

# What Happens if the Spaghetti Gets Cold?

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In September 1996, Oticon, the Danish hearing aid manufacturing company, launched something which was considered no less than a sensation in the world of hearing aids. Oticon had produced the world's first fully automatic hearing instrument, based on a revolutionary new microchip. This microchip had the same processing power as a 486 PC, weighed only 4 grams, was smaller than a little finger nail and used only five thousandths of the energy used by a conventional hearing aid chip. Oticon had built the microchip into Digifocus, which the company claimed to be the world's smallest hearing aid, with a sound reproduction quality so far unprecedented.

The Digifocus was not the first thing about Oticon to catch the public's eyes. Ever since 1991, when Oticon restructured its head office into what the company's CEO, Lars Kolind calls a spaghetti organization, Oticon has received world wide attention because of its untraditional organizational structure and management style.

## Kolind's Management Style

"Obviously Lars' management style has been very visible. Lars' strength is that he is dazzling at..., he has been dazzlingly good at selling the company. And that is one of the reasons that he has so much penetration power in the organization, because everybody wants to be where he ...you hear a lot about how interesting Oticon is, right..., and that is why everybody wants to be where he is, also internally I mean. There is no doubt his personality means a lot to Oticon, it definitely does" (Torben Petersen).

Lars Kolind managed Oticon in a somewhat untraditional way. This was accentuated in December 1995. Just after the introduction of Digifocus, Lars Kolind did something that, seen from an outsider's perspective, was rather unusual. On the other hand, what he did only went to show that Oticon's untraditional management style was not all talk. Kolind relocated all the former Digifocus project groups, based on the time horizon of their new projects: "I exploded the organization" "It was total chaos - within three hours, over a hundred people had moved. To keep a company alive, one of the jobs of top management is to keep it disorganized" (Lars Kolind).

Later he explained his approach: "I have to admit that I think that in many companies, you can say that the management doesn't really attribute anything positive at all. Because the management is demotivating. But we do have a management at Oticon ... very much so.. and that management, including myself, does make many decisions. But the difference is that there is not a whole hierarchy of managers who spend inappropriately amounts of time to let the hierarchy stay alive. The whole aspect of hierarchy, we have avoided that at Oticon to a large extent" (Lars Kolind).

"When people arrived at their new desks their business cards were title less. And that has been, and still is by the way, a problem. It's such an important part of your identity, the title you have that it can be really hard on someone not to have it" (Lars Kolind).

“Management must be based on shared values rather than formal structures” “The better we understand how our job fits into Oticon’s goals and strategy, the less we need traditional management and control. And the less time we need to spend on traditional management and control, the more time we have to spend on things that our customers can appreciate” (Lars Kolind).

## How to Get Value for Values

Top management’s wish to communicate its values to employees has resulted in a special “employee vision” which has been formally documented in the leaflet: “Oticon’s Employee Vision - Vision and Reality.” Among other things it states:

- We regard all employees as mature and responsible people.
- We assume that Oticon’s employees wish to take on responsibility if they get the possibility to do so.
- We assume that Oticon’s employees are more interested in exiting and challenging tasks than in formal status and titles (Oticon employee).

Management’s basic belief about human nature is that people like changes and that employees will always welcome changes as long as they are let in on what they encompass and as long as they have a chance to influence their implementation.

## Interaction and Integration

All work at Oticon is completed in interdisciplinary groups with very diverse theoretical and practical backgrounds. There are two types of projects: Technology development projects and hearing aid construction projects.

*Technology development projects* often proceed hearing aid construction projects by five to ten years. Technology development projects deal with the fundamental audiological research. The goal is to determine the basic technological techniques required when creating the actual hearing aid. Technology development projects usually take place at Eriksholm, Oticon’s center for psycho acoustic research.

In the case of Digifocus, the technology development project objective was to find a way to use the new, digital technology in a hearing aid. This led to the development and design of an integrated circuit that could be used for hearing tests. On the basis of these hearing tests, it was decided that digital technology was suitable for use in hearing aids.

During technology development projects at Eriksholm, Oticon cooperated with international audiologists and hearing aid specialists. They were connected to via Oticon’s foreign subsidiaries and through Bernafon, a Swiss hearing aid manufacturing company that Oticon took over in 1995.

When technology development projects turn out successfully, which was the case with Digifocus, they are followed by hearing aid construction projects.

*Hearing aid construction projects* are concerned with the building, producing and marketing of the actual hearing aid. With Digifocus, the hearing aid construction project was to find a way to use the new, integrated circuit in a way that could help hearing impaired. This involved market research on the focus of hearing improvements. It also involved designing and building the actual plastic shell containing the aid, and later, the production and marketing of Digifocus. Hearing aid construction projects usually take place at Oticon’s head office.

During hearing aid construction projects, employees at Oticon's head office collaborate with the company's foreign subsidiaries, with international audiologists and with the company's production factory in the smaller, provincial town, Thisted, in Northern Jutland.

## Thisted's Role in the Spaghetti

The factory in Thisted is organized into: A production department and a department for production techniques.

*The production department* is where the actual production takes place, and it mostly employs unskilled workers. In 1990, Thisted started making smaller organizational restructuring which, among others, included the distribution of more assignments and responsibility to employees. Additionally, holes were made in the factory walls, separating the different production chains. This was done to create a more open working environment. Foremen manage up to 40 workers. The foremen are responsible to the factory manager, Lars Kirk, who is also the top manager for the department of production techniques.

*The department for production techniques* employs salaried workers, typically engineers and technicians. Work in this department is completed in project groups, the office landscape is open and transparent, and there are no job titles. Salaried workers are all responsible to the technical manager, who, in turn, is responsible to the factory's top manager, Lars Kirk.

Thisted has been connected to the head office's computer network since 1991. Employees at the head office and at the factory in Thisted communicate on a regular basis - either through the computer system, e-mail, phone, and fax. Additionally, video conferences are held almost every day. Personal contact takes place when employees fly over and visit. Oticon is a frequent flyer on the route: Thisted - Copenhagen, even though the frequency is a little imbalanced in favor of Copenhagen.

Collaboration with Thisted is particularly intense when the project reaches the stage of designing and developing the actual hearing aid. At this stage, employees from Thisted participate in the actual projects as experts on production techniques. Their role is to judge whether it is technically feasible to produce the hearing aids that researchers have developed, or whether adjustments are needed. As it is their role to get the actual production running, they will typically participate towards the end of the overlying project.

Oticon owns its own component factory at Hejrevejen in Copenhagen. To increase the mutual connection between the two factories and to increase their understanding of each other's work, an exchange program between the two factories has been established, where four employees at a time change jobs for three days.

The component factory at Hejrevejen has introduced a partial self-governing system. By openly showing lists with the company's goals, where employees write down to what extent they are attaining the goals, everyone can clearly see which direction they are heading.

## Spaghetti for All Nationalities

Oticon's subsidiaries also contribute with knowledge to projects.

Oticon sells its hearing aids in more than 100 countries, and about 93% of the company's sales are outside Denmark (Table 1). Not counting Bernafon, Oticon has 15 foreign subsidiaries and 80 independent distributors. The Bernafon distribution network consists of 6 sales companies and about 40 independent distributors throughout the world. Oticon and Bernafon function as two parallel and dependent hearing aid companies, they compete on the same markets, but exploit a common capacity within production and logistics.

Most subsidiaries have less than 20 employees, and their primary task is selling. Each subsidiary has its own manager. Several of the subsidiaries, e.g. subsidiaries in the USA, New Zealand, Australia, Norway, Sweden, Holland, Spain, Switzerland and within next year Germany, have already, either moved into new facilities, or restructured the company's offices in order to facilitate dialogue. The idea is to gradually connect Oticon's foreign subsidiaries to the head office's computer network.

**Table 1. Oticon's net turnover (1996) distributed on regions**

Region	% of net turnover
Scandinavia	11%
The rest of Western Europe	37%
North America	21%
Asia	10%
Others	7%

Source: Oticon's annual report (1996)

Oticon keeps itself abreast of changes in foreign customer demands and environmental trends such as law changes, by staying in regular contact with subsidiaries. Also, different countries like different products. As an example Germans prefer Behind The Ear aids and Italians In The Ear aids. Keeping in mind that 93% of Oticon's sales are outside Denmark, the importance of the regular contact with subsidiaries cannot be neglected. This happens by e-mail, phone or fax. Employees from the head office visit subsidiaries whenever it is relevant to their project. When going abroad, employees also visit audiologists. Contact with audiologists is important as they are the ones who are in direct contact with the end users. Because it is the audiologists who help hearing disabled patients ease their problems, it is important that they know how to use Oticon's products.

While visits abroad are regular, staff transfer and stationing lasting more than a few months are rare: "We don't have a lot of that, as a matter of fact that is probably one of the things we ought to do something about" (Torben Petersen).

Contact with subsidiaries and audiologists is an ongoing process that happens all along the projects. In the Digifocus production development project, the chip was developed in collaboration with international researchers. Subsidiaries contributed with knowledge on customers, and estimated the market potential for digital hearing aids in the individual countries. They also regularly kept Oticon's researchers and designers up to date with new laws and product trends so that these could be integrated into Digifocus. Contact between subsidiaries and project groups happens on all levels. No one person or role within Oticon, except the subsidiary managers and Oticon's CEO's, has the overall responsibility to assure that co-operation and co-ordination are sufficient.

## How to Become Part of the Spaghetti

Employees at Oticon all have specific functions that they perform. Otherwise, they are free to participate in as many projects they like.

Projects can be initiated in two ways. Either top management initiates a new project and appoints a project owner, or the employees themselves get an idea, get approval from the management group, appoint themselves project owners, find a project leader, and put together a

group of employees suitable for the project. The latter situation is rare. Project initiatives are usually made by top management or the management group.

Projects all have a project owner and a project leader. The role of the *project owner* is to provide the funding for the project, and to outline work plans and time schedules. The project owner acts as a spokesman of the project towards the management group.

The role of the *project leader* is to carry the project from start to finish. Project leaders constitute the group, integrate the different processes, and manage conflicts occurring within the projects. Even though the project owners are the formal "spokesmen" of the projects, project leaders are informally responsible to the management group when problems occur.

The actual project recruiting takes place in an informal way. The transparency of Oticon enables everybody to keep an eye on what projects are coming up. Employees who are interested in a new project will normally contact the project leader directly. The project leader needs acceptance from the management group before his/her group can start working. This is needed to assure that all groups are constituted of people with the right mixture of skills.

When asking for acceptance for a group's constitution in the management group, this will usually be granted by Oticon's *project coordinator*. The role of the project coordinator is to assure that the organization fits together. He or she acts as a controller on knowledge and resources. The project coordinator is a member of the management group, and discusses problems with other members, including the CEOs, before making decisions. The project coordinator has to make sure that all projects make use of the company's existing knowledge. Likewise, she has to keep an overview on whether important projects get the resources they need and also that resources are divided between projects in an equitable manner. The role of the coordinator is thus to make sure that all projects proceed, and specifically smaller projects, which may eventually become important over time, are not neglected while focusing on bigger projects. "Basically budgets are not interesting. It's the project that counts, the money spent on a project is less important than to get the project finished and the products launched - that we attain the results we have to. Otherwise you risk having a lot of projects that do not progress. We live on the product. Budget control is a secondary issue" (Torben Petersen).

## More Control than Meets the Eye

Oticon has managed to get an ISO 9000 certification by setting up guidelines for the course of projects. Each project is divided into four stages:

1. The idea stage,
2. The feasibility stage,
3. The introductory stage,
4. The realization stage.

For the achievement of each stage, certain checkpoints are required. Documentation has to be made to prove that all checkpoints have been followed.

Oticon has three professional managers, who are not members of the projects. Their role is to make sure that work within projects is accomplished in compliance with rules. These rules are formal rules however, and they only concern the ISO standards. Projects cannot continue to the next stage before the professional managers have given their approval on the ISO 9000 standards. "The ISO certification is perfectly feasible - Laws of physics have to be obeyed no matter how you organize your work" (Torben Petersen)..

Sometimes control is made by others than the professional managers. This happens when third persons are judged to have the longest experience and deepest knowledge on the specific subject. Employees at Oticon are said to continuously update their knowledge during projects because they talk to each other about technological and environmental trends, inter-

nally as well as externally. Because professional managers do not participate in the actual projects, their ability to improve their skills has been questioned at Oticon.

Collective self regulation is the term used at Oticon to describe the process that professional managers are excluded from. Collective self regulation is made possible by the cross organizational working structure. This results in the interaction between many different specialists, each with an extensive knowledge within their special field, but all with an understanding of other areas and for the totality. This enables them to adjust their own work and knowledge to that of the rest of the organization.

Employees have different functions at the same time. Because employees may very well be project leaders in one project and participate as ordinary group members in another; this means that the same people assumes different roles. This working structure was introduced to increase coordination between employees. However, interdisciplinary and cross sectional working structures are not always enough to assure co-operation. Because the role of the management group is to function as an intermediate organ between project groups and the CEOs, crises usually arise further down than Lars Kolind's level, and thus are normally solved without his intervention. But when problems occur that can not be solved through talking, Lars Kolind does not hesitate to intervene. (*In case of crisis*) "He would support us a long way down the road. He would try to solve the problem through discussion, but if this did not work he would take over and make a decision" (Torben Petersen).

## The Transparent Office

CEO's have no offices and they work together with all other employees. This gives them a chance to listen to what is going on in the organization, to see how the atmosphere is, and what conflicts are under way.

The transparency of Oticon involves all levels. The openness is underlined by the computer network which gives everybody a chance to log onto anybody else's computer and see how their work is proceeding. All employees have written down their personal "success criterion" on the network, stating three to eight elements regarding, what skills they wish to acquire, and what goals they want to attain. "When your own results are visible to everybody you become very motivated to attain the goals you have made for yourself. Everybody can see how his/her critical success factors contribute to me fulfilling mine" (Lars Kolind)

## Authority Versus Group Mentality

Oticon's titleless structure means that authority can only be attained through the successful solving of problems: "What it's all about is not becoming a member of the good projects but to get the key role, that's what it's all about. I can't tell you how this is experienced psychologically, but of course it gives you status to become a project leader - we don't mind status - and it gives you a professional status to be the one who is always offered jobs" (Torben Petersen).

Employees are dependent on recognition to be appointed to new projects. Project members with several project successes are popular when new groups are formed. So communication is not only about finding information, but also about establishing good connections to project leaders. Good social relations are not equally obtained by all employees. Nevertheless, Oticon's working structures are said to create a certain level of fairness: "When we work in projects we immediately notice who is contributing something. Especially in groups "star people" cannot promote themselves as they can at parties." "You do not have to be eloquent on that exact day when you have an appointment with the CEO, because he is there all the time. SO it

is easy to see who is working hard and who is not. Also, in small groups people don't have to be shy about saying what they mean" (Torben Petersen).

To utilize all employee knowledge is made use of, employees are all assigned to a personnel manager. *Personnel managers* are each responsible for 10-15 employees. Employees are free to find themselves another personnel manager if they do not get along with the one that has been assigned to them. Part of the role of the personnel manager is to advise and support individuals, take initiative for job changes, and enable further education. Personnel managers carry out salary negotiations with each employee.

## Enthusiastic Salaries

Employees are paid on the basis of a negotiated fixed salary based on employee's educational and professional backgrounds. Pay rises are based on work results, enthusiasm and motivation.

Salary negotiations take place once a year. Before the actual negotiations, personnel managers talk to the individual employee's colleagues and project leaders about how she has performed. During the salary negotiations, personnel managers discuss with the employee what she has done well or should work harder on. On that basis, it is decided whether the employee will be recommended for a salary raise to the management group.

There are three types of possible pay rises: 1) Ordinary pay rises given every year, 2) Pay rises given to people who have obtained good work results, been enthusiastic and made great efforts and 3) Bonuses given as an acknowledgment to people who have made extraordinary work efforts. General pay rises are not considered and gratuities are rare. "I think employees regard payments as equitable. But first of all you need to remember that they (pay levels) are not public. But generally I think we hit the mark all right. And that is also what salary negotiations are all about - to discuss with employees what they are doing well and what they should be working harder on" (Torben Petersen).

Oticon has flexible working hours and employees do not get paid overtime hours. But you can still find employees working on Sundays: "Sometimes I find people's working morale frightening! It sometimes tends to be a little extreme (how much they work). I sometimes worry that all that work will wear them out" (Torben Petersen).

## It Takes More than Success to Prevent Failure

Oticon has received a lot of attention from management experts and journalists from all over the world. The focus has been: Oticon's economic success, Lars Kolind's untraditional management style and the very concept of being a knowledge based employee. "And of course there is nothing as wonderful than to read in the paper that you are a part of a success - it releases a lot of positive energy." (Torben Petersen):

Oticon's economic results and the number of new product launches have been remarkable. But according to Torben Petersen, the energy would not disappear with one or two major product failures. Oticon has already had failures, but that did not prevent the company from continuing its way of working: "We have had both success and failure. We have had failures too, we just don't talk that much about them, and we normally manage to stop them in time. That is, when we have noticed that there was something that didn't work we have stopped it. And that is one of the most important things: The ability to experiment, to take the risk. The ability to dare try something new. That is probably one of the major differences - that we have room for that. But of course, our figures are positive now which makes it a little easier" (Torben Petersen).

In April 1997, Lars Kolind announced a slight change of strategy as Oticon had decided to start concentrating on making company acquisitions. It was important that making these had to be “fun.”

Oticon’s management and board of directors believe that the company will need to invest money more actively in order to keep up the company’s previous economic results. This is not only necessary to keep investors happy but also: “If larger expansions don’t occur, the unique type of organization and anarchy will die.” “Once you set free the anarchy, you have to continue. These many qualified people need funny and creative assignments. Otherwise they disappear” (Lars Kolind).

To prevent employees from leaving the company, Oticon may have promised itself to the spaghetti structure. Employees at Oticon seem to like working in an ever changing company. Some would even consider leaving the company if, over time, it started getting more risk averse and traditional in its organization structure. “If it started changing towards a traditional organizational structure, then some of us would probably try find somewhere else to work. One of the interesting things about this is that it changes all the time, that it is not static” (Torben Petersen).

The question then is, how Oticon would handle the situation if a new, more tradition bound CEO took over, or if environmental trends suggested a more traditional company structure. Would Oticon have what it takes to stay flexible and keep the spaghetti from getting cold and would Oticon’s management have the necessary overview to prevent Oticon from turning back into a traditional company?

## Questions for Consideration

1. Oticon wants to avoid being hierarchical. What actions did they take? Is it a good idea?
2. Describe Oticon’s project management style.
3. Discuss Oticon’s incentive scheme. How does this fit with organizational structure?

## References

- Morsing, M. 1995. *Omstigning til Paradis?*, Copenhagen: Handelshøjskolens Forlag.  
Poulsen, P.T. 1993. *Tænk det Utænkelige – Revolutionen i Oticon*. J.H. Schultz A/S