

# Siemens ag global development strategy



In order to understand Siemens' International R&D current situation and thoroughly come up with alternatives and recommendations to solve possible issues that may arise, it is first crucial to analyze the company's strategy and rationale for International R&D. There are several factors and reasons that led Siemens' to pursue an International R&D strategy, opposed to a domestic one.

The first one is the obvious labor shortages that would take place if Siemens' were to perform its research and development in its Munich headquarters. It is quite obvious that centralizing all R&D activities in Munich would result in a critical shortage of the ICN's 1500 employees allocated to the headquarters.

Secondly, customers in the telecommunications industry usually require extremely customized solutions for their businesses. Thus, it is of the utmost importance that product customization is performed with the quickest response to customer needs possible. Thus, the regional allocation of engineers, technicians, etc., into Regional Development Centers (RDCs) plays a crucial role in the fulfillment of this task.

Finally, the global spread of R&D units would theoretically provide the company the possibility of taking advantage of exploiting time zone differences, and thus perform an around-the-clock development strategy. However, this concept has proven to be utopian due to the interdependence between overseas counterparts consequent of the extremely high coordination needed for the development of this type of leading edge technologies.

## **1. 2. STRUCTURE OF RDCs**

At the date of the case, Siemens' ICN had 6 major overseas RDCs in the following countries: Austria, India, USA, Belgium, Slovenia and Portugal.

These centers are related to the Munich headquarters through a HUB-Model, in which R&D activities are mostly concentrated in and controlled by the Headquarters, whereas product customization takes place in RDCs.

Firstly, the number of person-years and capital invested are two strictly correlated variables in the company's development effort. This is trivial since the amount cash spent in a certain projects is an increasing function of the working years invested by the employees in the development of these projects (salary vs. work).

Secondly, labor cost advantage is also a crucial matter in any business. Thus, as can be seen in the table above, the U. S. employees take the first place as most expensive wage earners, whereas the Indian take the place as the cheapest. In this specific case, India presents a great advantage for Siemens ICN or any other technology development company, since there is a good tradeoff between low cost and high expertise in this field.

Thirdly, employee turnover is an issue the company sometimes has to deal with. The ambition (and sometimes greed combined with low company loyalty) of employees makes them often migrate to other companies where better salary conditions are offered. This results in a very high employee turnover and difficult allocation of workers to medium/long-term projects.

Finally, coordination costs between the Headquarters and RDCs are also of the highest relevance. Since we are talking about countries many times

geographically separated by dozens of thousands of kilometers, it becomes extremely hard to articulate and coordinate work between the counterparts. However, not only the geographic and time zone distance influence increase these costs, but also the cultural distance between them, since this implies more time and money spent in trying to reduce it through frequent trips, workshops, etc.

### **1. 3. BOCA RATON RDC**

In Boca Raton, Florida, U. S. A., is located Siemens' second largest overseas RDC. This facility is majorly centered in the development of the Electronic Switching System Digital (EWSD), and functions as many of the company's other RDCs: Munich Headquarters provide the project-base for each EWSD release to Boca Raton, which customizes it to the U. S. market's unique industry standards. Moreover, this RDC benefitted from the accumulation of enough knowledge to acquire the increasing independency from the Headquarters to manage more complex system projects - - the development of the U. S. customer-required Remote Switching Unit (RSU) is a good example of this.

However, despite strong bonds and mutual admiration were developed amidst the counterparts during the development of the RSU, still some critical issues concerning working culture arose: the German culture of building "road maps" to guide the project development ("think first, act later") was completely the opposite of what Americans used to do ("act first, think later"). Despite there is the rationale of keeping up to competitor technological developments and customer need adaptation for the Americans to perform their work in such a way - which would denote a

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certain degree of home-base augmentation - there is an obvious lack of home-base exploitation from the company, since the Germans are not effectively embedding their working culture in their American subsidiary.

#### **1. 4. INDIA RDC**

One of the major problems prevailing in Siemens's international R&D process is the different working styles and culture clashes between its local and overseas developers. The contrast is most evident in Bangalore R&D center where the Indians are working with their senior partners from Germany.

While the Germans expect the Indians in Bangalore to show more interest in working with vast machines rather than to pursue entrepreneurial jobs during the process, the Indians hope the Germans could cancel some of their pre-arranged vacations and give them a hand in some critical points of time.

Moreover, as with the Germans feeling uncomfortable about discussing wages issues in public, which is often the conversational topic of the Indian employees, the Indians regard it as being impolite to say ' No' or speak up one's mind in a big meeting, which is required by the German seniors to necessitate the decision making process. This fact is dangerous in a sense that the Germans do not really know whether the Indians developers would be able to perform a specific task as they never say ' No' to the Germans' request.

In the end, the Indians may end up wasting their time and resources as the tasks are beyond their capabilities. More adversely, miscommunication between Munich and Bangalore and between Germans and Indians, in a smaller scale, often occurs due to the Indian personnel's avoidance of blunt

request for further clarification in the first place. As a result, the Germans always find it necessary to have face-to-face interaction with Indian engineers in order to re-confirm everything is on the right track.

Overall, most of the issues mentioned above stem from the difference in personalities of people from different nationalities. If no action is made to alleviate such discrepancy and to seek the most basic understanding ground among cross-cultural employees, Siemens would continue to incur unnecessary management costs.

With this remaining cultural and communicational problems, headquarter in Munich played mainly an administration role. As the customers of Siemens ICN are most of the time Germans or least westerner, RDC in India had a position as an RDC for exporting, which means they follow the directions what is given from headquarter. RDC in India had limited chances to communicate with their customer directly. On Munich side, they had to explain, and had to give the specification to Bangalore. However, they couldn't have enough communication for subtle changes from customers or organization matters such as budget cuts, changes of managers in Germany. Should some changes from Germany, the managers in Munich correspond between India and Germany. It increased the possibilities of missing out on some specifications or misunderstanding between customer and RDC. R&D center in India had to sometimes postpone their work due to those confusions.

Although the actually R&D site is in Bangalore, Munich took the role to integrate and test the entire system which is based on the subprojects

developed by Indians. They soon faced difficulties to do that job because they didn't actually perform R&D but the developers in Bangalore.

Furthermore the subprojects are far more independent than they expected. It causes high inefficiency level that the RDC in India should work again and to find the problems for the system.

As these RDC and headquarter are thousand kilometers far away to each other, they need additional care for cooperation and communication. As they should work together across Bangalore and Munich for ' After-service' of their products, the remaining inefficiency of headquarter and RDC in India need sufficient attention.

In addition to, gradual loss of cost advantages in international labor force was another problem and India was the standout country. Firstly, high turnover rate among Indian programmers caused high costs to Siemens. For instance, Bangalore programmers were even asking salary information of the German workers. Secondly, time to train a new recruit was long while the employment turnover rate was increasing. One reason was that Indian programmers were trained on inexpensive personal computers so that they relied heavily on German guidance for working on large systems. Thirdly, other competitors were emerging as first choice for local labor force in India. Siemens was considered as one of the best employers to work for in Bangalore in the past but other competitors such as Cisco and Lucent showed up and the competition to hire talented workers made Siemens to slipped from front-runner status to a middle-ranking. Lastly, wage increasing trend in Bangalore had undermined the cost advantage of this R&D center to

Siemens. The wage for developers in Bangalore increased roughly 25% every year.

Siemens had lack of separate team to handle customer's complicated technique request. Hard problems were often had to be referred to major R&D centers, by which the personnel would be pulled from the R&D team and away from their current projects just to solve the problem lead to delay in product release and inefficiency.

In addition, there was a strong threat by internet industry. By the mid-1990s, voice transmission via Internet is faster and cheaper. If the internet companies can improve its reliability and quality for phone making, they would dominate the entire communication industry.

Furthermore, Siemens had some difficulties in maintaining quality and workforce motivation at its American RDC as the company had experimented with the use of strongly defined project teams for each release of a product.

We did a personal analysis for Siemens comparing with competitors and found out that Siemens was spending too little money for the R&D during 1995 to 1999 compare to major competitors and industry average which is TELEPHONE & TELEGRAPH APPARATUS. As you can refer to the figure3, Siemens' R&D intensity was 0. 0078 that was not only lower than Nokia and Ericsson but also way below the industry average level which was 0. 73.



## **2. RECOMMENDATIONS**

### **2. 1. INCREASE OF AUTONOMY**

The lack of autonomy granted by Munich to overseas R&D centers, in general, and Bangalore center, in particular, largely contributed to the inefficient coordination and worsened the existing culture clash in Siemens. To make corrective actions, Munich should give more empowerment to their international R&D centers in regard to such downstream activities as interaction with customers. In specific, by directly talking to customers, the Indian team would have a better understanding of customers' specification requirement and expectation as well as an increased sense of belonging to the job they are performing. It is prudent enough if small customers are first assigned to Bangalore center in order to test and evaluate its ability to simultaneously produce and handle with customers. This is also opportunities for Indian developers to accumulate their experience so that they can deal with bigger projects on their own in the future without much of Munich's scrutiny. For instance, Siemens could consider developing RDC in India as their Asian R&D center, so that the Indian developers can read the Asian customers needs with their geographical advantages to Asia and at the same time, they can perform their requirements independently from headquarter in Germany.

In addition, it is advisable for Munich to integrate and test the system in the place the subsystems are originally generated. For example, German supervisor from Munich should travel to Bangalore to conduct the integration and testing rather than send the sub-products back to and fly Indian developers to Munich. The reason is that in Bangalore, German managers

can easily get their needed information from the Indian staffs, who directly participated in the task performance, in case there are any problems during the integration and test process. This practice helps eliminate the need for and cost of long-distance communication, let alone miscommunication which may arise due to language differences. More importantly, by conducting the product integration and testing in Bangalore, the Indian staff would have a feeling that their contribution is worthwhile as they can keep track of their spiritual product until it is completed and delivered to customers flawlessly. As a result, it would not hurt the Indians' self-esteem while improving their sense of responsibility and belonging toward the company as they take control of what they produce.

Moreover, adoption of Delphi approach in important board meetings among multicultural staffs would preclude their shyness and encourage all people to speak up their minds in an acceptable way to all the cultures. Even though the Delphi approach is time consuming and require everyone to meet face-to-face, it proves as the good solution in short term while Indian heads felt it wrong to reject other people's ideas in a big meeting.

In the long run, so as to bridge the cultural gap, Siemens should take on more approaches. In terms of communication matter, if the managers from Germany are qualified as international experts especially for Indian culture, they could deeply understand Indian's communicational way. This can efficiently deliver customers need to Bangalore and also maximize the performance in India. Such an international cross over can also implemented other way around. For instance, Indians who have experience with Germans or least Westerner could understand their supervisors and customers need

more exactly. These Indian international experts could bring also the ideas and project status in sense what their western-customers and co-worker need.

This autonomy grant to Siemens' Bangalore R&D unit – or, if necessary and proven to be a successful measure, to other units – would possibly result, in the long-term, in a change of the company's structure from a HUB Model to a Network Model, in which the global control of R&D activities would be split between the company's global competence centers, both at home and host countries, with a bi-directional technological knowledge flow.

## **2. 2. IMPLEMENTATION TO REDUCE CULTURAL DISTANCE**

In order to improve their cross cultural understanding, here are some recommendations to get them having the idea of how their counterpart functions. Firstly, to have cultural workshops by international experts or even their co-workers from India, so that they can understand and know each other's culture better, leads to lower possibility of occurrence of misunderstanding and miscommunication between Indian and German workers.

Secondly, Siemens could provide Global sporting activities or family gathering in different countries. By having gathering events, employees can easily develop team spirits and become friends, reduce their cultural distance to each other after all. For instance, Hyundai Motor Company first had difficulties with managing and controlling the multicultural employees within the company because there was huge cultural distance between

them. To deal with this problem, for instance, they started a global 3×3 basketball tournament across their local offices and it increases their profitability by having good relationship with each other (Korean and foreign counterparts) beyond the cultural backgrounds. During the matches, employees could feel that they share the same goal and they can well cooperate each other, regardless of their different nationality.

## **2. 4. REDUCTION OF EMPLOYEE TURNOVER RATE**

Even though India had one of the world's three largest engineering workforces, companies still engaged in a fight for talent. It was so, because the labor market is a global one, so a lot of companies would recruit software engineers to both work in their Indian units, but also to work elsewhere, as Indian talent was highly regarded in this field. Also, both national and international companies had substantial operations in Bangalore, India's computational technology center, to benefit from the talent pool and the low cost labor, so companies often adopted aggressive strategies to attract the best and the brightest.

Siemens had long established in India and was had a formidable reputation, being regarded as one the best employers to work for by young Indians. However, this was changing with the increasing competition for engineers by companies such as Lucent and Cisco, and as Siemens provide a great experience and learning curve, recruiters would often go after the company's engineers, and would pay a premium to have them switch companies, making the annual turnover rate in India, 35%, the highest in the company. Also, there was culture clash between the Germans and the Indians in Siemens, as Indians showed to be somewhat impatient and looking

to move projects more often than what was planned by the German management. Also, Indians preferred leading-edge projects in the fields of mobile telecommunications and internet protocols, rather than what was being assigned to them, which was quality testing and integration tasks, which were more repetitive and less stimulating. The Germans also showed lack of knowledge with regards to the Indian way of working, because the Indian output was not always reliable, as they kept changing approaches and they would rather fix problems right on the spot and not document them for future knowledge and improvement, and this was against the German mindset. All these issues helped keep the turnover rate high, and Siemens had to look for solutions to this problem.

It seems that, to keep engineers happy, and as they were to open to discuss wages everywhere, Siemens would have to offer better wages, at least to their most talented employees. Perhaps the best way to do so, and to keep the incentive of increasing performance whenever possible, would be to keep the base salary where it is and offer performance based bonuses and also, stock options plans. There could be a 2 tier performance based bonus scheme, with both a short term component to it, and a longer term one that would only be awarded if the employee stayed in the company for a certain number of years and kept his/her performance level, to ensure that the motivation was always high and that the proper incentive mechanisms were in place. Regarding the stock options, this would also ensure the long term loyalty to the company and the incentive to adopt both a short and long term approach on a daily basis. These suggestions bring up the need to have measure of performance, as objective as possible. Working hours are not the

best measure of productivity as anyone can stay longer and that could promote inefficiency, poor time management and a decrease in output. Criteria such as on time delivery of projects, inexistence of errors, reliability and integration of systems, after sales service and overall customer satisfaction (measured by both formal and informal feedback on all levels of interaction) could provide better ways to reward performance. Also, employees with out-of-the-box thinking, extraordinary contribution to projects, engineers that developed innovative systems and ways to overcome issues and provide a better and more efficient services to the customer, could be rewarded, both financially and non-financially. To boost motivation, and in lign with the previous recommendation, top performers could be given a certain amount of time on a daily or weekly basis to develop side projects for the company on their initiative, in order to feel more stimulated and really adding value to the company and the clients. Also, besides the health, housing and vehicle benefits already in place, there could be an effort to transform the offices into more friendly working environments, in an attempt to adopt some of Google's employee motivation strategies, so that employees feel more motivation, loyalty and corporate citizenship that will ultimately lead to better output and satisfied clients.

### **3. FURTHER MANAGERIAL ISSUES**

Despite we hope and expect the recommendations given to have a positive impact in the Siemens' International R&D operations, there are some issues that may arise from these measures, though.

If we think about the increase in autonomy granted to the Indian RDC, for instance, there is a dangerous threat in which the company may incur, is this

measure to be taken. It is quite obvious that the more autonomous a person or an entity becomes from an upper body, the more tendency it has to deal with any different situation in its own way, either it is solving organizational problems, negotiating with suppliers or dealing with customers. Thus, due to the cultural differences that are felt between Indians and Germans, this is a situation very likely to happen.

Consequently, and without wanting to state this is what would eventually happen for sure, this autonomy grant might result in a deviation from the company's way of operating from the Indians. The final outcome of such a deviation could be catastrophic for Siemens', since it could jeopardize a whole corporate culture and way of doing business, blurring the company's image to stakeholders' eyes. Thus, as it was stated before, this process should be gradual and always under headquarters' supervision.

Finally, another issue that might arise from our recommendations is the loss of labor cost-advantage in India. Even though we are perfectly aware that, in one way or another, wage levels will necessarily increase in India in the next years - especially in the technological field, due to the increasing demand for expertise in this area, as well as for the country's overall economic development - it is undeniable that this incentive program would increase Siemens' expenditure in workforce and, consequently, mean the loss of the cost-advantage the company had by employing experts in the field at a lower price.