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IT-labour goes Offshore: Regulating and managing attrition in Bangalore

How can high rates of attrition persist in a specific IT-hub for years, and how do transnationally operating companies with different institutional backgrounds cope with this challenge organisationally? The present paper addresses this question by presenting first results of a current SOFI-project on transnational (Indo-German) project-work in the field of software-programming. Drawing upon literature, interviews with industry-experts and intensive case-studies in one Indian service-company and one German product-company with development-centres in the South-Indian city of Bangalore, it will be argued that high rates of attrition are resulting from a complex regulatory field of force. It is shaped by the strategies of companies and IT-professionals, but also by direct *political* intervention and an active policy implying a "privatization of standard-setting", although this is denied by industry and state-representatives alike. With respect to the sample-companies' strategies of restricting attrition and of channelling attrition organisationally, a concurrence of integration (into the regional labour-market) and of differentiation (of management-approaches) is stated and the influence of the mother-company's affiliation to a specific institutional context discussed.

IT-Arbeit geht Offshore: Regulierung und Management von Fluktuation in Bangalore

Warum halten sich in einer bestimmten IT-Metropole über Jahre hinweg relativ hohe Fluktuationsraten? Und wie gehen transnational operierende Unternehmen aus unterschiedlichen institutionellen Kontexten organisatorisch mit dieser Herausforderung um? Dieser Frage widmet sich das vorliegende Papier auf Grundlage erster Befunde eines laufenden SOFI-Projekts zu transnationaler (indisch-deutscher) Projektarbeit in der Softwareprogrammierung. Auf der Basis von Literatur, Expertengesprächen und Intensivfallstudien in einem indischen Service-Unternehmen sowie einem deutschen Produktunternehmen mit Entwicklungszentren in der südindischen Stadt Bangalore wird argumentiert, dass die anhaltend hohen Fluktuationsraten Ergebnis eines komplexen regulatorischen Kraftfeldes sind, in dem neben Strategien von Unternehmen und IT-Professionals gerade direkte *politische* Intervention sowie eine aktive Politik der „Privatisierung von Standardsetzung" eine wesentliche (wenn auch von Staats- und Industrievertretern gleichermaßen geleugnete) Rolle spielen. Anhand der in beiden Untersuchungsunternehmen verfolgten Strategien zur Eindämmung und organisatorischen Kanalisierung von Personalfluktuation wird eine Gleichzeitigkeit von Integration (in den regionalen Arbeitsmarkt) und Differenzierung (in konkreten Managementstrategien) aufgezeigt. Es wird diskutiert, welche Rolle die Zugehörigkeit des Mutterunternehmens zu einem spezifischen institutionellen Kontext dabei spielt.

IT-labour goes offshore: Regulating and managing attrition in Bangalore

1. Introduction

In Germany, IT-offshoring is a highly debated topic. For some, *offshoring* – defined as the relocation of tasks and work-places to distant regions (outside Europe and the US)[1] – represents an almost logical consequence of the IT-sector's increasing internationalisation. This process had started with hardware-production, but now gains impetus in software-production and IT-services as well (Boes/Schwemmle 2005). According to others, the relocation of high-skilled services in these fields will prove to be a short-term episode as the indirect costs and risks of IT-offshoring are considered to outweigh its advantages (e.g., Vogel 2005). As far as India is concerned, critics have identified the high rates of attrition or turnover,[2] especially in IT-hubs like Bangalore, as one of the most important aspects that might render IT-offshoring unsustainable in the end.[3]

It is beyond the scope of this paper to decide which outcome is more realistic. Nevertheless, such debates point to a problem of high relevance, not only to the management of IT-companies, but also to labour sociologists. They refer to the relationship between corporate strategies of transnationally operating companies, on the one hand, and the complex mixture of political, economic and social structures and processes of regulation,[4] which make up the "institutional context" for transnational investment in any location, on the other hand. If companies from different institutional backgrounds – often defined as specific business systems (Whitley 1999) or varieties of capitalism (Hall/Soskice 2001) – are settling within the same location: Will their practices be shaped by the mother company's standards in the first place, at least partly reflecting the institutional setting of its home-base?[5] Or do companies (have to) integrate into the specific context of their investment-destinations, thus adapting their practices to local standards – as Geppert et al. (2002) or Woywode (2002) have argued?

Discussions about transnationally operating companies' embeddedness in multiple institutional environments and about the consequences for management practices have been going on ever since the "globalisation" of economic activities has started to attract attention (for a short overview see Geppert et al. 2006). This paper tries to contribute to these debates by focussing on such a scenario of "multiple embeddedness" and its repercussions for the labour-utilisation and work policies of one German product-company and one Indian service-company, both operating in the South-Indian city of Bangalore.[6] In this locational context, IT-

[1] According to this definition, "offshoring" does not have to go along with "outsourcing", i.e. with a transfer of company functions to other companies or business partners. Instead, offshoring can imply offshore-outsourcing as well as captive offshoring. The latter is based on maintaining one's own production centres in far-away world regions. The companies of our sample, for instance, maintain subsidiaries in India and Germany respectively (see below).

[2] In India, industry experts, company representatives, and social scientists use the term "attrition" rather than "turnover" when referring to the quota of leaving staff. Our terminology is borrowed from them.

[3] Meta Group 2004 (cited in Vogel 2005: 15) stated that offshoring was likely to reduce „efficiency" by up to 20 percent; 1-2 percent are explicitly attributed to attrition.

[4] The term "regulation" is used in a wide sense here, referring not only to the implications of state structures and political intervention, but also to economic structures and company strategies as well as to social structures and the "regulatory" practices of social groups or households.

[5] This has been described as "country-of-origin-effect" in Harzing/Sorge (2003) and Harzing et al. (2002).

[6] This paper presents first results of a current research project on "Offshoring's double embeddedness: Quality of labour relationships in transnational IT-companies" (supervised by Volker Wittke). It has started in May 2006 and is funded by the German Research Foundation (DFG). The sample contains around 25 interviews with experts on IT-development in Germany and India, and roughly 80 interviews with managers and employees of six firms, covering German product companies and Indian service companies. Intensive case studies have been conducted in two of them – one German product company (referred to as company B below), and one Indian

companies are faced with a regional labour market that is characterised by an agglomeration of Indian as well as non-Indian corporations and their competition for qualified IT-staff. It is hardly surprising, then, that attrition is generally considered as one of this labour market's most striking features, although data should be taken with a pinch of salt: They sometimes refer to *all* employees leaving a company in the course of one year, sometimes to *voluntary* attrition only (Upadhya/Vasavi 2006: 50). Moreover, attrition can be very differently, ranging from "exit attrition" (of employees leaving the IT-sector for good) to "horizontal attrition" (between similar companies) and "vertical attrition" (between service and product companies, for instance).

It will be argued that the high attrition rates prevalent in Bangalore are generated in the context of a seemingly "liberalised" labour market that is, however, in fact characterised by a high degree of political regulation. This includes direct support for the IT-sector as well as an active policy aimed at a "privatisation of standard-setting" (section 2). As every IT-company operating in Bangalore has to deal with the rapid fluctuation of staff, it seems worth analysing the wide range of approaches applied by two companies with different internationalisation strategies and from different institutional backgrounds. Turning to the management practices applied by one Indian service and one German product company in order to cope with attrition in their production centres in Bangalore, it will be then shown that both undertake efforts to restrict attrition and to channel attrition organisationally, but that the mixture between both strategies varies considerably (section 3). Finally, we will return to the question whether corporate strategies are adjusted to the standards of "location Bangalore" to a degree that renders differences in the companies' institutional backgrounds unimportant (section 4). Here, a *concurrence* of integration and differentiation will be stated: Both sample companies display an increasing tendency towards integrating themselves into the Bangalorian labour market, although the German company "only" maintains a production centre in this city, whereas the Indian company is home-based here and has influenced the region's development in a number of ways.[7] This tendency towards integration goes along with increasing differentiation, however, as indicated by our sample-companies' attempts of dealing with attrition. It will be argued that these differences are due to distinct standards of the German and Indian IT labour market, to necessities of intra-organisational adaptation in transnationally operating companies, and (most obviously) to the contents and quality of work offered by a product or a service company respectively.

Directing the focus towards the two sample-companies' practices in Bangalore is interesting for several reasons: First of all, the activities of IT-companies operating between Germany and India constitute a link between two labour markets considered to be markedly different: Germany is regarded as the main representative of the "coordinated market economy" (Hall/Soskice 2001), of "Rhenish capitalism" (Albert 1993; Streeck 1997), or a "conservative welfare state regime" (Esping-Andersen 1990). Its labour market has been shaped by conditions of considerably reduced growth rates from the mid-1970s that followed the economic post-war boom. The Indian labour market, instead, has evolved within one of the fastest growing economies of the world. Since 1991, it has been characterised by the rapid change from a postcolonial economy aiming at protection from the world market to a new regime that is heavily influenced by Anglo-Saxon standards (ascribed to "liberal market economies" and "liberal welfare states"). At present, India can be argued to display a specific mixture of both regulatory regimes. Moreover, the Indian IT labour market has developed very dynamically during the last years, rendering it easier to analyse (changing) structures and processes of

service company (company A). At their home base as well as in their foreign subsidiaries, we interviewed managers and employees working in Indo-German project teams. As all companies and interviewees are strictly anonymised, we cannot thank anybody personally here. But we would still like to express our gratitude to all participants, who have rendered this study possible, for their time, patience, and commitment.

[7] The design of the research project as a whole is less „disproportionate" as both companies' operations are examined in India as well as in Germany.

regulation than in the well-established institutional systems of Western Europe and the US. Finally, it makes sense to direct attention towards Bangalore, as "global cities" (or rather urbanised regions) have been argued to constitute focal points of globalisation (starting with Sassen 1999).[8] It may be debated whether Bangalore can be defined as a "global city" (not having developed into a stronghold of finance capital, for instance). The massive agglomeration of IT-companies from India and abroad, however, has undoubtedly turned this city into one of the fastest growing IT-hubs of the world, where regulation and especially the changing role of the state under conditions of simultaneous "globalisation" and "localisation"[9] can be analysed in all its dynamism.

The practices of transnationally operating IT-companies in the Bangalorian context[10] can thus be regarded as a fascinating field of research, even though IT-work between India and Germany is still a rather rare phenomenon. In 2005, the global trading volume of IT- and BPO-projects[11] had been estimated at 40 billion US-Dollars (DB Research 2005a: 3), with India attracting two thirds of the world's and one third of Europe's project volume (Forrester Research 2004: 32; Stamm 2005: 67).[12] Two thirds of India's exports are still bound for the US, however. Europe's share has grown from 22 to 25 percent between 2003 and 2006 (Nasscom 2007), but hardly one tenth of the European business originates from the German-speaking countries Germany, Switzerland and Austria (DB Research 2006). Reversely, only 2.5 percent of all IT-services imported into Germany are produced in India (Bitkom 2007: 26). Hence the German and Indian IT-companies of our sample that have indeed opted for software programming between these two countries, represent pioneers of Indo-German co-operation in this field. It is the context of their operations in *one* of these locations – in the city of Bangalore – to which we will now turn.

2. Regulating attrition

In management literature about the internationalisation of IT-services, attrition is usually introduced as one aspect that has to be taken into account when estimating the costs of offshoring or choosing an offshoring location. From a management perspective, rates of attrition are essential for a variety of reasons.[13] Most of them imply a *reduction of company options*: High attrition rates render it difficult to settle down in a specific location permanently; to ensure a long-term individual and collective skill development among local employees in accordance with a company's needs; to secure internal knowledge from being transferred to other firms or even to direct competitors; and to build a stable workforce based on internal promotions, thus establishing informal ways of controlling employees through trust and personal obligation rather than through formal hierarchies. "Flexibilisation" – high on the wish-list of *German* employers, since it is understood as entailing an *increase of company options* (versus labour

[8] "As nodes of accumulation, global cities are sites of reterritorialization for post-Fordist forms of global industrialization. As coordinates of state territorial organization, global cities are local-regional levels of governance situated within larger, reterritorialized matrices of 'glocalized' state institutions." (Brenner 1998: 3)

[9] A "glocalized state" emerges, according to Brenner (1998: 1), as the "state scale is not being eroded, but rearticulated and reterritorialized in relation to both sub- and supra-state scales."

[10] In our research project, we also analyse the reverse phenomenon, i.e. the operations of German and Indian IT-companies in Germany.

[11] BPO is the abbreviation for „Business Process Outsourcing", implying the outsourcing of (in this case) IT-based, but not IT-centred corporate processes, for instance in accounting or call-centre-services.

[12] The association of Indian IT-companies, Nasscom, has argued that „only" 44 percent of the global Outsourcing-market (for software-development) were attracted by India; if IT-Enabling Services and Business-Process-Outsourcing were included, the share was rising to 55 percent (Chandrasekhar 2005; see also DB Research 2005b).

[13] From an economic perspective, it has been argued that job-hopping in Silicon valley was resulting in underinvestment in human capital, and that it was especially likely that "hypermobility will produce agglomeration economies" (Fallick et al. 2005: 3).

law, collective agreement etc.) from the mid-1970s – thus acquires unfamiliar features. In the context of today's Indian IT-industry, flexibility is favouring employees who have plenty of employment alternatives and build their careers by job-hopping, as Upadhya and Vasavi (2006) have pointed out. Hence companies experience flexibility as a mixed blessing:

> "While the industry desires a workforce that is mobile and flexible, this requirement has also created a culture of individualism in which employees pursue their own goals over those of their employers – who are in any case often temporary." (Upadhya/Vasavi 2006: 48)

The high attrition rates of the Bangalorian labour market for the last decade has thus resulted in a specific distribution of power. According to many company representatives, "attrition" is among the most important disadvantages of this location and, in our interviews, it is sometimes presented as an unchanging feature of the regional IT labour market. In fact, attrition rates have, however, been fluctuating during these years.[14] They can neither be considered as a "stable" aspect of this specific institutional setting nor as an "independent variable" for corporate strategies. Still, the question why attrition rates have remained high for so many years is usually not asked. This is surprising, especially given that classical labour market theories would expect the emergence of an equilibrium between the supply of and demand for labour: If labour is scarce, they would argue, employees may opt to change jobs frequently and they may successfully demand higher salaries – but employers would leave that location, according to theory, and with decreasing job numbers, salaries would drop down and "job-hopping" would lose impetus. Why, then, does the "invisible hand" of market forces not seem to operate in this way in the Bangalorian context?

This question points to one of the critical aspects of "classical" theory, namely to the assumption that labour contracts (including hiring and firing) were negotiated between two seemingly free and equal parties, acting independently from any regulatory context. In order to understand the complex scenario expressed in continuously high attrition rates, however, it is indispensable to analyse the *regulatory structures and processes* that, in fact, constitute the IT labour market in Bangalore. They include political, economic and social structures underlying IT-companies' operations as well as the regulating practices of different actors, among them representatives of the state and of corporations, but also IT-professionals with their respective social networks. Their inputs may point into different directions or even be contradictory, and they may draw upon different resources of power, but like vectors in a "field of force", they concur, are remoulded, weakened or re-enforced in the process, thus generating results that may not be identical with any of the original inputs.[15]

Many aspects of this complex "field of force" remain neglected if regulation is equated with *state policies* in current academic discussions. Nevertheless, the long-term political regulation of the IT-industry in India does deserve attention, for instance, as it can be argued to have promoted the persistence of high attrition rates. At first glance, one encounters an interesting contradiction in the Bangalorian context, however: On the one hand, many studies have described the strong impact government policies (of the Central Government of India, the State Government of Karnataka and the City Government of Bangalore)[16] have exerted upon

[14] In Bangalore, the attrition rate among IT-professionals has fluctuated around 10-15 percent since 2003, according to industry experts and company representatives. In 1999/2000, however, when the Y2K-Business (i.e. the world-wide preparation of software for the start of the new millennium) boosted employment, attrition rates in Bangalore had reached 25 percent per annum, followed by a period of economic downturn, in which IT-professionals tended to stay with 'their' company longer-term (Upadhya/Vasavi 2006: 50-51; own interviews).

[15] A similar conceptual approach towards analysing the structuring and regulating of employment has been sketched by Pries (2005).

[16] Bangalore city is officially governed by the City Corporation. In fact, however, the policies of Karnataka State Government are much more influential, and have been focussing on Bangalore city rather than on the entire State of Karnataka during the last years. The neglect of rural regions is considered to be one of the reasons why the Government of Chief Minister S.M. Krishna failed to be re-elected in 2003.

the Bangalorian software-industry's take-off.[17] On the other hand, both politicians and representatives of the IT-industry emphasise with great vigour the absence of any political regulation of the region's IT-industry. Even the IT-secretary of Karnataka State Government reacted uncomprehendingly to this question in 2007: "No, there is no…, there is no political regulation. No." This attitude reflects a wide-spread acceptance of the neoclassical assumption that "liberalisation policies" were a prerequisite of economic success. Especially approaches proclaiming an "information society" even state the emergence of a "new reality", of an

> "entire social universe as a space of networks forming a single, giant market […]. Regulation of this reality was not only counterproductive but impossible for the state, which necessarily had to limit its roles to standardization of procedures and provision of infrastructure." (Heitzman 2004, 15)

The persistence of high attrition rates so characteristic for the IT-sector in Bangalore cannot be understood, however, without reference to the long-term political support this industry has received from various state agencies. These policies are very roughly outlined below, arguing that even the "liberalisation policies" pursued since the 1990s do explicitly not imply a "withdrawal of the state", but a combination of (extended) regulatory vigour and an active "privatisation of standard setting" to which we will now turn.

First of all, Bangalore's emergence as a centre of IT-production (and its continuing attractiveness for companies despite high attrition rates) can be attributed to Indian governments' *direct involvement in generating the Indian IT-industry and in promoting the IT-hub Bangalore.* As far as the Central Government's role – outlined in Heeks (1996: 33-66) – is concerned, its most striking feature was the policy of import substitution pursued roughly from Independence (1947) to the mid-1980s. It created ideal conditions for Indian IT-companies to develop within a well-protected environment. At the same time, technical education was promoted, for instance by founding the Indian Institutes of Technology as state-owned elite institutions. Until the mid-1980s, the expansion of a high-skill service industry within a protected market had favoured the emergence of "body-shopping", especially to the United States, as US-companies were interested in cheap and skilled Indian IT-labour, but could not set up shop in India itself. Hence IT-professionals were hired by Indian or foreign companies and "let" to work at their clients' sites in the US.[18] From the mid-1980s, however, the Indian Central Government supported a shift towards IT-production *within* India: "Body-shopping" was rendered less attractive by levering new taxes on travel expenses; at the same time, the Department of Electronics (founded in 1970) has facilitated the import of software and hardware, and has paved the way for "Foreign Direct Investment", thus allowing non-Indian companies to establish IT-subsidiaries in India. In 1988, their influx was further promoted by way of founding "Software Technology Parks of India", where "Special Economic Zone"-incentives were offered to fully export-oriented corporations.[19]

Many IT-companies from India and abroad that started looking for suitable locations *in India* chose the city of Bangalore,[20] which, again, owed its attractiveness to state policies: Its striking agglomeration of educational institutes had resulted from the Central Government's policy – starting in the 1950s – of developing the city into a centre for public (and especially military) research and development. For decades, public colleges and public science jobs had

[17] For a bibliographic overview see Lema/Hesbjerg (2003).

[18] In 1990, for instance, 95 percent of all Indian software companies were specialising in body-shopping, and most Indian IT-professionals employed in the field of software exports were working abroad (Lateef 1999: ch. 2.4.).

[19] Fully export-oriented IT-companies were now entitled to a five-year tax-holiday; fast duty-free import and export; a quick "single window clearance" for all bureaucratic dealings; exemptions and subsidies on sales tax and excise tax; free rent, power and water; greater access to foreign exchange and infrastructural facilities (e.g. satellite connections) than domestic units; and permission for wholly-owned foreign firms to expatriate profits freely (Heeks 1996: 142).

[20] According to a survey of the headquarters of the top 200 software companies, 68 were located in Bombay/Mumbai, 56 in Bangalore and 30 in Delhi in 1995. The remaining one-quarter of the companies were distributed between Hyderabad, Madras, Calcutta and Pune (Nasscom 1995: 19, quoted in Lateef 1999: ch. 2.4).

been attracting members of the skilled Indian middle-classes, which again fuelled the founding of new public (and increasingly private) institutes of education that produce an impressive output of graduates each year.[21] It is not surprising, then, that Indian and also foreign IT-companies[22] settled in these surroundings from the mid-1980s, employing local graduates in sciences and engineering, but also IT-professionals from all over India. Bangalore turned into a lively and highly competitive labour market that provided IT-professionals with a wide range of employment options, thus boosting attrition rates. Again, this influx of IT-companies was actively supported by the State Government of Karnataka by offering a wide spectre of incentives, ranging from state assistance in acquiring land[23] to direct financial subsidisation, for instance, as IT-companies are charged industrial tariffs rather than the (higher) commercial tariffs due in other Indian States (Interview with IT-Secretary of Karnataka, 2007).

It is obvious, then, that the policies of Indian Governments have contributed to the emergence of an (Indian as well as foreign) IT-industry in India. It can even be argued that political regulation has been exerted *by more than one nation state* in this case: In fact, policies of the Indian Central Government and policies of the US-government have concurred in supporting the emergence of the Indian IT-industry. After all, the actual take-off of IT-production *in India* can be dated to the years between 1989 and 1993, when the US-government (as host to most clients of Indian IT-companies) tightened its immigration rules (Lateef 1999: chapter 2.4).[24] It is difficult to decide which side was predominantly acting or reacting, but the undeniable impact of US-policies is worth noting. After all, it contradicts the widespread "'zero-sum' conception of spatial scale", according to which "state scale is said to contract as the global scale expands", for instance because of transnational company operations (Brenner 1998: 3). In the Indian IT-sector that has exported 78 percent of its products and services in 2006 (Nasscom 2007) and has been described as a "virtual extension to leading technology firms and regions in the OECD countries" (Lema/Hesbjerg 2003: xii), political regulation has not lost importance, but increasingly acquired "transnational" features, as it was influenced by policies of different nation states at the same time.[25]

Why is it, then, that politicians and company representatives are so reluctant to acknowledge the decisive role of political regulation? Apart from the cultural hegemony of "liberalisation"-ideologies, this may be due to the fact that one of the most characteristic strategies ap-

[21] In 1997, only 52 percent of the Indian population were literate, whereas in Bangalore Urban District, literacy rates grew steadily from 43 percent after Independence to 70 percent in 1991 and 86 percent in 2001, including roughly 90 percent of males and 82 percent of females. This increase was due to the fact that in the Bangalore region, the total number of primary schools increased by 65 percent, and the number of secondary schools by 435 percent in the last three decades of the 20th century, while the number of students grew by 200 percent in both types of schools (Heitzman 2004: 220). The university education of engineers started as early as 1917 with the "College of Engineering". In 1995, the university system in the districts of Bangalore Urban, Bangalore Rural, Tumkur and Kolar encompassed 275 colleges and 38 departments with a total of 175.000 students. Bangalore Urban District was hometo 54 polytechnics and 46 technical institutes; among undergraduate students, roughly 46,000 (61 percent women) majored in arts, 25.000 (47 percent women) majored in science, 36.000 (39 percent women) majored in commerce. By 1995, Karnataka reported to host over 17.000 engineering students, and in 2000, there were 82 engineering colleges, increasingly concentrating on electronic engineering and IT, and known for their high education standards (Heitzman 2004: 222-224).

[22] In Bangalore, Texas Instruments were the first to setup shop as early as 1986. Before that, IBM had operated in India, but had to leave the country in 1978 (Lateef 1999: ch. 3.2).

[23] According to the "Land Acquisition Act" of 1894, the state can use its power of "eminent domain" in order to claim land for "public use" in India. An expert from a Bangalorian Ecology-NGO has stated in an interview that agricultural land was usually bought by the state below market price, and (semi-legally) converted into land for non-agricultural use. It was then resold at the same reduced rate to IT-companies.

[24] Indian IT-professionals working for US-clients on H1B-visas now had to be paid according to the prevailing US wages and taxed on their US income.

[25] In our sample, German visa regulations play a crucial role in influencing the strategies of IT-companies, including the share of onsite versus offshore teams, the frequency of visits at the client site, "local" German hirings or organisational measures aimed at substituting personal contact.

plied by Indian governments in supporting the IT-industry during the last years has been a *"privatisation of standard setting"*. Indian governments that have been quite active in regulating labour markets (at least in the country's formal sector), for instance by determining minimum wages and establishing certain labour laws, have decided to transfer regulatory activities to non-state actors, thus expanding the influence especially of industry representatives.

In Bangalore, the most widely debated result of this approach was a planning committee called "Bangalore Agenda Task Force" (1999-2003). It assembled representatives of the State of Karnataka, corporate leaders and members of "civil society" in order to tackle the city's deterioration in the wake of the IT-boom. Celebrated for its achievements by some (Sukumar 2003), it was rigorously criticised by others for its tendency to ignore issues of poverty or social welfare, and to address only topics (like land development, water, telecommunication or traffic management) closely related to the middle-class's "businesses and private lives" (Ghosh 2005: 4916). It is difficult to decide in how far representatives of IT-companies have actually aimed at (or even succeeded in) taking over city-planning through BATF-policies. There can be no doubt, though, that BATF has massively increased the chances of directly influencing the city's economic structure according to corporate needs. This opportunity (e.g., to "order" infrastructure from the state) may well be argued to have compensated companies for rising salaries and high attrition rates at least to a certain degree.

In the sphere of legal regulation, one of the most important aspects of the "privatisation of standard setting" is the Government's decision not to apply existing labour laws and not to interfere with salary-determination in this sector. One former labour commissioner of the State of Karnataka has summed up the attitude of Central and State Government towards regulating the IT-industry as follows:

> Just leave them alone, don't interfere with them, leave them alone. […] Because they are good. You see, there is intervention necessary where there is unfair labour practices, any kind of exploitation, whereas here it doesn't take place at all. They look after them well, they pay them well, so why should we unnecessarily intervene […]? That was the policy which I think is followed across the country even today. (our own interview)

In the same interview (2007), it was stated that the IT-industry was virtually exempted from labour laws for three reasons: Firstly, this industry was neither part of the manufacturing nor of the commercial sector. Hence existing labour laws regulating these two areas could not be applied, and the IT-sector was only subject to tax, civil and criminal law. Secondly, even if the sector would be covered by labour laws, these would only be applicable to employees below a certain wage level, and the earnings of IT-professionals ranged well above that threshold anyway. Thirdly, IT-companies were complying with central aspects of the Indian system of labour regulation voluntarily, for instance by setting up their own Provident-Fund-Schemes in order to supply their employees with old-age pensions. As to salary levels, the same informant emphasised the impossibility of political regulation: Individual earnings were confidential and not supposed to be communicated even among colleagues. Thus they could not be influenced by any third party.

No regulation, no communication, no coordination – these are central features of the IT-industry's "non-regulation" according to the self-perception of leading state representatives. As a matter of fact, however, such state policies of non-interference cannot be equated with an absence of regulation. In Bangalore's IT-industry, new regulatory standards have emerged with respect to salary determination, for instance, which varies among the key features of managing attrition (see section 3).

On the one hand, the biggest IT-companies have started to harmonise their salary levels in order to reduce job-hopping. They provide detailed information about their supposedly confidential salary structure to consultancies (like Hewitt) who collect and publish the data. Access is restricted by massive fees, however, supposed to ensure that only companies, not employees learn about income trends. Moreover, several experts mention anti-poaching agreements between the major companies (although they are not confirmed by any of the IT-companies in

our sample). It can be argued, thus, that the coordination of salary levels between companies as well as the mutual understanding to refrain from poaching constitute coordinated attempts of employers to regulate (and to reduce) voluntary attrition among their employees. This does not however prevent IT-companies from recruiting staff from local competitors, especially by way of offering (slightly) higher salaries. On the other hand, IT-professionals do have detailed knowledge about salary levels in different companies, despite the lack of official data. They are in touch with college-mates working in the same sector, gather personal experience with different companies, discuss their earnings with friends and colleagues or even publish them on matchmaking-websites. Hence the salaries offered by different IT-companies are no secret to potential employees, which is one of the reasons why they change jobs "for a few Rupees"[26] so frequently.

Despite the emergence of such new forms of regulation, the Indian state's decision not to apply existing labour laws, not to adjust legal regulations to the IT-sector and not to determine salary levels is markedly strengthening the position of employers. Again, this can be argued to ensure the attractiveness of the "investment-location Bangalore", even though attrition rates are high. At the same time, however, such policies imply major disadvantages for employees as compared to direct state regulation or to legally established systems of collective bargaining.[27] After all, the bargaining position of individual Indian IT-professionals is likely to deteriorate as soon as the current shortage of labour is terminated by an economic slowdown. It might be difficult to preserve the present salaries and working conditions then, if only employers (but not employees) have established some kind of collective standard setting, and if there are no legal standards compensating structural discrepancies in the distribution of power between labour and capital.

Even under conditions of ongoing expansion, "privatised standard setting" is however problematic as there is no way of enforcing such "private standards" in case of non-compliance. High attrition rates, for instance, can be argued to be one striking result of the currently "privatised" determination of salaries and working conditions. As the sheer amount of IT-companies and IT-professionals assembled in Bangalore is boosting the number of possible "combinations", recruiting from the competitors' workforce is an integral part of corporate employment strategies – and employees have discovered the change of jobs as a major strategy of improving individual contracts. Hence the lack of reliability in Bangalorian employment relations is a central topic of management complaints. At the same time, however, this phenomenon is due to the fact that many companies are reluctant to settle down in this city permanently, to offer long-term job perspectives, challenging tasks, promotions and a continuous upgrading of skills to their employees. For IT-professionals, then, the primary attraction of an IT-job in Bangalore is not the quality of work or the affiliation to a certain company, but "the career one can have or the money one can earn". As "software engineers are actually aware of the volatility of the industry and the job-market, […] they constantly look to improve their marketability" (our own interview).

[26] The complaint that IT-companies are deserted even "for a few Rupees" has been a standard feature in many of our interviews with management representatives and industry experts.

[27] Systems of collective bargaining cannot be equated with "privatised standard setting" as discussed above: They grant employers' associations and trade unions the right to agree upon certain questions (including salary levels), but are also based on a legal definition of processes (for conflict resolution) and institutional standards (like formal rights of works councils). The details of the German system of „Tarifautonomie", for instance, are laid down in a Federal law (Betriebsverfassungsgesetz), including an active role of state agencies in the declaration of a general applicability of specific collective agreements (Allgemeinverbindlichkeitserklärung).

This constitutes a vicious circle, as there are limits to how much companies "are willing to invest in any one employee, given the pattern of attrition" (our own interview). The result was

> "a Catch-22-situation, in which employees begin to feel dissatisfied when their jobs or projects do not allow them to improve their knowledge, while companies are reluctant to invest too much in employees who may not stick to the job." (Upadhya/Vasavi 2006: 55)

The persistence of high attrition rates is a result of long-term state policies promoting the emergence and massive regional concentration of the (Indian as well as foreign) IT-industry in Bangalore and offering a wide range of "compensations" to companies prepared to accept attrition; of corporate strategies that rely on continuous poaching rather than on developing attractive long-term perspectives for their employees; and of the career strategies of IT-professionals who try to increase their individual knowledge and experiences in order to secure their chances on a highly unpredictable labour market. Moreover, high attrition rates are also due to social practices prevalent in the Indian middle classes, which staff Bangalore's IT-companies.[28] As paid employment is still not accepted as a life-long perspective for women in many middle-class families, female software-professionals tend to leave the industry for good when they get married or have children. Again, this specific form of "exit-attrition" cannot be understood without reference to the strategies of companies, which offer hardly any "family-friendly" employment options (like part-time or tele-work) to married women and mothers so far, and to state policies that have failed to provide sufficient public childcare or parental leave schemes.[29]

3. Managing attrition

This very rough sketch may have indicated the importance of political regulation (in the shape of direct support for the IT-industry and of an active "privatisation of standard setting"). Moreover, the complexity of the regulatory "field of force" contributing to the persistence of high attrition rates in Bangalore should be kept in mind when turning to the management of attrition within two specific IT-companies now. Both of them operate in Bangalore, drawing upon the same labour market and acting within the same regulatory context. Both are part of the local corporate scene, arguably promoting the emergence of attrition by their investment and labour-utilisation strategies. Still, it will be argued, these two companies have not developed the same approaches towards coping with the mobility of employees. The locational context of Bangalore does obviously allow for a certain variation in management practices that might, then, well be influenced by company traditions or the standards prevalent at a company's home-base.

As mentioned above, however, the two IT-companies of our sample do not only come from very different institutional backgrounds, but also follow different strategies, including their approaches towards internationalisation: Company A is one of the big Indian service companies, offering IT and software services mainly to customers from the United States. The overall business has been expanding massively during the last years – for instance, the increase in profits amounted to roughly 40 percent from financial year 2006 to 2007 –, whereas revenues from German customers are only increasing slowly.[30] More than 80 percent of this company's employees were based in India, and only 0.5 percent worked in Germany in 2007. Company

[28] According to recent studies (Krishna/Brihmadesam 2006; Upadhya 2007) the vast majority of Indian software-professionals have an urban, high-caste and middle-class background.

[29] According to the Indian „Maternity Benefit Act & Rules", the only provision for young mothers is a "maternal leave" around delivery (of 84 days inclusive of weekend and holiday and additional 30 days in case of poor health).

[30] Interviews were conducted in two project teams dealing with German clients. One team was doing a support project for the web-portal of a big German company, focussing on technical support and content management. The other team had developed a new application for a German customer from the financial sector and was currently concentrating on bug-fixing and maintenance.

B, instead, is a German product company,[31] conducting research and (product) development in different locations across the globe, including India.[32] The products generated by this company have been unique for a long time. In recent years, however, competitors have started to challenge this position, targeted profit margins have been missed, and an orientation towards new groups of customers with specific budget restraints has resulted in attempts to increase productivity and limit product prices at the same time. Only 36 percent of the total staff of Company B were concentrated in Germany in 2007, whereas the Indian subsidiary was home to 7 percent of all employees.

High attrition rates are an important issue for the management of both companies, but Company A seems to experience an even higher mobility of employees. Here, the attrition-rate reached roughly 14 percent in 2006/07 – according to general experience, many employees tend to leave the company after two or maximum three years. In Company B, instead, between 6 and 9 percent of yearly attrition are reported from different sides, and it is not uncommon to meet employees with more than five years of company affiliation.[33] The most obvious reasons for this *difference* can be argued to lie in the *quality of work*, which is closely connected to the specific mixture of products and services offered and to the role played by the Bangalorian production centre. *Company A* provides its customers with the whole range of offshore-outsourcing services, from support-and-maintenance to individual application development, thus competing with other Indian[34] as well as U.S.- and European service companies.[35] In the field of IT-services, cost, timeliness and quality are the most decisive criteria for success; hence Company A faces constant customer pressure to improve performance in these areas. For employees, such a business portfolio implies that they often have to work with old technologies and systems that need to be updated and maintained for Western customers; that employees are frequently shifted from one project to another, as contracts are rather short-term and can be lost to competitors at short notice; and that standards in terms of time, quality and cost are closely monitored by managers (and partly even by the customer himself) resulting in an elaborated system of direct and technical control over developers. In *Company B*, instead, the Indian subsidiary is developing part of a new product. There is no direct customer involvement – the customer's role is "played" by a different department of the same company that specifies requirements in cooperation with strategic business partners, decides about contents and time-lines and coordinates the development between units and locations. The struggle for customers – dominant in Company A – was hardly felt by software developers in Company B as long as the company's market position was not contested. Currently, under conditions of increasing competition (see above), Company B is also experimenting with new "business processes", however, including a closer monitoring of cost, time and quality. This has not however resulted in an effective implementation of tighter reporting and controlling practices yet, thus leaving considerably more scope for employees' individual contribution of "talent" and ideas to the development of a widely renowned product.

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[31] Interviews were conducted in different teams within a department that is in charge of developing parts of a new standard-software package. The rest of the software is developed in different locations all over the world, although with a certain dominance of the German home-base. Within this department, subunits are dealing with different functionalities of the module.

[32] According to a leading management representative, Company B that had developed in several small subsidiaries across Asia before, had decided to concentrate its Asian business in *one* location around the year 2000. The main reason for choosing *Bangalore* was the Indian talent-pool according to the same informant. In marked contrast to Germany, the availability and regional concentration of highly qualified IT-professionals in India rendered it possible to pursue the large-scale recruitments required in the process of developing the company's new products.

[33] These attrition data are not too reliable, however, since "alarmist" voices would claim them to reach 25-30 percent in some cases, while industry representatives tend to quote surprisingly low figures. Additionally, attrition rates may vary considerably within an organisation.

[34] The most successful Indian service companies include TCS, Infosys, Wipro, Satyam and HCL.

[35] Among them are companies like IBM, Accenture, T-Systems or Siemens.

Much more would have to be said about the quality of work in both companies, and especially the common features of IT-work in these different scenarios require a detailed analysis. Still, (over-)emphasising the contrast between service and product company may be helpful in two respects: Firstly, it clarifies that we have to distinguish not only between "exit attrition" (for instance of women who leave the IT-industry for good; see above) and mobility *within* the sector. There is also a marked difference between "horizontal attrition" (between service companies or between product companies) that might in fact happen "for a few Rupees", and "vertical attrition", e.g. when employees seek more challenging tasks by changing from a service to a product company.[36] Secondly, the "black-and-white image" of work offered in service versus product companies might at least partly explain the variance in mobility rates of employees, clarifying why the management of attrition is a much more urgent task in Company A. It is their wide range of strategies applied in order to restrict attrition and to channel it organisationally to which we will now turn.

Service Company A

Starting with Service-Company A's attempts to manage attrition, one of the most striking features is certainly the striving for a "standardisation of resources". In this context, "resource" is commonly understood as a measuring unit for the labour power (including performance and qualification) of an "average employee". In terms of performance, representatives of higher management would usually argue that the attempt to identify and ensure (at least) an average output from each and every employee was the company's reaction to increasing competition. After all, customers would require them to monitor and to document the cost effectiveness and quality of their products and services, explicitly insisting upon the company's compliance with quality certifications like ISO 9001, CMM Level 5 or Six Sigma. Hence, the performance of every person within the organisation had to be compatible with these standards. At the same time, project managers with direct responsibility for "resource allocation" and "resource management" within project teams, for instance, would emphasise that the standardisation of tasks, processes and project management was an important contribution to channelling attrition organisationally. By securing independence from individual qualifications, individual knowledge and individual working styles, the company was trying to facilitate the replacement of job-hoppers and to minimise the loss connected to the termination of a employment contract from the employee's side. Considering that Company A's standardisation efforts extend to human-resource policies like recruitment or training as well, there is some reason to believe that they are part of a specific corporate strategy rather than a mere by-product of customer relations.

However, the question whether a "standardisation of resources" is (already) realised in Company A, and how this shapes the work reality of employees, is not easy to answer. Management representatives usually claim a more or less complete implementation of this approach and point to elaborated process models, supposedly ensuring that attrition could not pose a threat to project delivery. According to managers, these process models determine the course of every single project in great detail: Each project was subdivided into "phases" or "steps" pre-defined for any specific type of service. The project manager (in close cooperation with senior management and customer) would draw up a list of requirements to be met, of documents to be produced, of tasks to be performed and of processes to be applied in the beginning. In doing so, s/he would make use of a tool in the company's Intranet, which is said to contain roughly one thousand different process descriptions, some of them being optional or supposed to be "tailored" to specific needs, but most being fixed and mandatory. The result was a project plan, including a timetable for the whole project, but also for each and every working task that was based upon former experiences and the sector's best practices. The dis-

[36] Most employees seem to join product companies only after gathering a few years' experiences in the services business.

tribution of tasks within a team was the responsibility of the project manager in charge who could decide (at least to a certain extent) who would be assigned to which task and how complex or fragmented this task would be, usually without consulting the team members concerned. Every developer was thus provided with a list of objectives and an estimated deadline for their completion, and was supposed to enter the amount of hours actually spent on each task into a time-tracking tool. Tasks were usually assigned to individual programmers rather than working groups, and their timetable was expressed in hours rather than days. If this was a realistic picture, there would obviously be little scope for addressing topics collectively or for working on a problem thoroughly.

Moreover, the "standardisation of resources"-policies pursued by Company A imply an attempt to generate "average qualification" or "average knowledge" among employees. Whereas the company's efforts towards standardising working tasks and processes are often justified with reference to customers' demands (at least by interviewees from higher hierarchy ranks), "knowledge management" is usually presented as a contribution to channelling attrition by reducing the dependence on individual employees.[37] The two most important aspects of this approach are training measures for so-called "Freshers" and the generation of a voluminous "knowledge database". The initial training period is nevertheless of special importance as Company A recruits huge numbers of college graduates each year who can replace leaving colleagues and who are also needed for sustaining the company's rapid expansion of business. They are recruited from all fields of engineering (ranging from software engineering to mechanical or chemical engineering) and trained in the company's own facilities. In the course of several months, new recruits acquire knowledge about specific technologies that are currently needed for certain projects or fields of business, and they undergo a series of examinations in order to testify their progress. After the training, *freshers* can be distributed freely within the organisation according to the company's needs. As they possess a certain basis of knowledge and qualification, they can be deployed flexibly (at least in theory). Hence individual interests, preferences and sometimes even former work experience are usually not taken into account when distributing employees among projects. Apart from this initial training, Company A puts great effort into the generation of a "knowledge database", ideally supposed to mirror the entire knowledge and experience contained in each and every employee's head, ranging from information about previous projects, customers, current or potential fields of business to experiences with coding styles or programming languages. This database is supposed to enable employees to start new projects smoothly or to catch up to the present state of running projects quickly when taking the place of a leaving team member.[38] Additionally, a "backup" for every employee is nominated, implying that a second person within the team has to be informed about every individual's tasks on a permanent basis in order to be able to take over his or her responsibilities at short notice if the respective person resigns.

Despite the omnipresence of models and databases in interviews with managers and employees of Company A, it is difficult to judge the actual impact of these standardising strategies for everyday working life. It could be argued that the formal requirement to feed databases and to stick to the tasks and timetable defined by project managers cannot be without consequence for the work experience of employees. At the same time, however, software developers report that the leaving of team members does indeed result in delays in the course of a project. Usually, overall timetable can be kept, but this is only possible if the remaining team members work overtime. Project managers emphasise that it is a positive outcome of the

[37] For a critical view on the implications of Knowledge Management see McKinlay (2005).

[38] The same goal can be argued to be pursued by establishing so-called "knowledge groups". These groups are informal associations of employees cooperating on several topics. Their activities are not regarded as working time, and topics are freely chosen by the members. In fact, employees do share their knowledge about certain technologies or customers and document it in Intranet-archives, available on a company-wide scale. According to managers, this is an important contribution to reducing the time required for the replacement of leaving employees.

company's "knowledge policies" (and of the high number of skilled people available in and outside the organisation), that it would only take around three weeks to regain the former level of performance when a team member was replaced. This period is much shorter than in Company B (see below), but still, three weeks is not an insignificant period of time given the reduced duration of many service projects. Additionally, process descriptions may in fact support a split-up of the production process into less complex, short-term tasks, but they seem to be far from eliminating complexity altogether. A certain need for communication remains, for instance, because task definitions are not sufficiently clear or task performance depends on close cooperation with other team members. This type of cooperation usually happens on an informal basis; hence the motivation and commitment of the employees concerned (or the lack thereof) does affect efficiency to a high degree. Finally, developers as well as managers mention incidents in which coding guidelines had not been followed or the documentation of code had been "forgotten". Discussed as "individual failures", such examples of deviance from company standards might simply reflect the problem that the entirety of process descriptions and guidelines has reached a level of complexity that seems to render it difficult for developers to keep (at least parts of) them in mind. They might also indicate some reluctance on the side of developers, however, to adjust their work to predefined and non-negotiable standards.

It would lead too far to describe the standardisation strategies pursued in Company A or to analyse their impact for the labour process and the work experience of software developers in detail here. However, the mere pursuance of such strategies is worth mentioning as it is often argued that they result in an almost "Taylorist" rationalisation of software production in many Indian service companies[39] – an organisational approach that is usually regarded to be incompatible with the "highly creative" IT-work of college graduates. As a matter of fact, there is a sharp contrast between the sector's image and IT-professionals' self-perception on the one hand, and many service-companies' attempts to reduce the complexity of working tasks and the impact of individual employees' problem-solving capacities on the other hand. It is not surprising, then, that routinisation and monotonous work are among the major complaints of developers (Upadhya/Vasavi 2006: 66). In this sense, even *the sheer attempt* to standardise IT-work might result in job dissatisfaction and finally in job-hopping. Moreover, Company A's attempts to "standardise resources", i.e. to adjust individual employees' labour power to a predefined "average" of knowledge, experience and task performance, result in standardised job descriptions, requiring little experience and specialisation (at least in theory). This renders it easier to replace leaving employees quickly – but the fact that similar practices of standardisation are applied by most service companies in Bangalore also enables employees to change over to competing firms. Corporate policies designed to channel attrition organisationally can thus be argued to boost ("horizontal") attrition at the same time.

The picture of Company A's strategies of managing employees' mobility would be incomplete, however, without mentioning the wide range of *incentives supposed to restrict attrition*. Apart from the anti-poaching agreements mentioned above, whose existence as well as effectiveness is debated, one of the most immediately visible aspects of many companies' strategies of "binding" employees is the creation of appealing spatial surroundings. After all, Bangalore is famous for its numerous IT-campuses, almost all of them containing modern, air-conditioned, architecturally attractive buildings that offer employees a chance to escape from the city's heat, dust and noise in their immediate work environment. By maintaining diverse recreational facilities (like restaurants, swimming pools, billiard halls, gyms or even golf courses), and by organising social events in these surroundings, many Indian service-

[39] "A significant outcome of the rationalisation of software production is that programming and other IT work are being reduced to measurable quantities of time, effort, productivity, and output – mimicking in many ways the old Taylorist system of factory management." (Upadhya/Vasavi 2006: 65)

companies try to turn their premises into a place for working as well as for living.[40] These facilities are obviously appreciated by employees who stay back even after long working hours, meet friends on the campus and create an atmosphere reminiscent of a school trip. Most of them are in their early twenties and without everyday family obligations. Asked about positive aspects of working for a service company, most interviewees in Company A. for instance, would indeed rank work environment and campus higher than the character and quality of their work.

Apart from the creation of appealing surroundings, Company A offers attractive career paths. This might have some effect on attrition as well, given that personal "growth" in terms of formal promotions and sounding titles is of high priority for young IT- professionals, according to managers of various IT-companies in Bangalore. In Company A, many employees appreciate that career paths were clearly defined[41], and that there were three different ways of progressing (in a technical, managerial and sales stream). Given the opportunity to specialise, the vast majority of our interviewees would however opt for a managerial career because it includes the highly reputable responsibility for leading teams and deciding about promotions (*Personalverantwortung)*. Moreover, many employees emphasise the advantage that one could rely on regular promotions in Company A, the first one taking place roughly two years after recruitment. Management representatives, instead, keep emphasising that any promotion was fully dependent on individual performance: For each career step, a clearly defined set of qualifications and certificates had to be obtained (for instance by way of E-Learning). The final decision about the promotion was, then, taken in a yearly appraisal process by the project manager in cooperation with senior management. As a matter of fact, some of our interviewees are still working at entry level for more than two years, but they seem to be exceptions. Even developers who are principally content with company and project team, would think about changing jobs after not having been promoted for such a "long" time, and this is a risk (at least) service companies in Bangalore might be reluctant to take.

Finally, various measures are applied in order to counter steer the monotony and routinisation of tasks that many employees mention as an important reason for job-hopping. Among them are the initialisation of team contests (and the subsequent bestowal of trophies), but also regular job-rotation schemes and last but not least postings to Europe and especially to the United States. These postings are lucrative because employees working at the client location receive a considerable on-site-bonus that increases their salary to Western standards. Moreover, postings are regarded as an opportunity to gain "exposure", and even as the most challenging part of IT-service work. As the chances to go on-site are not distributed equally among employees, however, competition for the rare tickets is tough. Offering an on-site placement can thus be regarded as one of the main incentives for retaining certain employees within the company. Vice versa, the fact that the business model of Indian service companies is based on a combination of small onsite and huge offshore teams necessarily results in a limitation of postings, thus reducing the options available to managers who wish to offer incentives in order to keep so-called "key-players" within the organisation.

In summarising Service-Company A's approach towards attrition management, a complex picture emerges: On the one hand, the company tries to restrict attrition by offering appealing surroundings and a specific "campus lifestyle" as well as relatively clear career paths, fast

[40] In some firms, the blending of working and private life is further encouraged by offering "dating allowances" to employees who court a colleague from the same company. After all, attrition rates are reported to be much lower among married members of staff.

[41] In Company A, a specific set of competencies is related to every role. These competencies contain technical as well as behavioural competencies. Employees are appraised annually with regard to these criteria. If a person matches the requirements and if there is a position available within the organisation, the person can be promoted. Otherwise, necessary skills have to be improved by qualification measures in the respective fields. Before a formal promotion takes place, employees are asked to "play" the respective role for a certain period, thus proving that he or she is capable to perform well.

promotions and various extra incentives, like postings. On the other hand, attrition is channelled organisationally, especially by aiming at a "standardisation of resources" through elaborated process-models and extended knowledge management.

Product-Company B

In Product-Company B, many of these features reappear, although on a much smaller scale and as part of a markedly different strategy of labour utilisation, which has been argued to imply more challenging tasks for individual employees above. As far as Company B's premises are concerned, however, they are as modern and well-maintained as Company A's campus, and they also include recreational facilities, like gym and canteen.[42] Due to the smaller number of employees in Bangalore (less than five thousand versus several ten-thousands), the whole setting of this product-company is less spacious and less splendid. Accordingly, employees do not tend to spend their free time between the office buildings, and social events are taking place less frequently. All in all, the atmosphere is quieter and more work-like, which might also be caused by the staff's slightly different age structure. Unlike Company A, Company B is not recruiting "Freshers" in the first place, but focuses on more experienced IT-professionals. Many of them have worked in various service companies before, thus joining Company B by way of "vertical attrition".[43] Asked for advantages of working for this company, most interviewees would emphasise interesting technologies and individual responsibilities in the first place. Just like Company A, Company B holds competitions (for the employee or team of the month), however awards are rather symbolic and corporate efforts in this field less pronounced.

Finally, another similarity between the two companies of our sample is arguably the scale and development of salaries, as both are part of the IT-sector, where incomes generally exceed Indian wage standards by far. After annual increases of more than ten percent during the last years,[44] the average salary for an IT-professional (below management level) in the two companies of our sample would amount to around 30.000 to 40.000 Rupees (equating 550 to 735 Euro) per month in 2007 – a domestic worker employed in an IT-professional's household in Bangalore, for instance, could expect a monthly wage of 500 Rupees (or 9,20 Euro) in this year. Even though high salaries are characteristic of the whole IT-sector, there are still marked differences between the two sample companies. In Service-Company A, employees at entry-level would be paid around 10.000 to 15.000 Rupees (i.e., 180 to 280 Euros) per month. The fast promotions mentioned above, however, render it possible to reach gross salaries of 55.000 Rupees (1.000 Euro) after 2-4 years (or 1-2 promotions respectively).[45] Moreover, the frequent postings to client-sites in Europe or the U.S. are an additional source of income, often used for fast saving or major investment, for instance in real estate. In Product-Company B, instead, the entry-level pay is much higher, ranging roughly from 30.000 Rupees (550 Euro) to 45.000 Rupees (830 Euro) per month in the first year, and there was an additional one-time bonus of 40.000 Rupees (740 Euro) for every member of staff in 2006. Employees staying in the company for five or six years even report that their salary had roughly doubled. This marked difference in basic salaries may explain the wide-spread assumption among IT-

[42] In company B, free meals are offered to employees. There is only one canteen, providing a buffet with South- and North-Indian food during lunch time, where employees go for quick lunch breaks, as would be common in any typical German canteen. In Company A, instead, employees have to pay for their food, but are offered a much wider choice between different styles and tastes; food is offered (and the facilities are frequented) throughout the day.

[43] There is even „vertical attrition" *from* product-company B, however, as especially US-based product companies have the reputation of offering higher salaries, even more challenging work and (most importantly) easier access to higher ranks of "global management".

[44] According to Nasscom (2007), average IT-salaries in India have increased by 15 percent in 2006.

[45] Figures include variable parts of the salary.

professionals that a change from a service to a product company would inflate earnings by 25 to 30 percent.

Considering, however, that Product-Company B hardly offers any lucrative postings, that promotions are less frequent, and that salary increases are determined in Germany and have thus been markedly less opulent than in other Bangalore-based companies during the last years, it is hard to determine which company "pays better" in the end. In any case, it is worth noting that all representatives of IT-companies contained in our sample have emphasised not to be "the best paymaster" in Bangalore. Obviously, they do not wish to be blamed for ever-increasing salary levels, and there seems to be a general reluctance to ruin the own company's "low-cost reputation". Still, this reticence is slightly surprising in the Bangalorian context, where high salaries could be expected to constitute an important incentive for attracting and for binding employees in the face of high attrition rates.

What is the reason for Product-Company B facing less attrition than Service-Company A, even though (total) salaries do not seem to be strikingly higher and surroundings or social events are reported to be less attractive? Product companies in Bangalore (like Microsoft, Google, Oracle, SAP or Siemens) are generally reported to lose a smaller share of their staff to competitors than service companies (see Upadhya/Vasavi 2006: 53). In our interviews, this difference has been attributed to Western product-companies' brand names, as IT-professionals would expect their employers' reputation to add to their own social status.[46] This explanation is not sufficient, however, as working for the big Indian service companies (like Wipro, Infosys or TCS) is regarded as equally reputable at least by Indian interviewees. Hence, it is probably the quality of work closely connected to the products and services offered, that renders product companies preferred employers. Many of our interviewees have indeed described the development of *new* products as the most attractive type of IT-work, as it implied challenging tasks, an involvement with latest technologies and a high "visibility" of one's own contribution for the respective management.

In Company B, many of these general expectations seem to be met. First of all, tasks are less standardised, rendering them more satisfying for employees: Although certain basic process descriptions and coding styles do guide the programmers' work even in this company,[47] there are considerably fewer process models or mandatory process descriptions, and even existing standards are less strictly followed in the work process. In most projects, task distribution seems to be discussed in team meetings (rather than dictated by the project manager). Moreover, these tasks usually require a high amount of individual or collective problem solving, as they are defined in less detail, and their execution takes days or even weeks instead of hours. Finally, the work process seems to be *even less* predictable than in Service-Company A, where customer requirements are experienced to be changing frequently. Given the parallel development of software in different locations across the globe, the production of each part is highly dependent on other parts' progress, and this is boosting the need for communication, cooperation, and also for improvisation. It is hardly surprising, then, that IT-professionals in Company B consider process models and especially documentation requirements as obstacles impeding this contingent process of "distributed development": If deadlines were approaching and the pressure was rising, many of them said, process requirements were regularly skipped in order to finish the job on time. Hence the most important difference between the product-company and the service-company of our sample does probably not lie

[46] As mentioned above, there seems to be a difference between the big American product-companies that usually range on top of the list of preferred employers, and German companies that are usually less well-known and find it harder to recruit talented employees with adequate skills.

[47] Some guidelines are implemented in the programmers' IDEs (Integrated Development Environments), implying that basic coding conventions are automatically followed, but most guidelines are contained in various documents.

in the number of "process descriptions",[48] but in the fact that the wide-spread practise of ignoring such formal requirements is neither monitored nor sanctioned by Company B. On the whole, project management seems to rely on the individual responsibility of team members to a much greater extent, rather than on managers exerting direct or technical control. The "standardisation of resources" by way of knowledge management or computerised time and performance tracking is pursued with considerably less vigour. Even the *term* "resource" is usually not used – instead, even managers refer to employees as "colleagues", as would be common in the company's German home-base.

Having said this, it should be noted, though, that Company B has also started taking efforts to reduce dependence on individual employees. As mentioned earlier, higher priority has been ascribed to increasing productivity and quality in the last years, and this implies experimenting with the implementation of certain standards for project management and project documentation, even though compliance is not mandatory yet. In terms of attrition, such measures seem to have similarly contradictory effects as described for Company A: On the one hand, the attempt to standardise tasks and task performance might be a reaction to the prevalence of relatively high attrition rates, they are lower than in most service companies, but replacing a team member takes much longer (six months as opposed to three weeks) according to managers. On the other hand, the very same measures supposed to make attrition easier to handle are likely to frustrate employees who are used to a relatively high degree of "independence" in the performance of their tasks, thus motivating them to think about a change of jobs.

This leads us to an especially interesting aspect of Company B's approach towards managing attrition: to the necessity of dealing with strikingly different mobility-standards among the German and the Indian parts of this transnationally operating company's staff. After all, the organisational emphasis on individual performance and responsibility has evolved in the context of the German labour market. This approach implicitly assumes the prevalence of long durations of employment, which used to be typical enough in Germany to be considered as a central feature of "German standard employment" (*Normalarbeitsverhältnis*) in the 1980s. Company B's staff structure can be argued to mirror the persistence of relatively long-term employment relationships as well as the massive changes in the labour-market structures underlying this seemingly stable phenomenon to a certain extent. In the past, when the company was expanding rapidly in Germany, many employees seem to have decided to stick to their relatively responsible jobs. Under current conditions of a stagnating IT-market, the lack of alternatives may have kept attrition low in recent years. In any case, Company B's staff is dominated by employees with long-term company affiliation who have acquired sufficient knowledge, experience and "organisational overview" to be able to perform their tasks quite independently and by way of self-organised cooperation. In India, instead, employment relationships are considerably less stable: Employees do appreciate the relatively high degree of responsibility granted to individuals in this approach, but they expect fast promotions at the same time, which could only be ensured within a more hierarchical structure. If recognition (through promotion) is denied, they tend to look for other employment options. Consequently, the long intervals between promotions are the main reason for leaving this company.

Unlike their German colleagues, Indian IT-professionals are not content with staying "simple developer" for many years, although work-related responsibility does not (fully) depend on this formal job designation, which may in fact contain a wide range of specialisations. In the context of Indian society, however, formal titles (rather than actual responsibility on the job) decide about social status. According to interviewees, it is much easier for a project manager to find a suitable partner for marriage, to receive a house loan or to have children admitted into a "good school" than for a developer, even if working for a highly reputable company. Accordingly, Company B has started to generate new titles, hoping that they might re-

[48] The actual number of process descriptions, which is often recited proudly in Company A (at least by managers), has not even been mentioned in Company B. Obviously, non of our interviewees was aware of that number or considered it worth communicating.

duce the incidents of employees quitting their job because of "slow growth". These titles seem to be appreciated by Indian employees, but ridiculed by their German colleagues, as they do usually not imply a significant change in function. Moreover, employees are promoted slightly faster in India than in Germany, even though they still progress much slower than in the average Indian IT-company. Nevertheless, this fuels tensions within Indo-German project teams, for instance, if an Indian project manager cooperates directly with German developers who are older, more experienced and in fact functioning as his or her superiors. In this constellation, German developers may well feel left behind, whereas Indian project managers might be frustrated because their position is not taken seriously. Such problems arising from a transnationally operating company's attempt to establish the mother-company's standards (in this case: a flat hierarchy) in a different institutional context may take us back to the starting point of our argument.

4. Corporate strategy and locational context: Lessons from analysing attrition in Bangalore's IT-sector

Returning to the initial question about the relationship between corporate strategy and locational context, it can be stated that our empirical findings point to a simultaneousness of contradictory tendencies – to a concurrence of increasing integration into the Bangalorian setting and increasing differentiation in corporate attempts to deal with attrition.

On the one hand, both Service-Company A and Product-Company B have to adjust their strategies to the specific conditions prevalent on the Bangalorian labour market, which can only partly be influenced even by the most powerful IT-companies. As has been argued above, the persistence of high attrition rates results from a complex regulatory "field of force", in which corporate strategies do play an important role, but are blended with the results of (past and current) political as well as social practices and structures of regulation. Although our sample companies are confronted with different rates and types of attrition, they still offer similar incentives in order to recruit employees with adequate skills and to retain them within the organisation, including, for instance, appealing premises and salaries way beyond average Indian incomes. Moreover, both sample companies try to facilitate the replacement of leaving employees by way of implementing process models aimed at "resource standardisation". Focussing on "location Bangalore", it can thus be argued that both sample companies' strategies of managing attrition are characterised by a certain tendency towards integration into the Bangalorian context, even though they come from different institutional backgrounds. Hence even a Germany-based product-company (like B) is forced to remould its standards according to the Indian location's requirements: It may offer the challenging work and individual responsibility to employees that keep their German colleagues on the job, but attrition rates in the Indian subsidiary will remain relatively high as long as organisational structures are not adjusted to the location's particular standards as expressed, for instance, in perceptions of social status.

On the other hand, both companies' integration into the Bangalorian context coincides with a persistence and even with an increase of differentiation between Service-Company A and Product-Company B. This tendency has been discussed, for instance, with regard to salary hikes, as salaries in Company B have been rising much slower than in Company A during the last years, reportedly because budgets were determined in Germany according to the standards of a more or less stagnating IT-market and wide-spread unemployment even among IT-professionals. Moreover, career paths vary considerably between the two companies of our sample, especially with respect to the timing of promotions.

Similar differences can be attested to the quality of work that depends on the products and services offered, but also on managerial practices, which may focus on granting responsibility to individual employees or on exerting managerial control over them. To some extent, differences in these managerial approaches can be argued to be a consequence of transnational project work. In the Indo-German project teams of Company B, for instance, which cooperate

closely on a daily basis, a certain adjustment of standards *within the organisation* is expected by employees. As has been discussed earlier, for example, it is not possible to establish faster career tracks in India than in Germany without creating considerable tension within the teams concerned. Consequently, a certain trend towards "trans-national" standardisation can be stated, especially in the core areas of time, cost and quality management. If tasks are ascribed for weeks in Germany, it will (at least) require additional managerial effort to control them hourly in India; if salaries are stagnating in Germany, pay-hikes in the Indian subsidiary may still have to be higher in order to attract skilled employees, but they might not keep pace with the inflation of salaries in Indian companies.

Accordingly, corporate strategies in dealing with attrition in Bangalore vary markedly. In our sample, the mother-company's standards do tend to prove dominant in the process of intra-organisational adjustment.[49] There are some instances, however, in which experiences in the foreign subsidiary have repercussions for the mother-company, as experiments with process implementation in Company B's Indian teams and their subsequent implementation in Germany may show.[50] Company A, instead, is based in Bangalore – its structures and practices have thus been developed in close contact to the region's labour market, and the company has in turn shaped local developments to a great extent, by recruiting enormous numbers of IT-professionals, but also by directly influencing the political regulation of this IT-hub. It can thus be argued that the marked differences between the labour-utilisation practices of the German and the Indian company of our sample do reflect distinct standards of their home-base to a certain extent, although the question in how far corporate approaches are shaped by the German and Indian institutional context respectively will need to be discussed in much more detail.

As far as attrition is concerned, the concurrence of an increasingly similar "corporate outlook" and a persisting differentiation could provoke the assumption that we might witness a time lag in the sample-companies' development. In the long-run, it could be argued, all IT-companies in Bangalore will have to adjust to a higher standard, at least with respect to salaries and the quality of work offered. In this case, a specific company's institutional background would be likely to lose importance in the long run. The empirical findings presented in this paper render such a scenario unlikely, however. Instead, the functioning of "location Bangalore" seems to be due to a certain complementarity between these two organisational approaches. It depends on the possibility of "vertical attrition", as the respective recruitment policies indicate. As shown above, Company A recruits a huge number of college graduates each year, provides them with a rather standardised skill set, trains them in the adherence to an equally standardised concept of task performance, and looses especially employees with strong technological interests after some time. They constitute the very talent pool that enables Company B to recruit skilled employees with industry-experience, without whom the organisational focus on independent task performance could not be sustained.

In this sense, the locational context discussed in this paper cannot be fully understood by analysing India's or even Bangalore's characteristic features only. Instead, this specific context is also shaped by the presence of other Indian and foreign IT-companies that may offer standard incentives, but occupy certain niches with their recruitment and management strate-

[49] Company A's German subsidiary seems to be even more strictly organised according to the Indian mother-company's standards than Company B, although this renders it difficult to recruit skilled German employees. As this paper focuses on India, however, this needs to be discussed elsewhere.

[50] In fact, the growing importance of process models and knowledge management in German companies has been generally attributed to the increasing cooperation with Indian partners in many interviews: In Company B, measures of standardisation are tested in the Indian subsidiary and then transferred to the German home-base, where resistance against such approaches is reported to be much stronger. In Company A, the "standardisation of resources" is reported to put pressure on German customers who need to establish process models and undergo a certain restructuring in order to be able to cooperate with an offshoring partner and especially with a highly "process-driven" Indian service company at all.

gies. This complementarity of corporate strategies in Bangalore, which seems to be advantageous for very different companies at present, might not be as stable as it seems, however: Western product-companies (like B) might choose to leave this location, for instance if the tendency of intra-organisational integration would level out the salary gap within transnational project teams, thus threatening the profit margins expected of "low-cost regions". Moreover, Indian service companies (like A) might face problems as soon as economic expansion slows down. So far, additional management positions have been created by continuously inflating the overall workforce. If the sector is hit by the next crisis, however, fast and reliable promotions might not be possible anymore, and even service-companies like A might have to recur to "binding strategies" currently applied by product-companies in the first place.

Whether this would result in an ever increasing similarity between corporate approaches remains an open question. We can be rather sure, however, that any outcome will be strongly influenced by political regulation (be it directly exerted or actively privatised) and that it will not suffice to compare the outer appearance of transnational IT jobs, as this might still conceal an enormous differentiation in the contents and quality of work.

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