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Perspectives for our partners

Knowledge Integration after Mergers & Acquisitions

Maria Rumyantseva
Grzegorz Gurgul
Ellen Enkel

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1.1 INTRODUCTION

Since 1997, corporations world-wide have spent $5 trillion on mergers and acquisitions (M&A). In year 2000 alone, more than 9,000 M&A deals took place. With so much shareholder value riding on these actions, one would expect the process to be standardized by now. Yet in 83% of 700 large mergers, the stock price of the combined organization did not rise above those of the single entities [Mergerstat 2000].

A merger can be defined as a situation when either two or more independent companies merge, or when one or more persons already controlling at least one company acquire direct or indirect control of the whole or parts of at least one undertaking. Whereby in a merger, the two or more companies create a new entity and in an acquisition, the acquired company loses its economic and legal autonomy [Gerpott 1993].

The literature sources [e.g. Jansen 2000; Haspeslagh/Jemison 1991] most frequently identify three phases of a merger or an acquisition process (Figure 1).

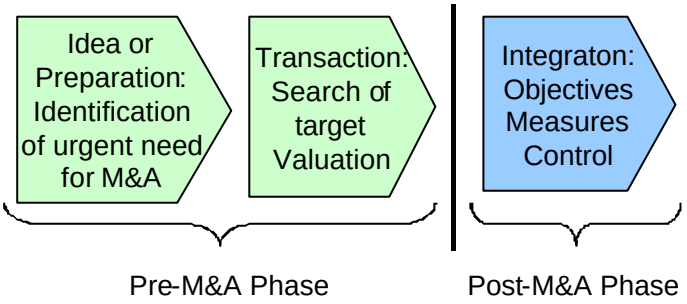

Figure 1: Phases during the merger or acquisition [Haspeslagh/Jemison 1991]

The idea or preparation phase explains the need for a merger or an acquisition, which is given by the companies objectives and desires. The second phase includes the search for an appropriate target company, the valuation, legal and financial negotiation. The last phase, integration, consists of fusing the two companies into one. In our literature review we focus on crucial factors for each phase and search for existing tools enabling effective implementation of the integration process as a whole.

The main objectives for the merger and acquisition are similar, e.g. the increase of shareholder value, a respond to revolutionary change in the industry, the asset of funds to spare, the exploitation of economy of scale and scope [Haspeslagh/Jemison 1991; Gerpott 1993; von Krogh, et al. 1994].

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Since the speed of competition in many industries has made organic growth seem excessively time-consuming, many managers consider acquisition to be an attractive mean to expand a firm's knowledge base quickly. Wysocki [1997] means: "In today's economy, building work teams from scratch can be yesterday's luxury. So, when you can't build fast enough, you buy." However acquiring firms have discovered, that the transfer and utilization of knowledge through acquisitions can be a hard task to solve. It is contingent on a successful integration of the acquired unit [Haspeslagh/Jemison 1991], and very often the process of integrating the acquired units fails outright [Jemison/Sitkin 1986].

The knowledge management literature has mentioned the potential of acquisitions as a means of gaining access to new knowledge [Madhok 1997]; and the acquisition literature has stressed the importance of knowledge transfer for the acquisitions to create value [Haspeslagh/Jemison 1991]. But few studies have explicitly focused on the transfer of knowledge in mergers or acquisitions, and in particular, the factors facilitating such transfer and tools ensuring its efficiency.

1.2 KNOWLEDGE TRANSFER UNDER DIFFERENT MODES OF GOVERNANCE

Leonard-Barton's [1995] research proves that there is a correlation between the mode of governance and knowledge integration intensity, there the M&A is likely to have the highest potential for knowledge integration and creation of new technological capabilities (Figure 2). For the purpose of better understanding of the knowledge transfer in M&A, we first briefly review the main findings focused on knowledge transfer within other modes of governance. Indeed there has been a considerable attention in the literature, devoted to the knowledge transfer within a single company, knowledge transfer in alliances and joint ventures, and knowledge transfer between independent firms.

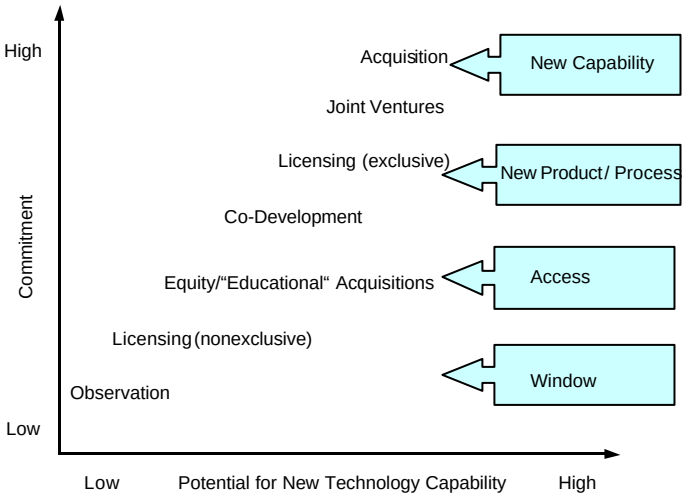

Figure 2: Mechanism of Technology Sourcing [Leonard-Barton 1995]

Research on intra-firm knowledge transfer has a long history emanating from studies on choice of international technology transfer mode [see e.g. Pavitt 1971; Mansfield et al. 1979; Vernon/Davidson 1979]. More recently, Zander [1991] and Szulanski [1997] have taken a broader approach to internal knowledge transfer. Zander [1991] found that the tacit knowledge had an important impact on the smoothness of transfer. In particular, he found that the transfer of tacit knowledge was more difficult to accomplish than the transfer of more articulated knowledge. Szulanski [1997] focused on the transfer of best practices within firms, and the difficulties experienced in the transfer process. His findings were consistent with Zander's. When analyzing factors causing difficulties in the knowledge transfer process, Szulanski found that the tacit dimension of knowledge explained more variance than any other factors, such as motivation.

Research into knowledge transfer through alliances and joint ventures is a relatively recent phenomenon. Kogut [1988] was the first to explicitly argue that joint ventures could be motivated by an organizational learning imperative. He proposed that a joint venture "... is used for the transfer of organizationally embedded knowledge which cannot be easily blueprinted or packaged through licensing or market transactions" [Kogut 1988, p.319]. At around the same time, Westney [1988] and Hamel [1991] developed related perspectives on the ways in which learning can be achieved through alliances and joint ventures. Since then, there has been a proliferation of research into the knowledge transfer process across alliance and joint venture boundaries [e.g. Inkpen/Crossan 1996; Doz 1996; Mowery et al. 1996]. The common thread in the results of these studies is that the ability to re-evaluate and learn is key to success.

The transfer of knowledge between independent firms has not received nearly as much attention as the modes of transfer discussed so far. Obviously managers would prefer that valuable knowledge not get transferred to other firms, but the reality is that the process does occur, through some combination of imitation, reverse engineering, movement of personnel and business intelligence. Mansfield [1985], for example, found that a decision to develop a major new product or process was known to competitors within 12-18 months. Further, Zander [1991] found that the level of difficulty of an intra-firm knowledge transfer is not necessarily the mirror image of the level of difficulty of its imitation.

The literature review revealed few researches explicitly directed at the knowledge transfer in M&A. Most relevant is the so-called "process" school, which is concerned with the creation of value through post-acquisition integration [Shrivastava 1986; Haspeslagh/Jemison 1991; Hakanson 1995; Greenwood et al. 1994]. Haspeslagh and Jemison [1991], for example, discuss the issue of knowledge transfer, but their focus was on how knowledge transfer may lead to overall value creation, not on the factors facilitating knowledge transfer per se. There has also been some recognition at an aggregate level that resource redeployment (e.g. knowledge transfers) can have an important impact on value creation in acquisitions. The essential contribution of

such studies is that knowledge transfer between the merging organizations depends on the development of a cooperative relationship.

The acquisitions represent a distinctly different situation from the other three modes of governance. While many of the facilitators of knowledge transfer are likely to be the same (communication, the nature of knowledge etc.), we can expect their relative importance. The process itself, however, will change significantly over time as the integration of the acquisition causes the evolution of the mode of governance (from "market" to "hierarchy"), therefore everything that it entails makes knowledge transfer in acquisitions fascinating.

1.3 KNOWLEDGE INTEGRATION AS A CRUCIAL CRITERION FOR M&A SUCCESS.

The common objectives for M&A, such as exploitation of economy of scale, geographical expansion, though not directly focused on knowledge, as objectives like acquisition of new technologies or R&D, are still initiated to require knowledge about different shareholder groups and products [Petersen 2001]:

- Customers: their needs, behaviour and motivation to purchase
- Suppliers: their capacities and price structures
- Employees: their experience and productivity
- Technological processes and problem solving capacities
- Products: production process and expected sales volumes

To access these knowledge categories mergers and acquisitions are not always necessary. The company has to deal with a “make-or-buy” decision and estimate the discrepancies between the time and financial expenditures of knowledge creation inside the firm and the possible external resources of knowledge. The critical role here plays the time factor, as the competition in many industries makes natural growth excessively time consuming, M&A is an attractive way to expand the knowledge base faster. It is most obvious in the high technology industries, where the fastest access to new knowledge determinates future market share.

Since 1990 there has been a substantial increase in M&A activity occurring in knowledge-based industries. Acquisitions in computer hardware and software, electronics, telecommunications, biotechnology, and pharmaceuticals dominate much of this activity. These industries are frequently among the top 10 most active merger and acquisition industries. Such mergers and acquisitions are often focused on obtaining technical expertise, skills of employees, specific new technologies in fast-paced industries [Wysocki 1997] and other types of both explicit and tacit knowledge.

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Interesting insights concerning knowledge transfer are published by the practitioners [e.g. Sikora 2001]. Among the three classes of company assets: tangible, intangible and financial, the correlation with past and future earnings is highest for the intangible assets. The understanding of the source of value in the intangible asset value streams and measuring the earnings coming off the intangible assets build a new frontier in shareholder value management. "The payment of a large premium for an acquisition over the target company's market price, which includes in it an embedded expectation about future growth, that premium is going to have to be recovered largely on the basis of how effectively the combined intangible resources of the new company are managed" [Sikora 2001]. Factoring this economic calculus into due diligence, pricing deals and building it into integration planning represent another pathway toward improving shareholder value in mergers and acquisitions.

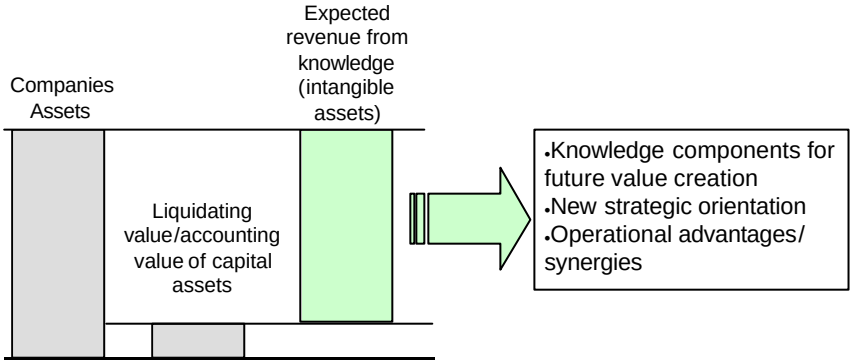

Figure2: Factors of companies valuation [Petersen/Zesch 2001]

Acquiring attractive knowledge-based resources are categorized by Grant [1996] and ranged according to their importance by Ranft and Lord [2000]. In 35% of the analyzed acquisitions, specific product-related technology is identified as most important knowledge-based resource of the acquired firm. Product innovation and engineering capabilities account for 32% of the acquisitions. Market or customer knowledge and sales relationships are identified as most important in 18% of the acquisitions. Finally, managerial capabilities are identified as most important in only 2% of the acquisitions.

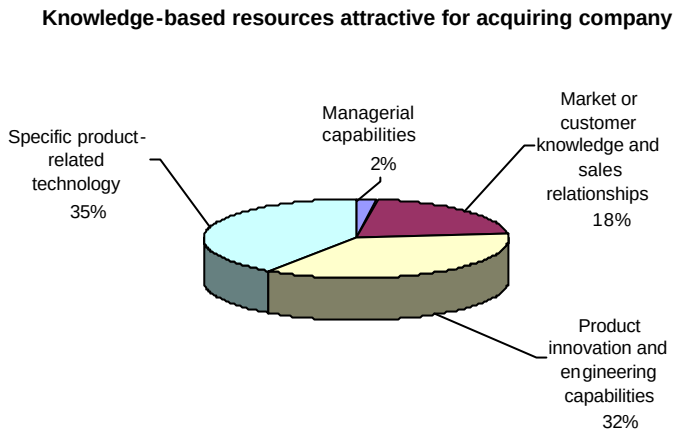

Figure 3: Knowledge-based resources attractive for acquiring company [Ranft/Lord 2000]

Another interesting aspect is the social embeddedness of knowledge-based resources within the acquired organizations. Leonard's [1992] and King's [1996] research allow identifying "places" within the firm that hold knowledge critical to sustain the acquired resource. The survey executed by Ranft and Lord [2000] identify that 40% of the key acquired knowledge reside in the technical skills of the employees. Another 16.5% are identified as residing in employees' social and professional relationships. Organizational mission and values are identified as the location of 16% of the critical acquired knowledge. Managerial systems account for 8% of the acquired knowledge, while physical systems account for 18%.

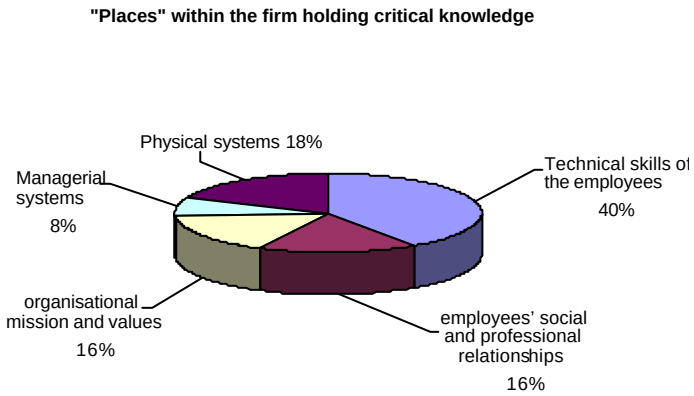

Figure 4: "Places" within the firm holding critical knowledge [Ranft/Lord 2000]

These values are consistent with the knowledge literature, in that the majority (82%) of the acquired knowledge are cited as residing either in particular individuals or in the social complexity of the relationships, teams and culture of the acquired firm [Winter 1987; Badaracco

1991; Kogut/Zander 1992; Leonard-Barton 1995]. The transfer of such crucial knowledge is a critical success factor for a successful merger or an acquisition.

While the transfer of knowledge between departments or between sister units in the same company is far from trivial, it is obvious that the problems associated with transfer will increase with business and cultural differences in the case of interaction between different companies [Buono/Bowditch 1989, Birkinshaw et al. 2000].

2 BARRIERS AND ENABLERS IN INTEGRATION AFTER M&A

The obstruction of the free dissemination of knowledge within a company is usually described with the word „barrier" [Leonard/Sensiper 1998]. These can be e.g. ignoring informal communication, having an incentive structure geared towards hoarding knowledge, no mentoring and assisting culture as well as great physical and time based distance. Enablers or „enabling conditions" demonstrate the positive counterpart to the barriers, without possessing a significant qualitative difference. One can talk of enablers in the context of explicitly facilitating knowledge flow and knowledge creation. This can improve the process of post merger integration within as well as between companies.

Barriers and enablers can be seen in this context as two sides of the same coin. The barriers describe all those circumstances which hinder knowledge transfer and creation within and between organizations. This is not only stopping the flow of knowledge but also destroying the ground for further activities in this field. Regarding their nature, barriers can be in a form of organizational attributes, such as too rigid hierarchical structures or purely physical ones, as separated rooms between which no communication is possible. Doing away with the barriers does not mean that the knowledge flow will improve, but it is a necessary precondition for this to happen. In this case the enablers become relevant in order to sustain the knowledge flow.

The business practices determinate most important barriers in the process of knowledge transfer after M&A. The business and managerial practices, cultural differences, and poor systems of benefits substantially influence knowledge localization and may cause unwillingness to document the knowledge (Figure 5) [Petersen/Zesch 2001]. Critical factors for customer decisions and experience of new methods implementation are examples of knowledge that often remain undocumented. Besides the mentioned barriers, Probst and Knaese [1999] referred to the knowledge risks as failure factors for knowledge integration during mergers and acquisitions. The knowledge risks feature the uncertainty of the acquired knowledge assets, the mistrust of employees towards the merger or acquisition, problems of scope caused by the same employees abilities, and the power's conflict among the employees.

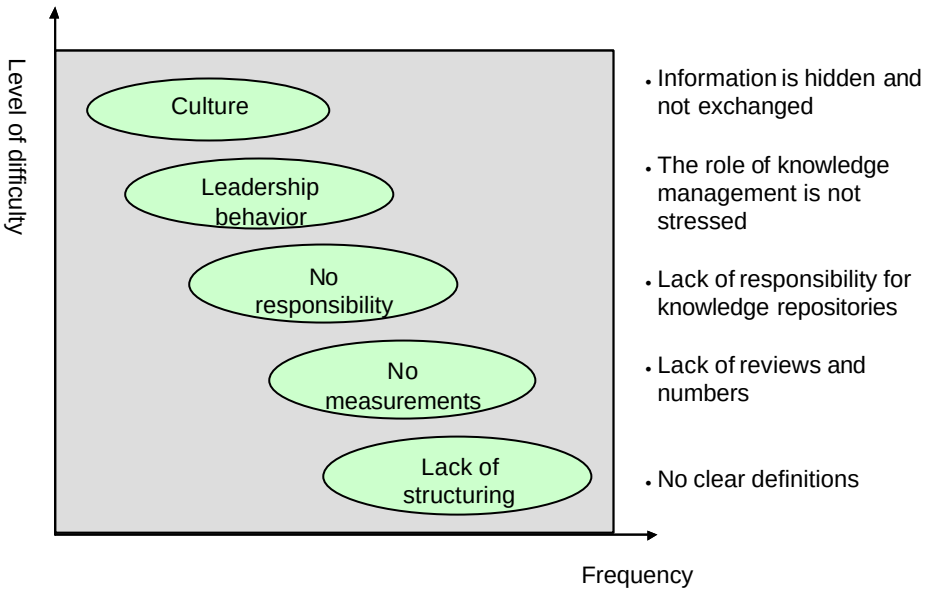

Figure 5: Knowledge exchange barriers in a firm [Petersen/Zesch 2001]

Miles et al. [1998] distinguish strategic and operational barriers. The concept of strategic barriers incorporates the fact that knowledge cannot be measured and managed like other factors, whereby it is the explicit aim of every strategy finding process to come to decisions based on visible values and objective arguments. Operational barriers can be on the contrary identified as those being on the processual layer. As much value is still placed in hierarchies, the road to more task specific knowledge is often blocked.

3 FACILITATING CONDITIONS OF KNOWLEDGE TRANSFER IN M&A

Alongside with facilitating conditions enabling knowledge integration in M&A process, it seems to be important to describe the significance of creation of the right atmosphere in the process of integration.

Haspeslagh and Jemison [von Krogh et al. 1994] found that the difficulty and the challenge of the integration process is not the result of the transfer of strategic capabilities: the challenge is to create the appropriate atmosphere for capability transfer that can support the transfer. Creating such an atmosphere is especially difficult, “as problems in the integration process itself naturally tend to subvert creation” [von Krogh et al. 1994 p. 450].

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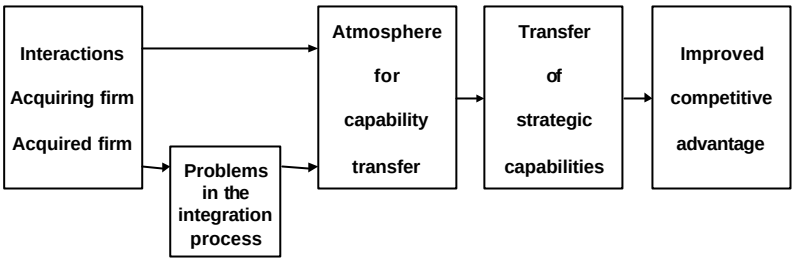

Figure 6: The acquisition integration process [von Krogh et al. 1994]

This research suggests that the atmosphere for M&A consists of five elements:

1. A reciprocal understanding of firms organisation and culture.
2. The willingness of employees in each firm both to transfer and to receive the strategic capability necessary for value creation.
3. The capacity to transfer and receive the capabilities.
4. Discretionary resources to help foster the atmosphere.
5. A cause-effect understanding of the benefits expected from the acquisition.

The nature of the knowledge (tacit vs. explicit), the time since acquisition, and the size of the acquired unit are considered as factors which are likely to influence knowledge transfer. The prepositions developed in research articles have primary focus on the facilitating conditions of interaction between acquirer and acquired units, and the impact that they have on knowledge transfer [Birkinshaw et al. 2000; Bresman et al. 1999].

The more frequent the communication between individuals in the acquirer and acquired units, the greater the knowledge transfer. Communication will occur through two distinct but overlapping processes. First, the post-acquisition integration process, as a whole, relies on extensive and intensive communication to be effective [Bastien 1987; Buono/Bowditch 1989; Haspeslagh/Jemison 1991]. It is argued that effective communication alleviates anxiety caused by misinformation, facilitates interaction between individuals in the acquirer and acquiring companies, and ensures that the decision making process during integration is explicit and transparent. Employees trust sooner in news about change, when they hear directly from their immediate superiors, whereby honest communication also cuts back on rumors and reduces employee anxieties [Jaeger 2001]. All these factors, in turn, are likely to lead to the creation of a supportive environment or "social community" in which the transfer of knowledge between parties is facilitated [Kogut/Zander 1992]. Second, there is also a direct process at work, in that specific knowledge transfer episodes -particularly those involving tacit knowledge- are very communication-intensive, often involving several months of heavy interaction between transmitting and receiving parties [Szulanski 1997]. Evidence on international innovation projects Ghoshal [1986], for example, suggests that the ongoing level of communication between merged units is likely to be associated with a high level of reciprocal knowledge transfer. In a similar argument, Cohen and Levinthal [1990] use the term "absorptive capacity" to describe the

capacity to utilize new knowledge. They found communication to be an important prerequisite for the development of this capacity.

While communication between individuals is important to post-acquisition knowledge integration, there is also a variety of more protracted modes of interaction that can be used to enhance the quality of the relationship between acquired and acquirer. These include technical meetings, extended visits and joint training programs. In general, it would be expected that the more such interactions are encouraged, the more effective the knowledge integration process [e.g. De Meyer 1991; Haspeslagh/Jemison 1991]. While the primary motivation for these visits and meetings is task-related, they typically have social components and as such they also represent a tool for enhancing normative integration within the corporation [Ouchi 1980]. ICT-tools, like yellow pages or collaboration tools, enable the employees in the new organization to find the relevant information and people [Swissler 2001]

As indicated earlier, the nature of the underlying knowledge will have an important impact on the knowledge transfer process. If the relevant knowledge is tacit, and thus not readily communicated in written or symbolic form, it follows that its transfer across the acquirer-acquired boundary will be far from trivial [Singh/Zollo 1998]. Such transfers can be facilitated by intense interaction between the two parties, and by the gradual creation of a single organization with a single social community, but it can be expected that tacit knowledge will not be readily transferred [von Hippel 1994]. In contrast, articulated knowledge such as that found in patents and blueprints is likely to be quite straightforward to transfer between acquirer and acquired units, because it does not rely on a strong social bond between the parties.

Time is another critical factor. Although in the first phase of M&A integration the time factor plays a negative role – all actions have to be extremely good prepared and executed in a short time period, in order to avoid the loss of key employees and knowledge, the argument here is that the time elapsed after the acquisition will slowly facilitate knowledge transfer. Any ill feelings or stressful conditions at the time of the acquisition will gradually recede; uncooperative or disillusioned individuals will gradually leave; and new people will be recruited who do not see the former boundary between the previously separate entities [Buono/Bowditch, 1989; Haspeslagh/Jemison 1991]. The knowledge transfer process can be actively encouraged by management, but at the same time there will be an underlying drift over time towards greater integration and hence towards greater reciprocal knowledge transfer. But M&A creates uncertainty throughout the organization, and the longer the uncertainty exists the higher the risk of losing employees and customers [Probst/Knaese 1999; Jaeger 2001].

It is important to explicitly consider the effect of the firm size on the knowledge transfer process. The expectation here is that larger operations will undertake a greater volume of knowledge transfer than smaller operations simply by virtue of the number of individuals that could potentially be involved in such a process.

Communication, visits and meetings could be considered as facilitators of knowledge transfer in acquisitions. These facilitators are significant predictors of knowledge transfer in general and tacit knowledge transfer (e.g. technological know-how) in particular. Transfer of explicit knowledge (e.g. patents) starts on the early stages of acquisition and depends on the size of the acquired unit. An important implication is the observation that two rather different forms of knowledge transfer (tacit and explicit) can be discerned, and that their facilitators are not the same.

Knowledge transfer increases over time, the quantity, quality and type of transfer are changed as well. In the early stages, knowledge transfer is mostly one-way from the acquiring to the acquired unit, and typically imposed. In the later stages, knowledge transfer is in both directions and reciprocal transfer is more frequent. There is a hypothesis that the knowledge transferred later in the process is more sophisticated. This change over time in the pattern of knowledge transfer is an important characteristic that distinguishes acquisitions from other modes of knowledge transfer [Birkinshaw 2000].

The knowledge transfer process in acquisitions is distinctly different from the process under other modes of governance, because of the rapidly-evolving relationship between the two parties. In the early stages, knowledge transfer is undertaken in a relatively hierarchical manner, but this then gives way to a more reciprocal process. And over time the type of knowledge being transferred shifts in emphasis from relatively articulate (e.g. patents) to more tacit. The acquisition context gives us a story that is not seen under other modes of governance. The only comparable situation would appear to be in strategic alliances, in which the approach to knowledge sharing changes as the alliance evolves [e.g. Arino/Torre 1998; Doz 1996].

4 KNOWLEDGE NETWORK – ORGANIZATIONAL FORM THAT CROSSES BOUNDARIES

The mentioned boundaries are in this case not only those between two or more organizations that have merged, but also the ones within a single organization.
The underlying assumption of this competence center is that network as an organizational form between the market and the hierarchy can be a coordinating mechanism, which can provide some answers on the above-mentioned issues. Through networks, on the one hand a certain flexibility can be sustained, which is not provided for when coordinating through a hierarchy of a single organization, on the other hand the network perspective is more long term oriented that a market transaction, thus providing the potential to produce sustainable competitive advantage. Network governance – coordination characterized by informal social systems rather than by bureaucratic structures within firms and formal contractual relationship between them – is increasingly used to coordinate complex situations in uncertain and competitive environments.

Network seems to be a valuable instrument to overcome cultural barriers. One of the main fields of research, which has contributed to the discussion of network forms of organization, is the one dealing with strategic alliances and especially the literature concerning strategic networks. Authors like Gulati, Nohria and Zaheer [2000], Kale, Singh, and Perlmutter [2000], Ahuja [2000] and Dyer and Nobeoka [2000] have defined that strategic networks are in many cases an ideal form of co-ordination, in order to transfer knowledge between two or more companies, and in order to overcome diverse barriers.

5 SUMMARY

Despite the steadily increase of the number of mergers and acquisitions and a solid research experience in the field of M&A integration, the integration process too often remains ineffective. The latest tendencies shifted the objectives of M&A towards the acquisition of knowledge assets, that alongside with other factors is strongly caused by the increase of competition and cost advantages of acquiring already existing knowledge of other firms. In the later case, post-M&A phase process and knowledge transfer are combined in one major task, because the transfer of the knowledge is the main purpose of the M&A.

The analysis of knowledge transfer under different modes of governance shows that knowledge is an asset that is difficult to manage. The research on M&A shows that the atmosphere of the M&A process becomes increasingly important and influences the success of the process. The difficulty and the challenge of the integration process is not the result of the transfer of the strategic capabilities: the challenge is to create the appropriate atmosphere that can support the transfer. This is valid for M&A process as a whole, but is especially important for the process of knowledge transfer.

The appropriate atmosphere of knowledge transfer helps to eliminate the barriers and turns them into enabling factors. It stimulates the facilitating conditions: ensures the communication and other forms of interaction between individuals, provides appropriate conditions for transfer of both explicit and tacit knowledge, decreases possible problems connected with size of the firms, etc.

The maintenance of the atmosphere and coordination of overall M&A and the knowledge transfer process in particular has to be executed by the informal social system rather than by bureaucratic structures within firms and formal contractual relationships between them. The concept of Knowledge Networks is the organizational structure that wholly answers these criteria and may coordinate complex situations in uncertain and competitive environments.

M&A is a unique mode of governance, because the relationships between two parties change with the time from relatively hierarchical type to reciprocal process. In the field research following this volume of perspectives, we will investigate the effectiveness of Knowledge Networks in uniting the stages of M&A processes and in the creation and maintenance of an ap-

propriate atmosphere for knowledge transfer in the process of constant changes inside the company.

The question how companies can overcome certain barriers with Knowledge Networks is another aspect we plan to investigate.

6 CASES

In the following section we outline some business cases focused on the topic of mergers and acquisitions. The aim was to select relevant cases from different industries and therefore cover different integration strategies after the acquisition. We set up priorities on the retention of key employees in acquired firms, as the employees form the individual and collective knowledge base of a company. The loss of key employees, not only from the top management, creates a problem for the acquirer and cause lost of acquisition value.

6.1 CISCO SYSTEMS, Inc.

First, we illuminate Cisco's general acquisition strategy and then look at the integration ability. The industry Cisco is working in requires to posses an integration ability, because in this industry, new technologies emerge very fast and the whole business depends on the ideas and products in engineers' minds.

Cisco was founded by Leonard Bosack and Sandy Lerner, a husband-and-wife team of computer scientists at Stanford University in 1984 and brought public in 1990. Cisco Systems, Inc. now dominates the data networking market. The way to this domination was given by an acquisition strategy and Cisco mission, created in 1993: To dominate the data networking market, much as IBM did with mainframes and as Intel and Microsoft have done with personal computers [Cisco 2001].

Until 1993, the company's fortunes were tied almost exclusively to hardware devices called routers, which forward packets of data from one computer to another. But in the year 1993, Cisco's management team realized that the market was changing rapidly, and this change put more demands on Cisco to provide a complex variety of networking solutions. Such a rapid change could not be achieved by organic growth, as the usual product life cycles were sometimes under 18 months, and the product development lasted longer, therefore Cisco was not able to build up the required product's knowledge base. In order to fulfill this ambitious goal, Cisco went on a major buying spree in order to gain the desired knowledge base from other companies' employees [Rifkin 1997]. So Cisco Systems has acquired more than 70 companies during its tenure [Cisco 2001].

General Strategy

Cisco's integration success may lie in its target companies and their selection. Cisco's CEO John Chambers stated: "I think the most important decision in our acquisition is our selection process. If you select right, with the criteria we set, our probabilities of success [of the retention of key employees] are extremely high." [Rifkin. 1997]. The profile for a target acquisition is bounded by a clear set of guidelines: a company must be fast-growing, focused, entrepreneurial, cultural similar to Cisco and geographically desirable.

The cultural similarity is a very important point, as Cisco shies away from staid, old-line, slow movers and from turnaround candidates with hidden agendas. Practically all acquired companies had between 70 and 100 employees. The model, in fact, is to look for early-stage Ciscos, known inside the company as "Cisco Kids".

As mentioned earlier, one reason for success is the proximity. Until now, the geographical extent is limited to three geographical areas: the Silicon Valley, near its San Jose headquarters, the Research Triangle in North Carolina and the Route 128 corridor outside Boston. Chambers usually avoids acquiring companies that are not in these areas, he does not want the hassle of uprooting employees and their families.

Cisco shies away from complicated deals. Cisco's model does not deal well with complexity [Rifkin 1997]. Indeed, for that reason, Cisco has backed away from about as many deals as it has consummated. Hostile takeovers are not considered. If a CEO says he is not interested, Cisco backs off.

Integration

It seems that Cisco has found a formula for friendly and accelerated integration that has allowed Cisco to gobble up small, fast-growing companies, meld the work forces and product lines and sprint forward seemingly without missing a beat. Cisco became a prototype for the networked corporation: a decentralized set of business units that leverage the companies marketing, sales manufacturing and distributions sales.

The integration formula depends on the retention of relevant people, and on the knowledge about the motivation of the employees. Cisco focuses on the people and how to incorporate them into its company, and then they focus on how to drive the business [Rifkin 1997].

John Chambers stated: "[…], we are in the business of acquiring people. […] So when we acquire something, we are not acquiring distribution capabilities or manufacturers expertise. We – Cisco – are very good at that. We are acquiring technology. In this business, if you are acquiring technology, you are acquiring people" [Rifkin 1997, p. 6]. In certain cases Cisco "paid" $ 500000 to $ 2 million for each employee they acquired. Therefore, Cisco can not dare to lose this people and insists on the retention of the management and the employees. Cisco is work-

ing hard on the retention of the CEO of the acquired company for at least six months after the deal is closed.

The successful retention is placed in the knowledge about management and employees motivation to stay in the company. Cisco's management asks the acquired management before the acquisition, what they want to do and gives them the necessary possibilities for self-realization. Cisco tries to understand what is important to them, what motivates them. And finally empower them. So for example, Andreas Bechtolsheim, one of the co-founders of Sun Microsystems and now a Cisco manager, left the huge company to start Granite Systems in 1995. He sold Granite to Cisco a year later for $200 million. So Chambers asked Bechtolsheim before the acquisition: "What is important to you? What do you want to do in your life? Bechtolsheim answer was: "I want to take care of my employees here, make sure they are successful, and my customers. But I like to build products that sell billions of dollars [Rifkin 1997, p.7]." The obtained knowledge and information during the due-diligence phase about the employees' and management's motivation is not forgotten after the deal is closed. During the integration Cisco fulfil the earlier promised conditions.

Cisco's culture is also very crucial in the company's integration, as it features a high acceptance of different cultures. First, Cisco is not the bigot technology-believing company, i.e. its management and employees are open for new ideas and technologies, and they do not believe that Cisco's technology is the only one fostering the Internet connections. Therefore, the acquired company has the feeling to be considered as an equal partner. Second, although Cisco has one of the biggest market capitalizations and employs almost 10'000 people, the working atmosphere reminds of a startup atmosphere. Bechtolsheim expected that working for Cisco would be like working for Sun. "I can report that it is absolutely not the case. Most people at Cisco came from start-ups, so the place has a small-company mentality" [Schlender 1997, p.3]. In terms of its highly decentralized organization and more than half its employees hired within the last seven years, Cisco developed a culture that is extremely accepting and welcoming to acquired employees. Cisco does not make a difference between insider versus outsider and the management also encourages new arrivals to become part of the integration team for subsequent acquisitions, because these employees have "fresh understanding of the trauma of joining a large company in a takeover" [Rifkin 1997, p.3].

Another approach is convincing these entrepreneurs that they can make a bigger success with Cisco than alone. Cisco's marketing, sales and distribution leverages the acquired companies' products and spreads out their products in a wider market. So this synergy helps retaining the management of the acquired companies. But also the individual financial incentives played an important role in the integration. The management and valuable employees received stock options. Before a deal was closed Cisco's HR people went into the company to develop a transition plan and to tailor the specifics to the people's needs, employees would waive their rights on existing stock options in exchange for Cisco's options and a retention bonus at the

end of two years. As in the nineties the shares multiplied in their value, Cisco made some millionaires among its employees [Rifkin 1997; Thurm 2000].

Cisco aimed at reducing the uncertainty among the employees. So the acquired employees can focus on their jobs, and the acquired companies do not lose their momentum. This required speed in the integration process - the acquired companies should not be left too independent for too long. Therefore Giancarlo, vice president for business development at Cisco, insists on having leaders from the various business units involved along the way because an acquired company must be embraced by an internal group with a show of ownership or sponsorship [Rifkin 1997].

Cisco communicates clearly the objective of the acquisition, the acquiring company has to tell the employees of the acquired companies up to front what the acquirer is going to do, because trust is everything in this business, e.g. during the Cerent acquisition, Cisco's assimilation responsible Gigoux and her assistants handed each Cerent employee a folder with basic information about Cisco, plus the phone numbers and e-mail addresses of seven Cisco executives and an eight-page chart comparing vacation, medical and retirement benefits at Cerent and Cisco. The management immediately lets the new employees know what their roles and titles will be [Rifkin 1997; Thurm 2000].

Usually, Cisco keeps the engineering department independent, but it combines marketing, manufacturing, and information systems. Cisco empowers very talented people and then holds them accountable for the results. Cisco is also very flexible with acquired employees to meet their needs, e.g. after the Cerent acquisition, Cisco even allowed employees to keep promised sabbaticals [Thurm 2000].

Once an acquisition is negotiated, Cisco's integration team jumps in quickly. The integration team includes a senior manager, from the acquired company, as an integration team leader. Cisco's experience revealed that it is very important to have someone people know and trust being responsible for the integration. The integration team builds on the "buddy system", i.e. a couple of people of Cisco and the acquired company are swapped so they can be asked how things in the organization work.

During the integration there are the following mandatory steps:
Merging the information systems.
Cisco's information technology department sets in motion an aggressive integration of the new company's technology. A six-person IT team (in 1997) is dedicated to the task and follows a strict methodology. Without much debate the group integrates all systems, including toll-free support numbers, electronic mail, sales automation, Web sites and product order systems. The idea is to present the acquired company to its customers as a part of Cisco as soon as possible, usually within 100 days.

Aligning current processes.
This stands for the evaluation of suppliers aiming at making sure that it represents not more than 20% of the suppliers business, so the fluctuations in Cisco's demand did not threaten the supply. Cisco also considers the good financial standing, the lead time, quality level and customer support.

Implementation of ongoing methodologies.
This consists of the defect reduction (a statistical control mechanism to track yield and failure data), Cisco's forecasting methodology (an upside and downside forecast that is linked to the "Manufacturing Resource Planning" system), and Cisco's NPI methodology (new product introduction, a standardized process with certain phases and checkpoints).

Cisco's success factors can be defined as:
Cisco creates an appropriate atmosphere for the acquired employees and their knowledge sharing through:

- Clear guidelines for the selection process
- Preparation and selection process: small companies with cultural similarity and proximity
- Cisco's culture is open for new ideas and people
- Retention of employees through knowing their needs and using incentives, Cisco asks management and the employees what they want, no creation of assumption
- Clear communication of the acquisition's objectives, therefore reduction of anxiety among the employees
- Speed in the "technical" integration (IT-systems, brand-names, etc.)
- An efficient integration team consisted of acquiring and acquired employees ("buddy system")

6.2 NOVARTIS

At the time their deal was struck, Sandoz and Ciba-Geigy were both healthy companies with some market-leading products. Sandoz was smaller, but growing faster than Ciba-Geigy. Both had promising new drugs in their pipeline that could provide near-term sales growth, and both had strong balance sheets [Novartis 2001].

In 1996, Ciba-Geigy Ltd. and Sandoz Ltd., two major health care companies, merged into one of the world's largest life sciences companies. The top executives seized upon the merger as an opportunity to create an entirely new entity, which they called Novartis. The name change was emblematic of management's desire to create a company that was not only bigger but also different, and therefore bridgeover the different cultures, despite the geographical proximity, both headquarters were in Basel, Switzerland, and only separated by the Rhine. Both companies have a long tradition, Ciba was founded in 1859 and Sandoz in the year 1886. During

their history they were always competitors and they established different cultures and management structures.

The biggest difference could be seen in research. Sandoz had a distributed model, with each division responsible for turning science into products, while Ciba-Geigy maintained a central organization, almost like an academic institution, with a charter to do pure research that the divisions could then commercialize. The research within Sandoz was tightly controlled, Ciba research department in contrast had the freedom, but it was not focued on products [Fisher 1998].

In the pharmaceutical industry, creating value means translating breakthrough science into novel new drugs. So pharmaceutical companies live or die by their research and development, therefore these two sectors received the highest attention in Novartis's re-engineering. To create an environment that can foster such innovation, while at the same time implementing the integration of two huge companies, is a challenge. The new company used the merger to company-wide review and, where appropriate, the re-engineering of all processes, from research and development to marketing and sales.

Dr. Vasella, CEO and chairman of Novartis, stated: "Such a change requires a willingness to give up the past; it implies pain. When you are going through such a merger, people must, a) drive the business, and, b) integrate. […] So you need to provide encouragement to keep the course" [Fisher 1998, p. 2]. To support the change process, Novartis revised its compensation system, from the seniority-based process of regular increases to a result-based package, with special incentives for specific goals. For Dr. Vasella it was clear that the employees have to see wins; they have to see there is something in it for them. In addition to altering compensation, Novartis encouraged bottom-up ambition by delegating the re-engineering process to division and work-group level managers throughout the company. In case of success they were rewarded [Fisher 1998].

Wayne P. Yetter, who came to Novartis after the merger as chief executive of Novartis Pharmaceutical Corporation in the United States, had the following experience: "When I came on board in January, the executive committee still identified very much with Ciba or Sandoz, and there was a lot 'we did it this way at Ciba,' or we did it that way at Sandoz.' Six months later, we were really one team" [Fisher 1998, p. 4]. Facilitating and fastening the integration of Ciba and Sandoz was a common project, namely the introduction of two new drugs: Divon, for high blood pressure and Femara, for advanced breast cancer. The common goal fostered the integration.

Internally, executives credit the success of the integration so far to the speed and decisiveness with which it was executed. The rapid decisions in the management structure shorten the period of uncertainty and insecurity. Communication from the top was also important. Novartis' CEO communicated always clearly the objectives of the merger [Fisher 1998].

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Each sector (Healthcare, Nutrition, etc. Figure 7) received an integration team, and each sector's integration team was charged with the responsibility of integrating the businesses from Sandoz and Ciba-Geigy worldwide.

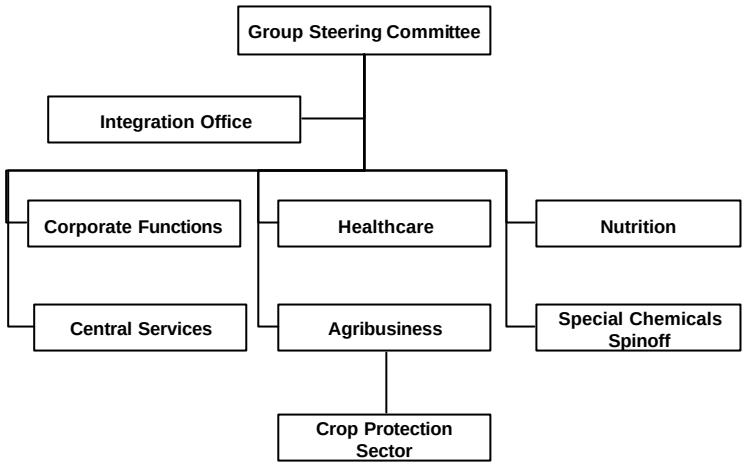

Figure 7: Novartis's sectors and integration team [www.cogos.com 2001]

One of those integration teams was responsible for the Crop Protection Sector. This group included employees from both Sandoz and Ciba-Geigy who needed to move rapidly to outline plans for the integration. The team was led by de Rougemont, who was responsible for driving the integration of the two businesses and reporting back to corporate management on its progress. De Rougemont's assistant was responsible for the team coordination and for the smooth flow of information among team members. The team was dispersed worldwide and consisted of the team leaders for sub-teams representing global functions of R&D, IT and Supply Chain.

The activity coordination among the members was a complex task. One of the most crucial problems was the sharing of documents and the communication, because the volume of the documents exceeded the extent of the e-mail system. Therefore, the team was looking for a more efficient tool to communicate. Through their search, they found a team-based knowledge management tool, Andromeda 2000, a web-based software. The new tool required education and training, because it was new for all members, therefore the integration team had a common task, using the new tool. Education was a key component for introducing knowledge management methods to the merger integration team. The team leader's role was critical in terms of the communication system becomes an effective tool for the team and in terms of motivating the team using the new tool. De Rougemont's assistant was a team facilitator, he regularly monitored how the team used a common space and coached team members who were contributing to ongoing discussions.

Prior to the meeting with the full team, the team leader and the assistant defined their roles, learned how to use the tool, and developed plans for addressing how the communication system could be tailored to the team. After the team leader and facilitator planning sessions, a team technology workshop was held to provide training for team members, to mold the team and to fit the needs of the team. The workshop was an important process in creating a shared understanding among the team members in how they intended to use the technology and to

define, as a group, the language of their new working environment. During this workshop the team members developed a common vision of their mission, goals and objectives, defined their operating values and communication norms.

An obstacle was the activation of participation and use of the new tool. Here de Rougemont's leadership played an important role, as he successfully molded the behavior that he expected from others by sharing information in the electronic space which inspired other team members to join the discussions.

During the merger integration process, the team used the tool as a storehouse for team documents, as an online discussion forum and as a way to keep team goals and strategies in front of team members all the time. The merger integration team was able to make decisions faster and with more participation from a variety of team members. Especially the central documents' repository and the electronic discussion were an important benefit. First, because they could access the repository at any time and place. Second, because the discussions were running in dialogs about team's issues, and therefore the team was kept on focusing on the decisions.

Novartis success factors can be defined as:
For the whole company:

- Because of the differences between the companies, a totally new company was created, therefore neither had the feeling to be the "loser"
- The merger was used to re-engineer the process and structures, where it was necessary, else they adopted the best practices
- Clear communication from the executives about the merger's objectives and the future of the company, therefore reduction of anxieties among the employees

For the business units:

- A common task to be solved on the level of business units enabled knowledge sharing
- For geographically dispersed employees a network structure was successful
- The use of ICT-tools for the virtual cooperation, the users' acceptance was achieved by the good introduction, the members could share and store their explicit knowledge with other members.
- Strong leadership

6.3 IBM AND LOTUS

In the year 1995, Big Blue swallowed a "small" software company, named Lotus, for $ 3,5 billion. In those days, the largest acquisition in the software industry. The acquisition has to be considered as hostile, since Jim Manzi, former CEO of Lotus, was against the acquisition and had tried to find a white knight repulsing the acquisition. But the acquisition of Lotus was very important for IBM, since the acquisition should turn IBM's old structure in order to become a

software driven company loosing the "mainframe image" and fostering the competition with Microsoft. The main objective of the acquisition was the communication software Lotus Notes. IBM had to realize this acquisition under difficult circumstances and it accepted the possibility of loosing Lotus's employees and paying $64 per share.

IBM could retain two Lotus executives, Mr. Zisman and Mr. Papows and persuaded them to be the new confidants and leaders of Lotus. IBM managers knew that the right decision was to have Lotus executives run the post-acquisition integration, there the IBM representatives would only frighten and hinder building trust among the employees. They were not the "yes"-men, as some industry watchers suggested, but they were the right leaders for a difficult merger situation: smart, assertive consensus builders who could sublimate their own need for the spotlight to make the marriage work. They could ensured Lotus's autonomy. Though at least 10 top managers took their lucrative payouts and left, the Big Blue's executives expected some departures as inevitable and never panicked [Rifkin 1998].

Like in every acquisition of a software company, the main assets are the people and their intellectual capital. After doing the due diligence, Mr. Gerstner, IBM's CEO and chairman, compiled a list of the people at Lotus who were indispensable. A week after the initial offer for Lotus and within a day of the decision by Mr. Manzi to accept the deal, Gerstner and Thompson flew to Boston to meet Lotus employees and then the press. They wanted to communicate as soon as possible the further proceeding of the acquisition.

IBM never did the step in "assimilating" Lotus, instead it insured Lotus autonomy, Lotus became a wholly owned subsidiary and remained a visible, viable brand. The employees continued to receive Lotus paychecks and benefits and IBM did not or would not impose its corporate regulations or culture. Instead of feared layoffs, the employment steadily rose, first, IBM consolidated its own software manufacturing into Lotus, noting that Lotus offered better efficiencies than IBM, and second, the good economic situation enabled the numbers of employees to be raised.

IBM was conscious about not obtruding IBM's views and thoughts. So Thomson, former IBM's senior vice president for software, stated: "The key to making an acquisition work is to go at it in a balanced fashion, to be prepared to accept what is good about the acquired organization and what is bad about your own and vice versa. You have to be agnostic about what is good and bad and pick the best from both worlds." [Rifkin 1998, p.4]

By contrast, the IBM executives were glad about Lotus's innovative culture. So they kept all Lotus systems, such as benefits, compensation plans, stock options. IBM insured that Lotus's culture would be protected, Thompson assigned a person in his office to be the full-time gatekeeper of all communications between the two companies for the first year, and he avoided having a huge bulk of IBMers invading Lotus. It should be mentioned that the culture differences between Lotus and IBM were not that big as they might have appeared, e.g. IBM had no

more the "straight-arrow image along with its infamous dress code of blue suits, white shirts and black wingtip shoes" [Rifkin 1998, p.6].

In order to build trust, IBM opened even its research and developments doors for Lotus engineers and answered every question. IBM's openness caused an impressive technology transfer.

IBM's anticipation was not selfish. Lotus' acquisition caused an image change, i.e. IBM's image changing from and old mainframe dinosaur to a "cooler place to be associated with" Mr. Papows said [Rifkin 1998, p.7].

The success factors can be defined as:

- Peaceful coexistence, when differences are not to overcome
- Acceptance of the cultural differences and learning from each other
- Sign of continuity with the brand "Lotus"
- Leadership from the same company, no intrusion and a sign of continuity
- Candid communication about employees' future
- Mutual transfer of knowledge, therefore building trust among the acquired company's employees
- Identification and retention of the key people, therefore no loss of knowledge
- Establishment of a gatekeeper between IBM and Lotus in according to sustain a flow of information between the companies

6.4 BP AMOCO

"As BP has continued to grow through acquisition, effective knowledge management has become even more crucial to the successful capture of the expertise and experience within an increasingly diverse organization" [Browne 2000].

In August 1998, Amoco and BP announced that they had agreed to unite their global operations through a merger. The joining of the two companies represented the world's ever-largest industrial merger.

BP has seen knowledge management as an important issue, and therefore created and enabled e.g. communities of practice, lateral networks, collaborative working, virtual team working. During the BP and Amoco merger, BP used knowledge management as an integration facilitator [Hackett 2000] [Robertson/Parcell 2000].

BP learned from its experience with joint ventures and other mergers, how to connect companies together. They interviewed the responsible people of the former joint ventures and merger initiatives, and brought together the lessons learned. This led to the creation of a knowledge asset for the BP Group on the company's Intranet. The information base is man-

aged by the M&A team, allows centralised access to a globally distributed knowledge base and permits continuous refinement and replication of evolving best practices. The knowledge base is comprehensive and covers all aspects of integration in a format appropriate for different audiences. These lessons learned from the past were applied for the Amoco merger. For BP, the added value offered by web technology is in the field of employee communication during the integration. A dedicated website allows common and open information to staff from both companies. During the period of high uncertainty, the intranet becomes a direct conduit between executives, integration team and the staff across the world. One of the more valuable aspect of the website is the Q&A facility, which reflects the progress of employee thinking and behaviour as integration progresses, providing valuable insights into the issues to be addressed [Hackett 2000].

Communicating the change has been an important issue during the integration process. In this case, BP Amoco could revert to its electronic discussion forum, and to its skill database, named Connect, an intranet-based template, that enables the staff to easily create a home page. The aim of Connect is to generate short telephone calls with the desired people, to support knowledge sharing during the meetings, and to generate a collaborative environment among the employees. The publication of the employees' knowledge base prevented the merged company's members from the reinvention of the wheel, and enabled a communication, in so far as the employees had the access to the skill database [Collison 1999].

During the merger, the duplication of information and knowledge is caused by the change process, and, in the first months, by the lack of appropriate information about the knowledge base of the other company. Avoiding the duplication of information, BP Amoco succeeded this further challenge with the use of the employee networks and communities of practice, as the repositories, and filters of the knowledge. The members have to decide on the usability of the knowledge, and provide this knowledge respectively into the skill database [Robertson/Parcell 2000] [Deakins 2001].

In case of the BP Amoco merger, the communities of practice and networks were not divided along the old companies lines. It was noticed that, as people made contact, they introduced people to their own networks [Robertson/Parcell 2000]. The integration of new members into the communities of practice or networks was complicated only by more practical problems, e.g. it took more than six months to make the IT infrastructure wholly available to former Amoco employees.

The knowledge manager within BP Amoco faced two challenges: merging the existing networks and legacy systems. It was observed that employees were very proud of what they created, and if changies concerned their knowledge, they were very possessive. This cultural issue was practically solved by the knowledge manger through the identification of the key people, who were then brought together to learn from each other. [Robertson/Parcell 2000].

The success factors can be defined as:

- BP experience from the previous mergers and joint ventures
- Use of communities of practice for knowledge sharing
- Better knowledge identification due to Connect

7 CONCLUSIONS

There is no "one-size-fits all" formula or an organizational concept for the integration, which maintains the companies' structures and builds a common structure and culture. Still we can recognize some common success factors.

7.1 COMPARATIVE ANALYSIS OF M&A CASES

	Cisco Systems Inc.	**Novartis**	**IBM – Lotus**	**BP Amoco**
Precondition for the mergers or acquisitions	Daily business and friendly takeovers	Friendly merger of equals, same country	Hostile takeover with different cultures	Cross-border merger
Instruments	Implementation of Cisco's SPM tools	Knowledge management tool as an acquisition engine	N/A	Communities of practice; Connect
Success factors	Selection process; Cisco's cultural openness; Clear communication; Speed; Core competence	Clear communication; Common task or interaction (Crop protection sector)	Peaceful coexistence; Leadership continuity; Retention of key people; Clear communication; No intrusion	Learning from past experience; Virtual cooperation
Failure factors or obstacles	Lost of key employees	Different structures, different R&D strategies	Different cultures and suspiciousness	Problems with the technical integration

Table 1: Summary

One of the possible success factors is the selection of the right target company, e.g. with a similar culture, with an appropriate size, and proximity.

Many researchers or practitioners stress the importance of cultural compatibility or fit as a major determinant for the success of mergers and acquisitions. Cultural similarity is generally assumed to ease integration. The cultural differences can be overcome with the appropriate atmosphere during the acculturation.

Among the success factors we found that a common task or a common objective can melt managers from different cultural background. But the organisational form of cooperation was not mentioned explicitly.

Further success factors are the candid communication with the employees, the speed of the integration, and the role of the leader. Candid communication can eliminate the fear among the employees and give them a clear view about the future. The speed of the integration has the same influence on the employees as communication, because the disturbance caused by the integration phase can be overcome quickly and the managers and employees can concentrate on their daily business. Candid communication and the speed of integration depend strongly on the role of a leader, for if the leader can not communicate and persuade the other managers and the employees, the integration process, as a difficult phase for every employee and manager, can take a wrong course.

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BIBLIOGRAPHY

[Ahuja 2000]
Ahuja, G.: "The duality of collaboration: Inducements and opportunities in the formation of interfirm linkages." Strategic Management Journal Special Issue on Strategic Networks. 2000

[Arino and Torre 1998]
Arino, A. and J. d. l. Torre: "Learning from failure: Towards an evolutionary model of collaborative ventures." Organization Science, 9,3: p. 1998

[Bastien 1987]
Bastien, D. T.: "Common patterns of behaviour and communication in corporate mergers and acquisitions." Human Resource Management, 26. 1987

[Birkinshaw et al. 2000]
Birkinshaw, J., H. Bresman and L. Hakanson: "Managing the post -acquisition integration process: how the human integration and task integration processes interact to foster value creation." Journal of Management Studies, 37,3: p. 2000

[Bresman et al. 1999]
Bresman, H., J. Birkinshaw and R. Nobel: "Knowledge Transfer in International Acquisitions." Journal of International Business Studies, 30,3: p. 1999

[Browne 2000]
Browne, J.: http://www.bp.com/faqs/faqs_answer.asp?id=143; 15.01.2002

[Buono/Bowditch 1989]
Buono, A. F. and J. L. Bowditch: The human side of mergers and acquisitions: Managing collisions between people and organizations. San Francisco, Jossey
Bass., 1989.

[Cisco 2001]
Cisco: http://www.cisco.com/warp/public/750/acquisition/summarylist.html; 02.11.2001

[Cohen/Levinthal 1990]
Cohen, W. M. and D. A. Levinthal: "Absorptive capacity: A new perspective on learning and innovation." Administrative Science Quarterly, 35,1: p.128-152. 1990

[Collison 1999]

Collison, C.: “Connecting the new organization: How BP Amoco encourages post-merger collaboration.” Knowledge Management Review, 7: p. 1999

[De Meyer 1991]
De Meyer, A.: “Tech talk: How managers are stimulating global R&D communication.” Sloan Management Review, 32,3: p.49-59. 1991

[Deakins 2001]
Deakins, E.: Moving through walls; http://www.bp.com/about_bp/technology/viewpoint.asp; 08.01.2002

[Doz 1996]
Doz, Y. L.: “The evolution of cooperation in strategic alliances: Initial conditions or learning processes?” Strategic Management Journal, 17,Special issue: p.55-84. 1996

[Dyer/Nobeoka 2000]
Dyer, J. and K. Nobeoka: “Creating and managing a high - performance knowledge sharing network: The Toyota case.” Strategic Management Journal Special Issue on Strategic Networks. 2000

[Fisher 1998]
Fisher, L.: Post-Merger Integration: How Novartis Became No. 1; www.strategy-business.com; 02.11.2001

[Gerpott 1993]
Gerpott, T. J.: Integrationsgestaltung und Erfolg von Unternehmensakquisitionen. Stuttgart, Schäffer-Poeschel, 1993.

[Ghoshal 1986]
Ghoshal, S.: The innovative multinational: a differentiated network of organizational roles and management processes, Harvard Business School,1986

[Grant 1996]
Grant, R.: “ Prospering in dynamically-competitive environments : Organizational capability as knowledge integration.” Organizational Science, 7,*: p.375-387. 1996

[Greenwood et al. 1994]
Greenwood, R., C.R. Hinings and J. Brown: “Merging professional service firms.” Organization Science, 5,2: p.239-257. 1994

[Gulati et al. 2000]

Gulati, R., N. Nohria and A. Zaheer: “Strategic Networks.” Strategic Management Journal Special Issue on Strategic Networks. 2000

[Hackett 2000]
Hackett, B.: Beyond Knowledge Management: New Ways to Work and Learn,2000

[Hakanson 1995]
Hakanson, L.: “Learning through acquisitions: Management and integration of foreign R&D laboratories.” International Studies of Management and, 25,1-2: p.121-158. 1995

[Hamel 1991]
Hamel, G.: “Competition for competence and inter-partner learning within international strategic alliances.” Strategic Management Journal, 12,*: p.83-104. 1991

[Haspeslagh/Jemison 1991]
Haspeslagh, P. C. and D. B. Jemison: Managing acquisitions: Creating value through corporate renewal. New York, The Free Press, 1991.

[Inkpen/Crossan 1996]
Inkpen, A. and M. Crossan: “Believing is seeing: Joint ventures and organizational learning.” Journal of Management Studies, 32,5: p.595-618. 1996

[Jaeger 2001]
Jaeger, M.: Personalmanagement bei Mergers & Acquisitions: Strategien Instrumente Erfolgsfaktoren. Neuwied, Luchterhand, 2001.

[Jansen 2000]
Jansen, S. A.: Unternehmensakquisition und -Kooperation: Eine strategische, organisatorische und kapitalmarkttheoretische Einführung. Wiesbaden, Gabler, 2000.

[Jemison/Sitkin 1986]
Jemison, D. B. and S. Sitkin: “Acquisitions: The process can be a problem.” Harvard Business Review, 64,2: p.107-111. 1986

[Kale, Singh and Perlmutter 2000]
Kale, P., H. Singh and H. Perlmutter: “Learning and protection of proprietary assets in strategic alliances: Building relational capital.” Strategic Management Journal Special Issue on Strategic Networks. 2000

[King 1996]
King, A.: Managers' perception of organizational competencies and firm performance. Kenan-Flager Business School, University of North Carolina at Chapel Hill,1996

[Kogut 1988]
Kogut, B.: "Joint ventures: Theoretical and empirical perspectives." Strategic Management Journal, 9,*: p.319-322. 1988

[Kogut/Zander 1992]
Kogut, B. and U. Zander: "Knowledge of the firm, combinative capabilities, and the replication of technology." Organization Science, 3,3: p.383-397. 1992

[Leonard/Sensiper 1998]
Leonard, D. and S. Sensiper: The Role of Tacit Knowledge in Group Innovation. California Management Review. 40: p.112-132,1998

[Leonard-Barton 1992]
Leonard-Barton, D.: "Core capabilities and core rigidities: A paradox in managing new product development." Strategic Management Journal, 13,*: p.111-125. 1992

[Leonard-Barton 1995]
Leonard-Barton, D.: Wellsprings of knowledge: Building and sustaining the sources of innovation. Boston, MA, Harvard Business School Press, 1995.

[Madhok 1997]
Madhok, A.: "Cost, value and foreign market entry mode: The transaction and the firm." Strategic Management Journal, 18,1: p.39-53. 1997

[Mansfield 1985]
Mansfield, E.: "How rapidly does new industrial technology leak out." Journal of Industrial Economics, 34,*: p.217-223. 1985

[Mansfield et al. 1979]
Mansfield, E., A. Romeo and S. Wagner: "Foreign trade and U.S. research and development." Review of Economics and Statistics, 61,49-57. 1979

[Mergerstat 2000]
Mergerstat: www.mergerstat.com; 02.11.2001

[Miles et al. 1998]
Miles, G., R. Miles, V. Perrone and L. Edvinsson: Some Conceptual and Research Barriers to the Utilization of Knowledge. California Management Review. 40,1998

[Mowery et al. 1996]

Mowery, D. C., J. E. Oxley and B. S. Silverman: “Strategic alliances and interfirm knowledge transfer.” Strategic Management Journal, 17,Winter special issue: p.77-92. 1996

[Novartis 2001]
Novartis: Novartis History; www.novartis.com/about_novartis/history.shtml; 05.11.01

[Ouchi 1980]
Ouchi, W. G.: “Markets bureaucracies and clans.” Administrative Science Quarterly, 25,129-141. 1980

[Pavitt 1971]
Pavitt, K. (1971). The multinational enterprise and the transfer of technology. In: The multinational enterprise. J. H. Dunning. London, George Allen & Unwin.

[Petersen/Zesch 2001]
Petersen, J. and W. Zesch: “Knowledge Management im Integrationsprozess.” M&A, 6. 2001

[Probst/Knaese 1999]
Probst, G. and B. Knaese: “Risiko von Wissensverlusten als Folge von Mergers & Acquisitions.” Bilanz Manager, 3,4: p.11-15. 1999

[Ranft/Lord 2000]
Ranft, A. L. and M. D. Lord: “Acquiring new knowledge: the role of retaining human capital in acqusitions of high-tech firms.” Journal of High Technology Management Research, 11,2: p. 2000

[Rifkin 1997]
Rifkin, G.: Growth by Acquisition: The Case of Cisco Systems; www.strategy-business.com; 02.11.01

[Rifkin 1998]
Rifkin, G.: Post-Merger Integration: How IBM and Lotus Work Together; www.strategy-business.com; 02.11.2001

[Robertson/Parcell 2000]
Robertson, S. and G. Parcell: “How to apply knowledge management to a merger: two case studies.” Knowledge Management Review, 3,4: p.32-35. 2000

[Schlender 1997]
Schlender, B.: Computing's next superpower. Fortune,1997

[Shrivastava 1986]

Shrivastava, P.: “Postmerger integration.” Journal of Business Strategy, 7,1: p.65-77. 1986

[Sikora 2001]
Sikora, M.: “Establishing Strategic Guideposts for Corporate Buyers In the 21st Century.” Mergers and Acquisitions: The Dealermarker's Journal, 36,5: p.18-28. 2001

[Singh/Zollo 1998]
Singh, H. and M. Zollo: The Impact of Knowledge Codification, Experience Trajectories and Intergration Strategies on the Performance of Corporate Acquisitions. The Wharton Institutions Center. Pennsylvania, The Wharton School,1998

[Swissler 2001]
Swissler, M. A.: Merging Knowledge With Companies: Raytheon uses best practices to combine three corporate cultures into one; http://www.destinationcrm.com/km/dcrm_km_article.asp?id=835; 20.11.2001

[Szulanski 1997]
Szulanski, G.: “Exploring internal stickiness' Impediments to the transfer of best practice within the firm.” Strategic Management Journal, 17,Summer special issue: p.27-43. 1997

[Thurm 2000]
Thurm, S.: Cisco Defies the Odds With Mergers That Work; www.wsj.com; 05.11.2001

[Vernon/Davidson 1979]
Vernon, R. and W. H. Davidson: Foreign production of technology-intensive products by U.S.-based multinational enterprises. Washington DC, National Science Foundation, 1979.

[von Hippel 1994]
von Hippel, E.: “"Sticky Information" and the Locus of Problem Solving: Implications for Innovation.” Management Science, 40. 1994

[von Krogh et al. 1994]
von Krogh, G., A. Sinatra and H. Singh (1994). The Management of Corporate Acquisitions. In. London, The MacMillan Press Ltd.

[Westney 1988]
Westney, D. E. (1988). Domestic and foreign learning curves in managing international cooperative strategies. In: Cooperative strategies in international business. F. Contractor and P. Lorange. San Francisco, New Lexington Press.

[Wysocki 1997]
Wysocki, B.: “Why an acqusition? Often, it's the people.” Wall Street Journal, 10,6: p. 1997

[Zander 1991]
Zander, U.: Exploiting a technological edge: Voluntary and involuntary dissemination of technology. Stockholm, Institute of International Business, 1991.