] mentions:

> 'One of the options for you to move ahead in your career is to continue in a technical role, to become more and more [of an] expert. So, that's one side. The second is to get into more managerial roles. And well, I chose the second... not towards managerial roles, but towards… just kind of... sales and development.' (R5)

Another interviewee concurs with this view, while adding another distinction:

> 'Mostly there are people here who are either doing onsite coordination; that means they are understanding the clients need and communicating it to India. There are people who are working as bodies, like SAP functional consultants or ERP developers, who are required at the customer premises; to do coding or to help in the functional area. So we have people who are on the client serving staff, like onsite coordination, implementation work... then we have people like me, who are helping with sales support types of activities.'(R13)

[5] For the sake of readability, details such as age, gender and job description were omitted while referring to interviewees. When necessary, these are integrated into the text. A list of interviewees and their characteristics (as far as these do not reveal their identity) is included as a supplement.

And briefly summarising:

> 'One is... you're sitting in the corner, someone hands over your specs and you just start hitting your keyboard. Second is... you interact with the customer, you understand their real needs.' (R13)

Note that this interviewee does not only make the distinction between onsite work and sales activities; he also sees a distinction *within* the group that works onsite. One part of this group, as part of a more coordinating role, has frequent contact with both the customer in the Netherlands and an Indian team, while others do not have any direct contact with these parties at all and are primarily engaged in the technical part of the process (e.g. developing the software). When referring to these roles, R5 makes a similar distinction:

> 'There are two kinds of roles, if you'd be a specialist. One is the technical role: you do programming, you know what is happening about all technical things: Java, .NET, you know what. And the second is more of an analyst [role]. So that's one stream, where you're much more aware about what's happening on the business side. So I was the second, in the specialised area also. So I was working more with manufacturing clients, understanding their distribution, trying to understand the requirements, trying to improve various processes, trying to implement IT-applications there […].' (R5)

This second career path, relying on communication with the client, understanding his or her needs and translating these into workable solutions for the software development team (either in India or in the Netherlands), is also mentioned when one interviewee talks about so-called "liaison officers":

> '[The Indians] who are here are for the most part "liaison officers" […] who make sure that the available Indian knowledge is brought here in time. […] On the other hand, they will have to make sure that India needs knowledge on what we have to offer.' (R6, translated out of Dutch)

This finding resonates with the role the interviewed onsite coordinators see themselves in: for instance, when faced with the question whether he sees himself as some sort of bridge between the Indian and the Dutch part of Capgemini, R1 responded affirmative. Others were less explicit in describing their role as a mediator, but mentioned intensive and frequent contact with India as well as with

the Dutch customer as an integral part of their job. Thus, while the "onsite" and "sales" groups Mr. Tonen discerned prove to be meaningful classifications, there seems to be a category of "liaison officers" that runs across the two earlier categories; while the group of "onsite" workers contains both "liaison officers" and "programmers", the group of "sales" people consists almost completely out of these "liaison officers".

It should be noted, however, that the interviewees who can be classified as software engineers and those who are active as "liaison officers" have similar educational backgrounds. With the exception of one, all interviewees have acquired at least a bachelor's degree, often related to the line of work they are currently active in (electronic engineering, electronics & computers). The interviewees who have had such an education initially started their ICT-career as a programmer and later focused either on interaction with the customer or on becoming more of a programming specialist:

> 'I started as a developer; I was trained to do programming. And then I realised that you can sit in the corner, you can do coding, people would appreciate that you're a very good developer, you come up with bright ideas, but the actual limelight is in talking to the customer.' (R13)

When referring to his own career switch from programming to his current role as a sales manager, one interviewee responds:

> 'It's a natural career progression. You start in a technical role.' (R5)

The occupational distinction between the "programmers" and the "liaison officers" seems to manifest itself in the ways in which the interviewees acquired their knowledge and skills: while the onsite programmers say they still rely on the programming skills they were taught at college, the "liaison officers" say they acquired their most important skills in a different way:

> ‘I think most of my skills have been [acquired] through the job. And those would be people management, collaboration, relationship management, expectation management. So these are the very important things which you learn on the job.’ (R7)

> ‘Communication, coordination: you cannot learn them from the book; you have to learn it on the job. There is no other option. You can learn things from the book which are, you know... I would say communication skills... you can attend training programs, you know... understand what are the skills required to be an effective communicator. So you can attend programs for that, but unless you practice it... it does not work out.’ (R12)

> ‘I think the biggest exposure has been to work across multiple cultures. I worked with Americans, I worked with French, worked with Dutch, I worked with people from Ireland – I was there for three months –, worked with people in the UK; worked also in India. Kind of moving across cultures… Yeah, that’s been like… that’s something you can’t learn in school or college, so that has to come on the ground.’ (R16)

> ‘On-the-job learning… Yes, definitely, every company is different, is unique... so you need to understand how it works.’ (R13)

One interviewee explicitly compares the skills he now uses with those he learned at college, while at the same time comparing his case to that of people who are in more of a programming role:

> ‘Honestly, we learned about things like Fibonace series and binary numbers and I used to hate them during college. And I remember when I was meeting some of my college classmates last year, and I said ‘guys, do you use those things today?’ and they said ‘no’. Why did those professors teach us those things? I'm sure there was a reason behind it, but the answer is I don't think I'm using any, or in fact very little of my college skills today. Had I been an expert programmer or gone to Google or some company where I was doing product development, I would probably be using those skills.’ (R7)

He also stresses the constant learning process he experiences and states that it is a prerequisite for upwards career mobility; it caused him to change companies:

'It's been a complete learning experience, the last six years. And one of the reasons why I switched to Capgemini […] was primary because my learning curve was suffering at my earlier company. In that kind of perspective, I had, kind of… been there, done that, sold it, was a hero... But what next? And that is very frightening when you're looking at a longer term career.' (R7)

In addressing the different learning processes the two groups experience in the preceding section, a difference in skill sets emerged as well. The "liaison officers" often stated the importance of what they call "soft" or "professional" skills, while programming, although advanced, is often described as a "hard" or "technical" skill:

'[…] the multicultural experience, communication, your technical skills, your ability to adjust to different environments, you know. Those skills are a must, I think.' (R12)

'Well, [there are] two kinds of skill. One is kind of an experience in technology. That's what we sell, so that's important. Experience in... actually managing and executing these kinds of projects, that's on one side. On the other side... you need the skills of… problem analysis. So, when you meet your clients, you hear a lot of things. Whether are you able to pinpoint… or are able to join all the dots and get an idea of what he wants... So, that's one. Second is... more of a... kind of... negotiation skills; both internal as well as external. So, if you get an opportunity like that… an opening… you have to get a buy-in, both on the client site, but also at Capgemini, saying that: 'okay, this is why it's such a good idea, why don't you do it, these are the future benefits'. So that's a skill, and another skill is more towards… kind of… presenting and communicating. Communicating verbally, but also written, as well as [being] able to represent some of the ideas on a PowerPoint, which can be easily communicated and impressed upon others. So, these two types of skill I acquired.' (R5)

The more experienced interviewees sometimes literally alluded to this distinction, both in referring to their own skill set and those of others:

'Okay, let's categorise: there are soft skills and then there are these professional skills. I think today, if I look at my job profile, I'm using very little of my critical skills which I learned at college. I did engineering and I think the first year – I don't know how engineering happens in Europe; we have a four year engineering course – you do all the subjects: mechanical engineering, civil engineering, and you understand how a blast furnace works.' (R7)

> 'Soft skills are more important in learning for me the last years and one of the important things for me was to work in a multicultural environment. In 2004, I was managing one project, which was based from the US, but it had implementation in Europe, in France, Spain, Italy. And well, it was complex management and that's where I learned a lot and how to really work with various kinds of people, with various backgrounds.' (R5)

> 'I don't use my technical skills; the only thing is, like… – which I've learned out here in my two and a half years stay in the Netherlands – is, like, on soft skills. The soft skills are, you can say, communication, culture, what attitude you should have when working at the client. Those soft skills I have, definitely.' (R19)

So, the meaningful occupational distinction between the "liaison officers" and the "programmers" proved to be a helpful tool to illustrate the differences in learning and skills between both groups; while members of the former group tend to acquire their "soft" interpretative skills through informal, on-the-job learning, interviewees belonging to the latter category still use their "hard" programming skills, acquired through their formal education, which is similar, both in level and content, for both groups.

Please note that in the following sections the distinction between "liaison officers" and "programmers" and the associated differences in knowledge use within the group will be used as tools to verify the theoretical assumptions on the geography of knowledge. So, although this distinction will return quite often in the rest of this chapter, it is by no means its main focus.

6.3. Context and adaptation

The soft skills the interviewees report on often entail some kind of communicative proficiency that is vital for understanding the needs of the customer and translating these into workable IT-solutions. This type of skill is also associated with the ability to work in different and specific geographical areas and thus has to be partly renewed when entering a new geography:

> ‘It always depends on how flexible you are with the culture of that geography or this country and yes, then some of the soft skills, again, you have to develop, because that depends on what kind of people you are dealing with and what the difference is in working with them, so definitely that part of soft skills you have to develop.’ (R19)

Some respondents report on the adaptability to new environments and the development of context-specific skills as a skillset of its own:

> ‘I could apply [these skills], but I would have to improvise considering the existing structure. So you can look at it as a constraint, but you can also look at it as being able to adapt and being able to change their way of working as well, not overnight, but gradually.’ (R11)

Interviewing the respondents, several striking and intertwined differences arose between the Indians for whom interacting with local and Indian parties was an integral part of the job and those who were mainly doing technical work.
The strong focus on interaction with (potential) customers necessitates a greater sensitivity for local and/or company-specific cultural differences. This makes that the sales representatives as well as the onsite workers who are not only writing code report on an extensive process of adaptation. A frequently noted process of adjustment is described in the anecdotal reports on adaptation to the (business) etiquette in the Netherlands and previous countries they have worked in:

> ‘It's culture, also, so it's not just customers. And some countries don't care. Some countries care a lot about how you dress and present yourself at the office. While some countries, they don't care if you're in shorts and just coming over there. So these are also cultural sensitivities which are required for every role.
> […]
> The work-life balance is much better in Holland compared to the US… but, your people relationship management is much closer. And when I say that, I mean that people are much more frank, much more honest and I met a lot of Americans who are also in Holland, and they say that they feel much more relaxed here in terms of the interaction with people compared to if they would have stayed in the UK or in other countries, Germany or France, for that matter. So I think they are closer. The UK is also different.’ (R7)

> ‘I would also say that it doesn't vary by... country by country, but certainly, the way they work in the US is different, of course. In that market, you can't work the same as you work here in the Netherlands. So, that's different. The level of aggression, the level of result-orientation is much higher as a corporate culture in the US. In the Netherlands, you don't get fired for losing a deal. In the US, you do. So, that's a difference.’ (R5)

More specifically, these interviewees explicitly connect their specific roles to the amount of adaptation required:

> ‘I think some roles have more adjustment. For example, any sales role means that you have to be very culturally sensitive. It means that you need to know how the business is done in local countries.’ (R7)

> ‘The description [of my job] is more or less the same [as in India], but my life… I see my life as a sales guy in India, in the US and in the Netherlands… It’s totally different. My interaction with people, and the kind of things that are around their minds, and the way to deal with them is totally different.’ (R18)

The Indians in onsite managerial or sales roles report on an adaptation process to local and/or company-specific differences of ‘a couple of months’ (R7), two months (R12), six months (R11) or even five years ‘learning the systems and processes’ for a banking consultant (R9). Referring to their fellow countrymen who are for the most part developing software, two of these Indians postulate:

> ‘Most of the time, these people sit at the customer locations. So for example, if you're traveling from Capgemini the Netherlands to Capgemini Japan and you are still doing programming internally, your level of adjustment will probably be less. Because you are doing more or less the same thing. You will need to know political dynamics etcetera. But if you're traveling from one customer to the other, it is a completely different ballgame altogether.’ (R7)

> ‘[A specific way of working] does impact the content a bit. It does not if you are a programmer and you know a specific technology and you go to a customer site or you work here and do specific programming work. It basically doesn't matter much.’ (R12)

Indeed, the programmers themselves 'didn't see much of a change' coming to the Netherlands (R10), experienced 'no hiccups' workwise (R3) or needed only '15 days to a month' to learn a new programming language (R2).

So, while the "liaison officers" experience an ongoing and lengthy adaptation process, due to changing surroundings and interaction with different individual customers, the "programmers" report on a less extensive adjustment, experiencing little changes contentwise.

6.4. Geographical proximity

The theories on tacit knowledge express a significant importance of geography: the implicitness and cultural and/or organisational dependency of this kind of knowledge makes it subject to geographical clustering, having face-to-face contact as virtually its only means of transfer. Again, the interviewees' findings are consistent with the assumptions made in the theoretical chapter; their dealing with context makes that the so-called 'liaison officers' stress the importance of face-to-face contact and geographical proximity several times:

> 'If I would be in India, I wouldn't even know what's happening here. But if I am here, then people do involve me. They will see me and say 'I need your help here' or, when meeting a client, 'we need you to come along' or 'this is the new deal, we need help from you'. But if I am not here, they will just go and do it the way they were doing it in the old times.' (R16)

> 'In the kind of job that I am in… if I don't see the people, it's… A lot of times, there's a lot of things you can't explain, and the fact that I don't belong to this culture makes it more important for me that I really see a person and the person sees me, too.' (R18)

‘Software is something... It requires a lot of interaction. Sometimes, customers themselves are not clear about their requirements. There are people who help in analysing the problem of the customer; help the customers in defining their requirements thoroughly. There is a lot of work in the implementation that requires feedback from the customer and configuring is closer to the customer. And then, there are people required to gather the information, the way in which it is expected by India. Collect that information, send it across, facilitate communication. If India has any queries, take it to the customer.”
[…]
By definition, anything that requires a lot of interaction... if you do it from remote, then it will have a lot of overheads in communication; there is a good chance of missing out on something.’ (R13)

‘Obviously, I feel that, since I'm physically present at Amsterdam, I get to know more insides of the business, how TomTom actually works, what are the processes being followed, so it's not just the development part, but also how and why the developments are needed, what is the business scenario, what are the goals behind these scenarios and what do they want to achieve.
[…]
That's what I like when you're near the business: you really understand what the thinking process in the company is and obviously, that can be helpful in other client locations as well, but other than that, it's not really something which you can just blindly copy or something.
[…]
I think [face-to-face contact] is very helpful and obviously, communication is a very important part of our job, so I think face-to-face is obviously much more convenient and much more fruitful.
[…]
I think, just to understand more about the mindset or the way of thinking of the person on the other side, it really helps to be face-to-face.’ (R1)

Consequently, when reflecting on their own situation, some of the “liaison officers” assume that geographical proximity is not as important for programmers:

‘I could have continued [being a software expert], even being in India. Expert in those areas, that's... I don't think it would have been a problem. But in my current role, yes... that's where some of my big learnings came from.’ (R5)

One of the few interviewees whose job is mainly programming agrees with this view out of first hand experience, alluding to the relative non-importance of physical proximity for his learning experience:

> 'Technically, I would say… If I would have been in India these three years, then I would have been at the same level as I am here. Technically, we do the same work.' (R3)

The critical role face-to-face contact plays in some critical business processes and the need for geographical proximity that comes with it, makes that the extent to which these processes can be outsourced or offshored to other geographic areas is fairly limited. This is also recognised by the more experienced interviewees:

> 'When you need a lot of input from users, you need to acquire it through talking to them personally. In such a case, outsourcing is not very obvious.' (R6, translated out of Dutch)

> 'There are certain things that you can't do out of a remote location. Whether it's in India or outside, in China, Poland or whatever. But for example, you could not do program management, coordination, interactions with business users without being near the client.
> […]
> I think the limit is determined a lot by business criticality and time criticality of whatever it is that you are developing, maintaining or supporting.' (R11)

6.5. Other forms of proximity

However, it could be that a solely geographical approach on proximity neglects the other ways in which the researched professionals deal with differences in context that possibly hamper their flexibility. As mentioned before, several scholars are interested in the way other forms of proximity (e.g. organisational) play a role in facilitating and limiting the mobility of transnational professionals. Bearing this in mind, the interviewees were asked about any geographical, occupational or company transfer and to what extent he or she had to adapt to the changes. One interviewee, who was already working for Capgemini in India before he transferred to the Netherlands, recognises the advantage of remaining within the same organisational setting when going abroad; he also states that there are different "cultures" to which you have to adjust in such a case:

> ‘The principles of Capgemini are more or less the same for all the different geographies. The only thing is, like, you can say the local culture which is definitely different, that depends upon the people, because over here in the Netherlands, we follow Dutch culture and in India... that's definitely... it's a number of cultures within Capgemini. So, yes that's different.’ (R19)

One could suggest that his remaining “proximity” to the institutional context of Capgemini facilitated his transfer to an unfamiliar geography. Another interviewee adds to the notion of the constant context of the company the similarities between globally oriented companies vis-à-vis locally operating companies, adding another specific context to the realm of “proximities”:

> ‘If you are working in a local company, or a local customer... more of a pure Dutch customer, not a global customer... then [the specific way of working] does impact you. And then of course, the language, the culture and those things come into picture. But if you are working for ING or ABN Amro, it doesn't matter, because they're global companies. So in that sense, it doesn't impact your contents.’ (R12)

The complementary and buffering effect these different “proximities” have on each other can also work the other way around; one Indian interviewee who changed to Capgemini a year ago but still works within the Dutch geography, reports on his adaptation process in the following way:

> ‘I was thinking that I would be productive on the first day, that I would join and be running, I'd be going to the customers. And I suddenly kept hitting these speedbreakers on a daily basis. And then I realised that it takes more time to adjust to a company, that it's not an overnight job. I was thinking that I will have my laptop and I will have this and that and those things happen but, you know, the physical hardware does not really enable you to adjust; it's the whole, you know, mindset behind it. So I think the adjustment is always company-specific.’ (R7)

Regarding his adaptation to local culture, he says:

> ‘For me, the adjustment to the local culture was low. Because I was already in the Netherlands for the last five or six years, so I did not need to adjust to that. I already knew my relationship with the Dutch culture and how good or bad I am adjusted to that.’ (R7)

So, one could say that an already established "cultural proximity" to the Netherlands facilitated (or even compensated for parts of) the transfer to a different company. When questioned on the difficulties he encountered when adapting to a new working environment, an interviewee who also switched to Capgemini while already working in the Netherlands remarks:

> 'One of the advantages [was] that I was here in the Netherlands for two years before I joined Capgemini.' (R18)

One could conclude from these quotes that there are several "proximities" that play a role in the adaptation to new surroundings – be it organisational or geographical. One interview integrates this into his analysis of "layers of culture", that loosely corresponds with the different forms of proximity this research aims to uncover:

> 'I keep saying that there are three layers of culture. One is the local culture layer, which the company has. One is the global culture layer which the company has. And one is the country or geography layer. For example, ING was one of my big customers in a previous company. So we were working for Nationale Nederlanden, for RVS, for Postbank that time and ING. And they're all... Within the Netherlands, they're so close to each other, I mean... twenty kilometers, thirty, maybe sixty kilometers. And there's such a big culture difference between Nationale Nederlanden and ING. There's such culture difference between RVS and ING. There's a huge culture difference between these labels of ING. And then you realize that it's a Dutch company... Nationale Nederlanden is not at all global, it's completely Dutch. Postbank is completely Dutch. RVS is completely Dutch. But they still have so much culture differences.' (R7)

So, while the customer companies he mentions are all located very close to each other, he still sees notable differences which he attributes to both company-specific cultural differences and the fact that some of these companies operate globally, while others are mainly focused towards the regional market.

The fact that some of these companies have a "global orientation" makes that there are similarities between these companies – the "global culture layer" R7 mentions – which enables the transfer from one globally operating company to another.

This means that, besides the geographic proximity mentioned in the preceding section, the Indians who are "liaison officers" discerned at least three other interrelated "proximities" that play a role in the transfer from one area to another, be it geographical or not. First, they referred to the local cultural differences between India, the Netherlands and other countries where they have worked. Second, they stated that besides the local culture, there is also the specific culture of the company. Third, there seems to be an added dimension to the way in which the workplace culture comes to the fore: globally operating companies appear to require the same mindset of its employees, while locally operating companies can differ very sharply from each other.

6.6. From skills, contexts and geographies to knowledge

The specific skillsets, as well as the recurring process of adaptation the "liaison officers" experience in a new geographical or organisational context, chime with the theoretical assumption that tacit knowledge concerns the habitual and professional make-up of so-called "communities of practice". The earlier finding that the "liaison officers" rely on the non-formal take-up of professional skills (i.e. learning-by-doing) also hints at their usage of tacit knowledge; as mentioned earlier, Polanyi already used the master-apprentice relationship to illustrate the non-formal character of transferring tacit knowledge. One interviewee refers to the association between soft skills and tacit knowledge in the following passage, by expressing the difficulty to directly communicate the knowledge associated with soft skills without a shared context:

> ‘It's not just the programming skills; [a person coming to an onsite location] will need to carry these [soft] skills. And I think it's very important, because many times... What I have seen in the past also, is that if there is a programming error, the customer will point it out in black and white and he will say that there are some issues with your program, etcetera. But the soft things jeopardise the relationship, because these programming errors can be fixed. This is a black-and-white situation; you can go back to the same customer and say ‘mister customer, I fixed your problems’. But the soft things... A customer will come back and say that ‘you know, I'm not getting a good feeling with your company’. And you tell him ‘can you explain?’ He'd say ‘I can't, it's difficult’.
> […]
> So, these soft skills jeopardise the relationship more than hard skills.’ (R7)

Judging by the case of the Indian workers at Capgemini, the recognition of different spheres of adjustment combined with the vast difference in the level of adjustment required for the two professional groups, coinciding with the different ways of learning and a corresponding difference in the need for proximity, hints at a difference in types of knowledge used by both groups. The next chapter will elaborate on this by answering the main research question.

7. Conclusions, implications and limitations

7.1. Answering the research question

To what extent does the situation of the Indian knowledge migrants within Capgemini adhere to theoretical assumptions made about the transferability of knowledge?

As mentioned in the introduction, the anecdotic and contradictory newspaper articles on this subject leaves one wondering what the content of the work of the Indian knowledge migrants at Capgemini is and what their migration patterns look like.

The Global City-approach, with Saskia Sassen as its main representative, states that in order to deal with the complexities of operating in multiple markets, corporate headquarters have a tendency to outsource their most complex functions to specialised service firms. These service firms tend to be geographically concentrated in and around Global Cities; one of the reasons for this concentration, besides the local supply of labour and expertise, is the reliance on face-to-face interaction that comes with the aforementioned complexity. Another pivotal argument for this thesis is the notion of a flexible and hypermobile elite performing these complex and essential tasks.

Looking at the main findings distilled out of the literature on the geography of knowledge, one finds that the *tacit* knowledge these individuals possess partly relies on the interpretative, geographically bounded *context* necessary to fully and adequately transfer this knowledge, which could hamper their perceived hypermobility. This at least leaves one wondering to what extent the geographic movement of these individuals is flexible – as presumed by Sassen – and to what extent it is bounded by their inability to fully communicate this knowledge without its necessary (and place-bound) context – which is what scholars within the field of

the geography of knowledge agree upon. The theory itself provides a possible answer: by interpreting proximity as not just geographical, but also as institutional, cultural or relational (e.g. when transferring to another geographic location within the same company, the constant corporate mindset – institutional proximity – makes that the context through which specialist knowledge needs to be interpreted, remains constant). By maintaining one or more other "proximities", one can be relatively flexible in a geographic sense without being hampered in the transfer and communication of his or her knowledge. Using the main findings on the geography of knowledge as guidelines, several patterns in the interview data were found.

It became clear that there are two distinct career paths being followed within the research population. One of the career paths can be described as that of the "liaison officer": a person who is a middleman between the Dutch clients and the Indian software team and thus has to cope with the cultural differences and possible misunderstandings he or she encounters, either as a sales person or as an onsite manager. The other is that of the "programmer": a person whose job is to program the desired software for the client after receiving instructions from the onsite manager. It should be noted, however, that these two career paths do not oppose each other and/or are mutually exclusive in a dichotomous fashion; they can best be seen as idealtypes, as there were onsite managers for whom coding was still part of the job. There were also some software programmers who had coordinating tasks delegated to them. This role convergence is not surprising when one realises that a lot of the "liaison officers" started out as programmers. The formal education profiles of both groups seem to be very similar as well, so the different career orientations appear not to depend on the level of education one has reached. It should be noted that the aforementioned occupational distinctions were used as instruments for identifying differences in knowledge use and the influence thereof on their migratory patterns, which will be elaborate upon in the next few paragraphs.

First, the **skillsets** both professional groups use and **the way in which the members of these groups have obtained these skills** differ along the lines of the

aforementioned occupational distinction; the "liaison officers" frequently report on communicational skills and report to have obtained these through on-the-job experience, also mentioning that they hardly use any of the skills acquired through their formal education. The on-the-job learning and interactive character of their skills (e.g. communicational proficiency) chimes with the skillsets and learning processes associated with tacit knowledge. The programmers, on the other hand, claim that they still use a lot of the basic (codified) programming skills they learned at college.

Second, when it comes to the **dependence on context**, interpreted as the degree to which a person experiences obstacles when transferring to a new cultural and/or business environment, another difference between both groups arises. Whereas the employees in a more "programming" role report on a relatively short work-related adaptation process, the "liaison officers" tend to need a little more time to familiarise with their new professional surroundings. The differences in the degree in which both groups report to rely on context also hints at a difference in knowledge: as mentioned in the chapter on the geography of knowledge, tacit knowledge tends to rely heavily on context for its interpretation, while codified knowledge has a universal way of interpreting agreed upon.

Third, there also is a difference in reliance on face-to-face contact and its subsequent need for **geographical proximity** between both groups: the "liaison officers" say they rely heavily on this type of contact, whereas it is not regarded as an essential aspect of work by pure "programmers". The reliance on geographical proximity through the need for face-to-face interaction is congruent with the dependence on context mentioned earlier and is seen as a prerequisite for an adequate transfer of tacit knowledge as well.

Fourth, the interviewees report on **other, not necessarily geographical spheres in which the adaptation can take place**: organisational or cultural. There has to be a certain "proximity" to each of these spheres in order for the transfer to go smoothly. If not, a process of gradual adaptation takes place. The more spheres are altered in

the transfer (e.g. a transfer to both a new company and a new geography), the more extensive the adaptation process will be. The more recent literature on the geography of knowledge indeed suggests that the proximity associated with tacit knowledge is not only to be explained in terms of geography; the authors suggest that there are other forms, such as institutional or relational proximity that play a facilitating or limiting role when it comes to the transferability of context-dependant knowledge. The most interesting finding is perhaps that a worldwide operating advanced producer service firm like Capgemini offers a possibility for global mobility trough its constant context, allowing easy development, distribution and utilisation of tacit knowledge.

7.2. Implications of this research

Summarising the aforementioned section, the differences in skills, context-dependency, reliance on geographical proximity and the importance of other, non-geographical forms of proximity seem to adhere to the idealtypical distinction between tacit and codified knowledge. Of course, an abstract concept such as knowledge, especially tacit knowledge, is hard to measure directly. However, using the theoretical assumptions on the geography of knowledge and the way in which it is used in research on skills, the goal was to measure or at least appropriate the degree in which these different kinds of knowledge manifest themselves in different levels of labour migration flexibility of highly skilled migrants.

This research aims to contribute to existing work on the geography of knowledge in three ways. First, this research has answered the call for more research on the role migration plays in knowledge work transactions.

Second, it has given some empirical backup for the suggestion that there are many, not necessarily geographical, forms of proximity that play a role in the transfer of tacit knowledge.

Third and most important, the expansion of the concept of proximity to realms outside of geography might bring theories on knowledge and theories on Global or

World City formation closer together: the recognition and internalisation of a "multinational corporate culture" as mentioned by one of the interviewees could well provide an omnipresent context which facilitates the intercompany and international mobility of the professional elite, which is a pivotal process for Global City formation: this could provide the highly skilled elite with a possibility of high geographical mobility, while members of this elite are still embedded in a context that allows for the correct transfer and interpretation of their knowledge. What is especially important is the role of the constant context an internationally operating company can provide.

7.3. Research limitations

While the limitation to the company of Capgemini makes sure that all respondents share the same company context – which facilitates the comparison of the individual interviewees – it hampers the external validity of this research. Another disadvantage of this research, as mentioned several times before, is that it does not directly measure knowledge, and therefore only can assume that the observed differences can be ascribed to differences in knowledge. Another problem is the bias that could occur when an interviewee talks about his or her own job and/or career: it could well be that some interviewees omitted negative aspects of their job and or career moves, as well as exaggeration of the importance of their job.

7.4. Recommendations for further research

Now that the first steps towards a new type of research on the role of knowledge in multinational companies have been made, one has to think about ways in which the scope of this research can be broadened. In order to overcome the problem of external validity, one could think of a follow-up research that researches other groups that operate in a globally oriented professional environment, i.e. professional sportsmen and women, diplomats, or scientists with an international career. Cognitive psychology could perhaps help to provide a better and more direct

measurement of knowledge. More extensive triangulation through official documents regarding wage, education and job description could determine to what extent some respondents are overly biased when reporting on their own situation. What also could be interesting and relevant is to chart the so-called "migration paths" of respondents, in order to discern certain patterns in them. It thus becomes clear that there are still many ways to investigate whether the findings of this research still hold true in different contextual settings and on different scales.

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Appendix: List of interviewees

Respondent	Sex	Age	Job description (formal as well as self-descriptive)	Nationality
1	Male	27	Consultant	Indian
2	Female	40	Project leader	Indian
3	Male	28	Programmer	Indian
4	Female	27	Programmer	Indian
5	Male	37	Sales	Indian
6	Male	53	Former management team member; lots of strategic experience with offshoring	Dutch
7	Male	35	Sales	Indian
8	Male	31	Programmer	Indian
9	Male	35	Banking consultant	Indian
10	Male	35	Programmer	Indian
11	Male	32	Sales	Indian
12	Male	35	Sales	Indian
13	Male	37	Sales	Indian
14	Male	36	Programmer	Indian
15	Male	43	Intermediate between India and NL	Indian
16	Male	42	Project manager	Indian
17	Male	34	Program director of CMMI implementation	Indian
18	Male	34	Sales	Indian
19	Male	30	Sales + coordinating + programming	Indian
20	Male	29	Programmer	Indian