
STRENGTHENING INNOVATION CAPACITY – FASTER, MORE EFFECTIVE, MORE DISRUPTIVE

Four case studies from collaborations with leading enterprises



SANTIAGO 

STRENGTHENING INNOVATION CAPACITY – FASTER, MORE EFFECTIVE, MORE DISRUPTIVE

Four case studies from collaborations with leading enterprises

Impressum

SANTIAGO GmbH & Co. KG
Jagdschlösschen Anrath
Donkweg 47
47877 Willich
Tel.: +49 (0) 2156 / 4966 910
www.santiago-advisors.com

Autoren
Christopher Hader
Michael Nesnov
Juan Rigall
Georg Wolters

Willich

Gestaltung
BOROS
www.boros.de

Druck
Druckerei Jakobs GmbH

SANTIAGO 

STRENGTHENING OUR INNOVATION CAPACITY

Germany is finding it ever more difficult to defend its top position as an industrial location: global competition is intensifying. Emerging economies are striving to become high-tech centers, not merely manufacturing locations. To this end, they are investing massively in education, research and development. This is reflected in their R&D spending, specialist trade publications, patents and shares of global trade in research-intensive goods, among other indicators. China, for instance, surpassed Germany in R&D spending in the chemical-pharmaceutical industry in 2010. With a share of 27.6 %, Chinese specialist publications are now the leader in the chemical sector. Germany's portion, by contrast, fell from 8.3 % (2000) to 6.2 % (2014).

Furthermore, industrialized nations such as the US, Japan and South Korea are also stepping up their innovation processes. They are additionally aided by local advantages, for instance low energy and raw-material costs in the case of the US and countries in the Middle East. In Germany, on the other hand, industrial production has virtually stagnated. This threatens to have a negative impact on the value chains of the entire industrial innovation network.

As Germany cannot compete with regions like Asia on cost, innovation leads are becoming increasingly important. The innovation capacity of the German industry is an important key to securing the competitiveness of the industrial location.

In its study "Paving the Way for Innovation", prepared in collaboration with Santiago, the German Chemical Industry Association (VCI) identified the most important internal and external barriers to strengthening the innovation capacity of the German chemical-pharmaceutical industry and derived action recommendations for businesses and policymakers. The study results were received by policymakers with great interest and met with broad agreement. Conclusion: Germany's innovation-policy parameters must be improved overall. The VCI followed this up with a 12-point plan that described the most important levers for overcoming external innovation obstacles from an overall industry perspective.

By contrast, the description of internal barriers triggered a discussion in many companies as to how they could strengthen their own specific innovation capacity. In many cases, projects were initiated, often carried out with external support.

In the past two years, Santiago Advisors has carried out innovation-oriented projects in enterprises of all sizes. The spectrum ranges from owner-managed SMEs to DAX corporations. Companies in virtually all sectors were supported, from commodity manufacturers to highly specialized solution providers.

In the following, we will describe what approaches and levers these companies used to master the challenges described above, on the basis of four representatively selected, anonymized case studies.

The VCI study – a look back:

FOUR ACTION AREAS FOR OVERCOMING COMPANY- INTERNAL OBSTACLES

Strengthening innovation culture

An inadequate innovation culture is the greatest internal obstacle. Close to forty percent of companies complained of an excessive aversion to risk. The leaders must serve as role models for a change in the communication culture. Diversity and room for innovation are particularly helpful in promoting the emergence and development of ideas in businesses.

More awareness for technological breakthroughs

Over one third of the companies considered an overemphasis of short-term targets to be a significant obstacle. The consequence is an excessive focus on incremental innovation. Enterprises should thus return to placing a greater focus on technological breakthroughs in their R&D departments. This requires the formulation of clear strategic goals, which need to be adhered to in practice.



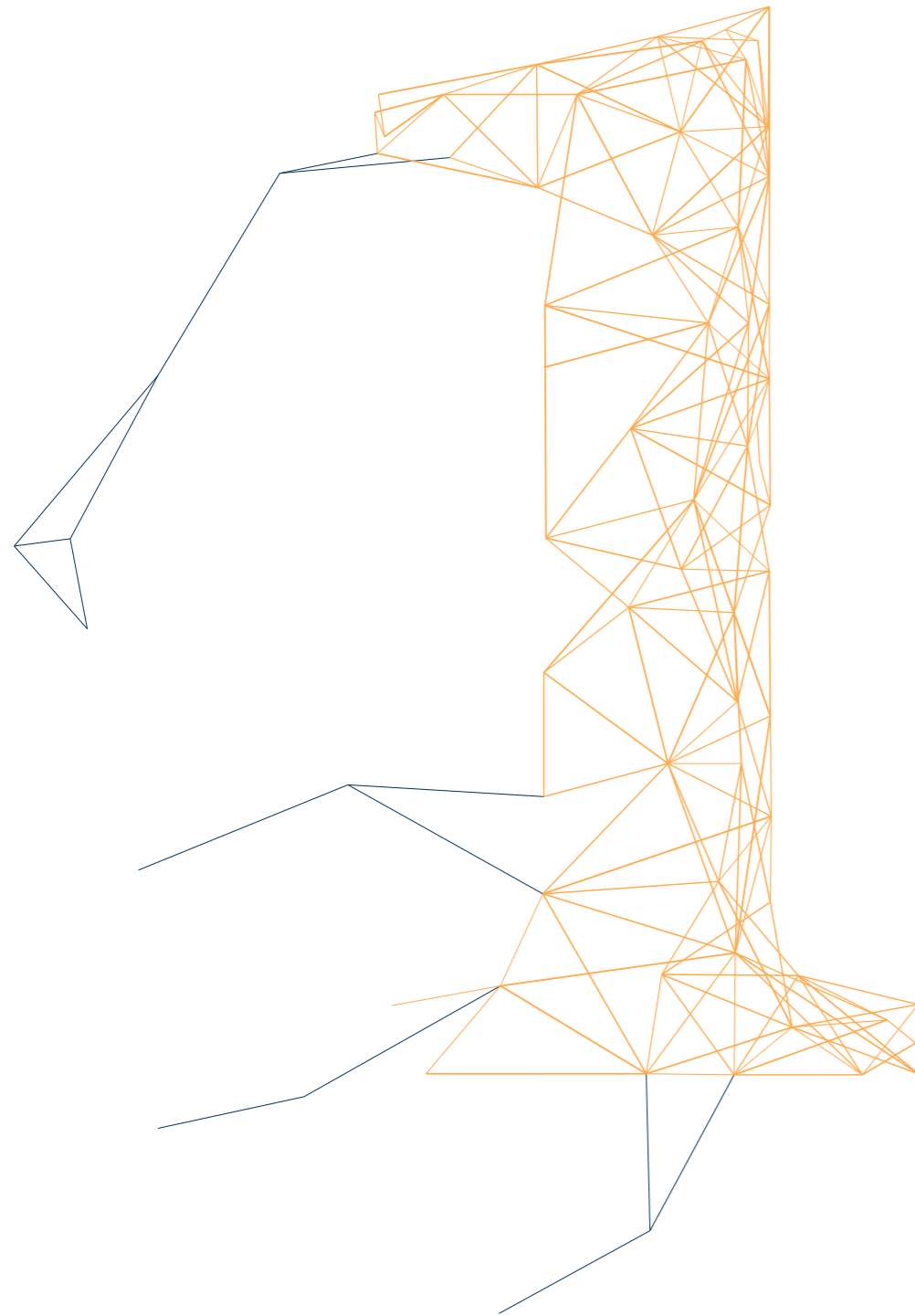
Increasing speed and efficiency

Too many projects, and thus a lack of focused innovation projects, have a detrimental effect on speed and time to market. Thus, a clear positioning is required, and innovation processes must be freed from bureaucratic constraints. This is particularly true for large corporations. Here, creating “SME-type” structures could prove to be an important solution component.

Strengthening the effectiveness of innovation processes

In spite of all progress, there is still room for improvement in market orientation. The enterprises see weaknesses mainly in the market rollout phase – particularly compared to their international competitors. Therefore, a greater orientation toward the market’s future requirements, and how new business models can open up additional value potential, is essential.

STRENGTHENING INNOVATION CULTURE



Case Study

More risk, more scope
for initiative and better
communication

Focus:
R&D department
with 150 employees

Initial situation:
short-term success, but
no long-term perspective

This project was carried out for a medium-sized specialty chemical company with revenues of approx. € 700 million. The project ran for five months. The direct project partner was the R&D department, with around 150 employees worldwide. The R&D department is extremely heterogeneously organized, in terms of both technology and industries.

Overall, the enterprise was extremely successful, generating 5–8% annual growth with high margins and a high level of customer orientation. The R&D department also contributed to this through its superlative technical competence. Driven mainly by the R&D department, an innovation strategy was drafted to define the pipeline for the coming years. However, this innovation strategy was not particularly innovative, called very little into question and was based primarily on a continuation of existing projects. Doubts were raised as to whether this strategy was sufficiently capable of identifying relevant long-term issues. Santiago was commissioned to conduct a review of the innovation strategy and possibly contribute improvements.

Problem:
risk aversion, silo mentality and
(short-term) customer orientation

In view of the advance work already performed and to avoid redundancies, Santiago skipped the normal analysis phase and started with approx. 30 interviews with employees worldwide, across all management levels, without interrupting the organization unduly. With a very dynamic “change-as-we-go” approach, the team initially derived the key future technology topics extremely rapidly building on the prior work. However, the interviews revealed doubts as to whether the organization would be capable of implementing these topics successfully. The following barriers were identified on the basis of the interviews:

- a — Poor communication between R&D and Sales meant that many development projects were moving in the wrong direction, or failed to consider the right questions.
- b — Scope for innovative topics existed only on paper. Although each R&D employee was theoretically entitled to use time for such topics, this could hardly ever be exercised in practice. Projects initiated by Sales always had priority and, exacerbated by bureaucratic hurdles, consumed the entire development time.
- c — A high level of risk aversion prevailed throughout the company. Failed projects were often judged harshly. For this reason, every R&D employee tried to “play it safe” and only “published” results when all issues were resolved. Project applications always contained an adequate buffer and were usually only submitted when the likelihood of successful implementation was high.
- d — A culture of secrecy imposed from the top down ensured that ongoing research projects could only be discussed in very small groups. Thus, Sales often learned of the results of development projects only very late and could therefore contribute market insights only to a limited extent.

Project results:
culture governs the implementation
success of an innovation strategy

The implementation of the innovation strategy was in danger of foundering on a lack of an innovation culture. This could have threatened the future of this highly successful enterprise. The central project result was the concept for improving the innovation culture throughout the company, developed and implemented with the assistance of Santiago. Among other aspects, the concept contained the following components:

- a — Establishing a holistic approach to innovation throughout the entire company: making top management mindful of the cultural aspect of innovation and prepared to practice it actively. Additionally, innovation was made an element of all target agreements and creative techniques were integrated in regular employee training programs.
- b — More communication and elimination of departmental boundaries: clear rules as to what may be communicated to whom replaced the prevailing secrecy culture. Regular networking events between R&D, Sales and other units resulted in greater sharing. White lists for external third parties also intensified networking with other enterprises.

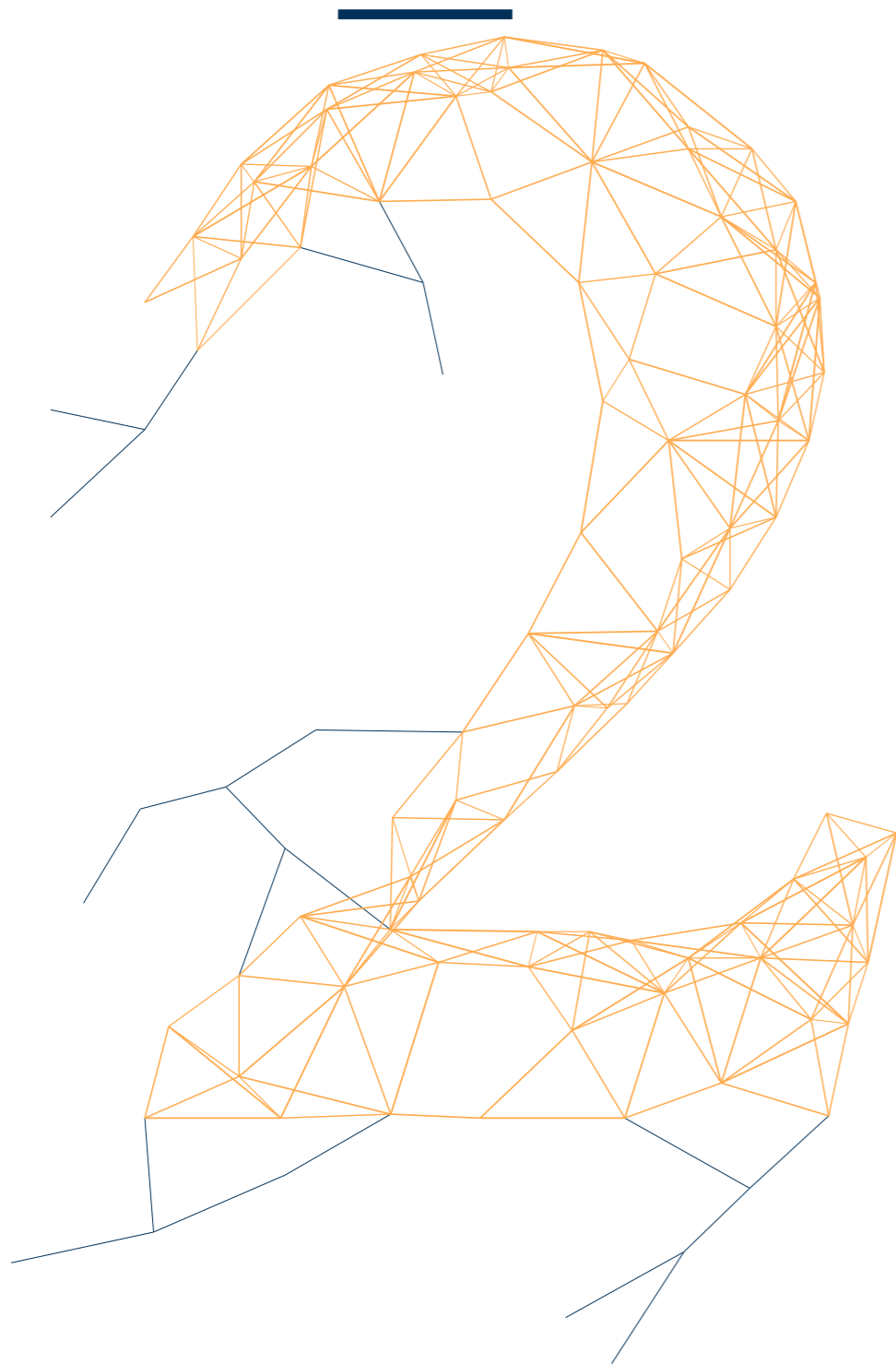
- c — Shared objectives: in future, all employees involved in innovation issues (e.g. Sales, Marketing, R&D) will be measured on the basis of shared objectives (“the only successful innovation is a sold innovation”). The bonus provisions of the affected employees were modified accordingly.
- d — Diversity: establishing an entrepreneurship program to further enhance the innovation culture. Bringing aboard “exotic” competences to create heterogeneous projects. Recruiting employees from highly innovative enterprises.
- e — Management culture: explicit training of management on how to manage innovative teams. Provision of a corresponding budget for innovative issues
- f — Space for innovation: ensuring that employees can actually exercise the agreed room for initiative. Anchoring this space in the management target agreement and measuring its utilization on the departmental level.

Success factors:
alignment of management
and employees

The decisive success factor for this project was that the enterprise management recognized very quickly that simply identifying innovation issues (innovation strategy) does not guarantee success just by itself. Rather, the entire enterprise must pull together, ideally in the same direction. This only works when a corresponding innovation culture is in place.

The flexible project approach delivered fast payoffs, solid integration in the organization and close proximity to the active persons. Santiago’s innovation competence helped to “break the ice” and deliver a transparent, convincing assessment of the initial situation. The provision of good practices from comparable companies, along with neutral moderation, helped management to jointly find a way forward across all entrenched positions.

MORE AWARENESS FOR TECHNOLOGICAL BREAKTHROUGHS



Case Study

Priority for disruptiveness

Focus:
central research of a
chemical corporation

The focus of this project was on the central research and development unit of a chemical company with approx. € 8 billion in revenues. This unit manages a development budget of approx. € 50 million and employs around 300 persons. Its tasks comprise conventional R&D projects along with a unit with an incubator role for new business, as well as a patent department. The unit acts on behalf of other units of the corporation, but can also take on external commissions. The project ran for a period of six months.

Initial situation:
rigid structures, many tasks

The central R&D unit existed unchanged for around 10 years. During this period, the corporation underwent significant changes: new business units were established, companies acquired, a much more global business had been built, new markets addressed, and the central R&D unit assumed additional tasks as the group's unit for controlling innovation issues. As part of a project, Santiago was commissioned to examine whether this unit was fit for the future in view of these changes.

Problem:
neglect of longer-term innovations

In an initial project phase, around 35 interviews were conducted with employees of the central R&D unit, as well as with representatives of all business units. It became apparent that the problem was broader than the original initial situation indicated. In this case, a more “classic” project approach is needed. An analysis phase must first clarify the situation – rapidly, effectively and utilizing practical experience.

Although originally established as a classic central research unit, this unit had been transformed over time into a contract research service provider. The unit was officially characterized as a business unit and measured primarily in terms of revenue and profit. This led to a strongly sales-oriented approach to development projects, which had multiple negative consequences:

- a — The strong earnings orientation largely precluded long-term technological topics. The business units were not prepared to finance such research topics. These would only have generated revenues and earnings for the R&D unit after a longer lead time, and that only with a high risk. Long-term projects were thus launched very rarely.
- b — To achieve revenue targets, as many small projects as possible were sold to the business units. In view of the small amounts, these small projects could be realized more easily, and the risk of an unsuccessful outcome was low.
- c — Additionally, extensive efforts went into selling business to external customers in order to achieve the revenue targets. This reinforced the trend that the central R&D unit could make only a limited contribution toward the technologies relevant to the corporation.
- d — To achieve the profit targets, the internal rates were continually increased over time. This generated dissatisfaction with the unit’s price-performance ratio. As a consequence, the business units successively expanded their own research departments or commissioned external service providers.
- e — Overall, the technological competence of the central R&D unit declined continually, and it was regarded as merely a contract service provider for smaller development projects. The unit could only survive through cross-subsidization within the corporation.

Project results:
scouting, networks and new focus

To solve the above problems, Santiago proposed, developed and subsequently implemented a fundamentally new business model for the unit. Instead of operating as a profit-oriented contract service provider, the central R&D unit was to establish itself as a technology competence unit within the corporation going forward. Moving ahead, the unit is to concern itself with the future technologies relevant for the corporation, build technology platforms and provide the results to all business units. The aim of this concept was to ensure that longer-term projects are carried out and more radical innovations generated within the entire corporation. The new business model comprises the following elements:

- a — Scouting: formation of an effective scouting team to proactively identify key technologies relevant to the corporation through market and technology observation.

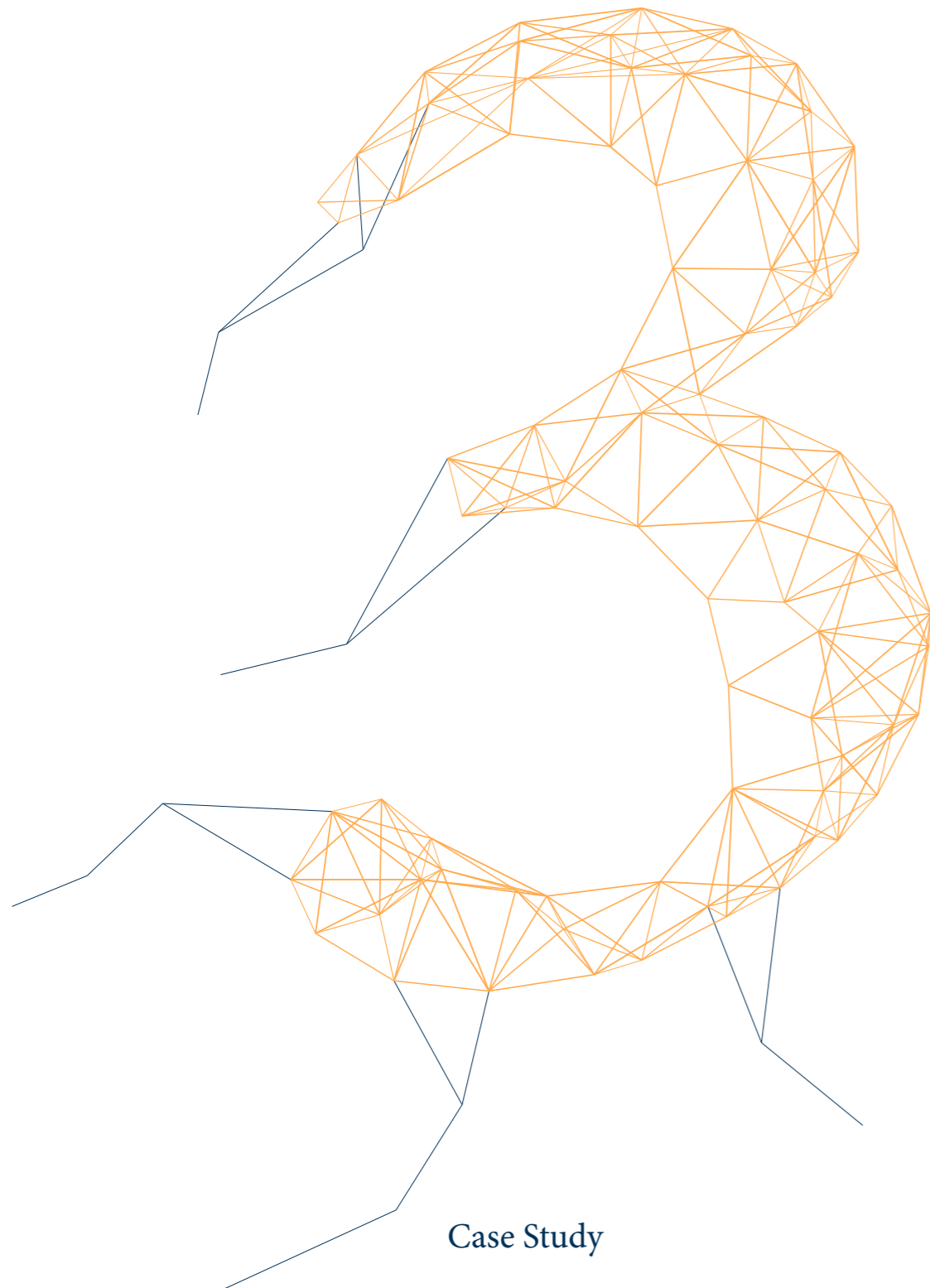
- b — Business case: development of competences, capacities and processes for independently assessing new technologies from both a chemical and commercial perspective.
- c — Laboratory: enhancing the performance and flexibility of the existing laboratory structure to make it possible to carry out self-initiated, independent basic research in relevant key technologies for the corporation and the business units.
- d — Networking: close networking and early sharing with and between the business units in key technologies to ensure that research remains market-relevant.

Following the positive reception of the draft concept within the enterprise, Santiago supported the detailed preparation and implementation of the concept. One priority here was involving employees and business units in the process as early and as comprehensively as possible. In all, implementation is to extend over several years. The first technology “lighthouse” projects with high innovation potential have already been successfully executed.

Success factors:
fact-oriented stock-taking and
convincing arguments

One key success factor was critically analyzing the original problem brief on the basis of Santiago’s many years of organizational development experience. The break-through in the direction of reorganization emerged through the process of preparing and discussing various options for the unit’s future business model. Once the new business model was defined, the structured derivation of roles and responsibilities, target organization and rules for cooperation with the business units was a further success factor. Finally, the change management was decisive in obtaining the commitment of all major stakeholders to the project, so as to arrive at a solution that was acceptable to all parties.

INCREASING SPEED AND EFFICIENCY



Case Study

More new products

Focus:
Development unit of a brand-name
consumer-goods manufacturer

Initial situation:
good with substances, but lacking
creativity in product forms

The project was commissioned by a consumer goods division of a global corporation. The focus was on the division's innovation unit, which comprised approx. 100 employees and was responsible for research, development, R&D management and technology development. The latter also included process and packaging development. The project ran for a period of two months.

The division's innovation process had been continually developed in the years prior, and was internally considered to be extremely high-performance in principle. However, comparison with the competition showed that in new product forms in particular, i.e. where the chemical performance of the ingredients is matched with the design and dosage form (form, functionality, smell, tactile impression and color scheme), the division's products ranked lower and were often merely followers. Consumers often interpreted this as indicating lower quality compared to innovative, market-making competing products. Santiago was commissioned to analyze the innovation process for new product forms and assess its performance capability (speed and number of new product forms) compared to other enterprises.

Problem:
“The competition is pulling ahead”

The transparency phase was conducted as a quick audit. In approx. 20 individual interviews with managers and experts from R&D to marketing, it rapidly became clear that the low efficiency was not due to a lack of structure in the innovation process for new product forms, but rather the great number of projects and the consequent lack of focus on innovation projects. In spite of being well documented, the process seldom produced truly innovative product forms.

- a — The division had recently redefined its innovation strategy. However, this strategy was inadequately communicated internally, and set no targets for disruptive innovations.
- b — The constant race with the competition and a lack of long-term orientation on the part of management ensured that truly novel innovations were regularly downgraded in favor of incremental improvements in terms of both budget and allocation of R&D resources.
- c — Although the existing stage gate process offered a strong framework for new developments after the laboratory phase, it provided little structure for systematic “ground-up” idea generation and evaluation (customer requirements, future geographic focus, target costs, etc.).
- d — Ideas for new product forms were driven either by technology (form for better performance) or design – but without interdisciplinary project teams, so that technologically advanced ideas often failed to meet the design criteria desired by customers, or desired designs were not technologically feasible.
- e — Equally, no simplified process was applied for incremental improvements, so that the many concurrent projects consumed all available resources, slowing time to market for all projects.
- f — Not least, the innovation culture did not permit sufficient risk-taking and mistake tolerance – a typical problem of large corporations. Fast projects were avoided internally, and implemented only under pressure from “on high”.

Project results:
faster and more disruptive – not
contradicting, but contrasting

Contrary to what the enterprise originally assumed, the innovation process alone was not the root problem. Too many projects and a lack of focus had an equally detrimental effect on speed and time to market of innovation projects. Santiago thus expanded the solution space to include the strategic and cultural perspectives, and derived actions in collaboration with an interdisciplinary team:

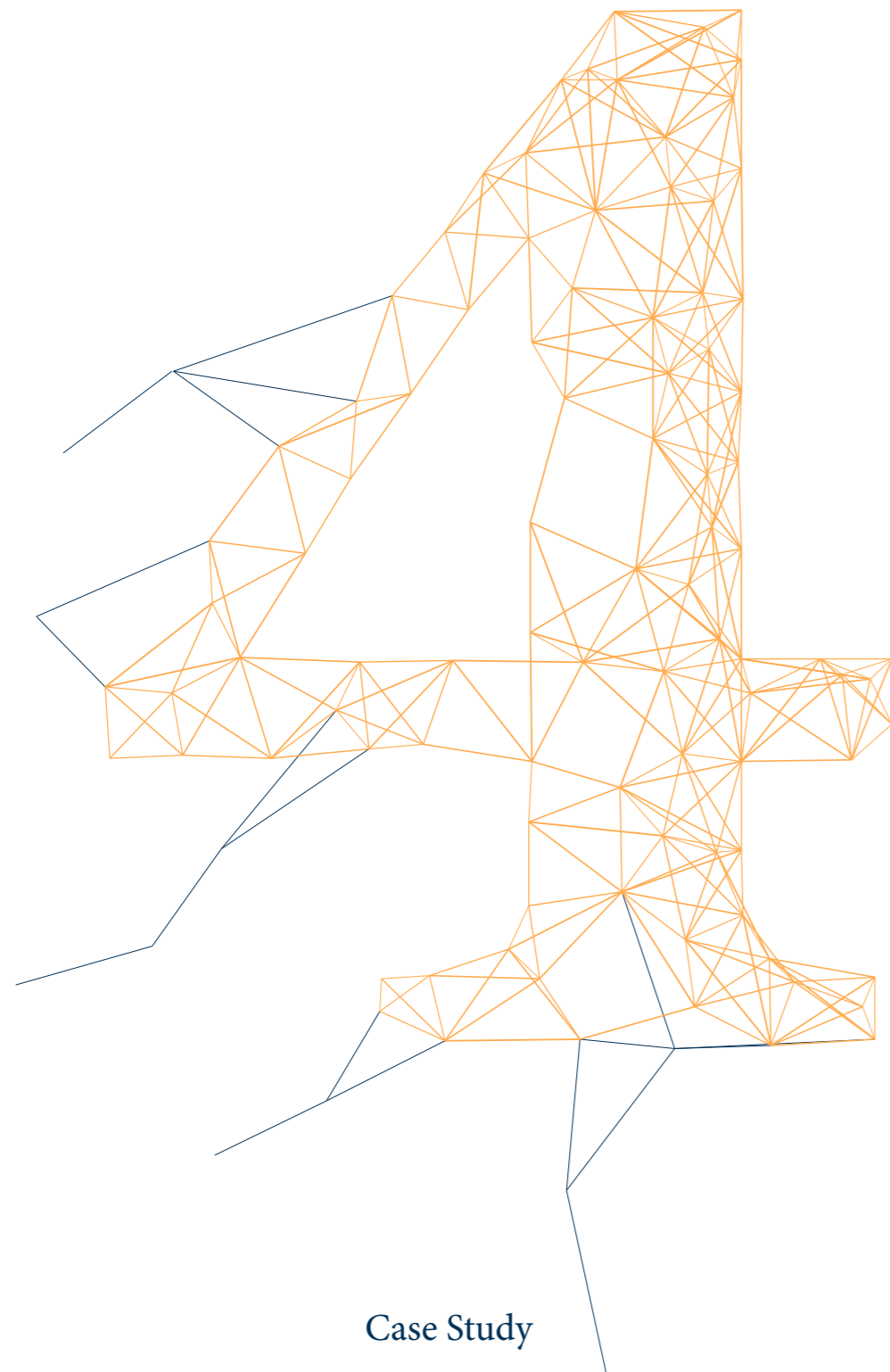
- a — To achieve a healthy balance of necessary incremental and future-critical disruptive innovation, Santiago proposed to divide the innovation portfolio into the categories (1) minor, (2) significant and (3) disruptive product-form changes, with a clear focus on category 3, was proposed. The latter were embedded in the innovation strategy and allocated a dedicated budget.
- b — Within the innovation process, a clear briefing was recommended in order to systematize idea generation and evaluation and better control R&D resources. This makes it possible to define clear objectives, requirements, customer demands, target costs, implementation timeline, etc. for every innovation project in advance.

- c — A simplified process for incremental improvements was developed for more effective resource allocation and shorter time to market.
- d — To take the interaction of the design and technology aspects into account, it was decided to deploy interdisciplinary teams in a very early phase.
- e — Finally, new incentive structures were created to strengthen the innovation culture by promoting greater risk-taking and tolerance for mistakes.

Success factors:
holistic perspective on diverse causes

The greatest success factor besides the innovation process itself was the integration of the fundamental strategic and cultural perspectives, and communicating these insights to top management in an effective form. Truly new product forms can only be developed with a clear focus and proper incentives. Santiago’s primary contribution to the success of this project lay in expanding the project scope, which was initially very tightly focused on the innovation process, into a holistic innovation perspective. This expanded perspective was made possible by Santiago’s many years of extensive prior experience in all relevant areas of successful innovation, from processes to controlling and even culture.

STRENGTHENING THE EFFECTIVENESS OF INNOVATION PROCESSES



Case Study

Closer to the market

Focus:
Innovation unit in China

Initial situation:
few new products,
and often not on target

This project focused on the Asian special-plastics business unit of a global corporation. This business unit employed approx. 1,500 persons and generated revenues of around € 1.5 billion. The unit's sales force is organized by industries (transportation, industry, etc.). The unit's central development center, with around 150 employees, is located in a major Chinese city. This central development department is supported by decentralized resources for technical service and application development in the respective countries, which however are subordinate to the local sales organization. Development is organized by technologies, and the R&D center serves the requisitions/projects of all four industries in 20 Asian nations. The project ran for a period of 12 months.

In past years, the business unit was clearly successful, with earnings regularly exceeding the targets. However, this was driven strongly by the development of the regional economy, and raw-material prices. Sales of new products were stagnating. The results of development projects carried out by the development center often failed to meet the requirements of the country sales organizations. Projects with good results frequently broke down in the final stretch leading to market rollout. The sales units increasingly lost confidence in their ability to meet the complex needs of the customers in their countries with the subpar performance of the development center. This resulted in the formation of redundant decentralized development resources, at least in the larger countries (Korea, Japan, etc.). This in turn reduced the job volume in the R&D center, ultimately further broadening the divide between Development and Sales. At this point, Santiago was brought aboard to collaborate with Development and Sales in preparing a program to increase Development effectiveness.

Problem:
interface problems and
a lack of agility

In the transparency phase, over 30 interviews were conducted with managers and experts from all units of the enterprise (from Development to Production). It quickly became apparent that the problem of a lack of effectiveness was not solely the fault of Development, as Sales claimed, but rather a consequence of a complex concatenation of faulty developments:

- a — In the years prior, the business unit had made a policy of hiring employees away from customers for Sales, to be “closer to the market”. This was successful in terms of market knowledge and customer proximity. However, these new colleagues generally were not chemists. Consequently, they were often able to translate new customer inquiries into concrete requirements for the developers in the R&D center only to a limited extent. The developers then had to deal with unclear project objectives and the resulting moving targets.
- b — To avoid this, it is normal in most chemical companies for a Development staff member to be present at all important customer meetings. That was not the case in this business unit. One cause of this was “national egoism”. The larger countries at least tried to keep their customers’ inquiries in the country in any way possible. At least the big countries tried to keep inquiries from their customers whenever possible in the country. Consequently, the R&D center was only consulted when the problem could not be solved with local know-how. Cultural barriers proved a further problem. The development staff of the R&D center was almost exclusively Chinese. The sales organizations in the main markets of Korea and Japan were not very accepting of them, and thus did not invite them on customer calls.
- c — A further cultural aspect impacted the effectiveness of Development: in some countries a strong cultural reluctance to refuse customer wishes or stop projects once they had started existed. This meant that Development had to continue to oversee numerous hopeless projects that would never see the light of market day.
- d — Development did not possess the competence necessary to satisfactorily process customer inquiries in all technologies. This was due to the high fluctuation on account of the booming labor market in this Chinese urban center. Successful development requires experience that must be built up over the course of years. The enterprise was limited in its ability to retain employees in Development long enough.

- e — The resulting tensions between Sales and Development increasingly impaired communication. Particularly in the laboratory phase, Development was often left to its own devices. Generally, Sales was only called in at the conclusion of the laboratory phase and transition to the pilot phase. In many cases, it became apparent at this point that the development was misaligned with the market and thus the project could not move on to the pilot phase. One reason for this was that in the regular Development project review meetings, the economic requirements derived from the business cases were seldom taken into account, and then only superficially.
- f — The projects that successfully completed the pilot phase often broke down at market rollout. Once again, this was due to inadequate communication between the units Development, Marketing, Sales and Production, but above all due to a lack of competence on the part of the project leads. The project leads were recruited mainly from Development and Sales. However, a good developer/sales representative is not automatically a good project manager as well. They often lacked the project management know-how necessary to master the complexity of a market rollout with a large number of stakeholders.

Project results:

custom action plan

The key result of the project was the insight that there was no specific development problem, but rather a broad challenge involving multiple units. In the spirit of this in-sight, mixed teams staffed by Sales and Development were tasked to develop and implement solutions for the identified challenges. Santiago oversaw the concept development and implementation to bridge the initial tensions in the teams and contribute independent ideas to the process:

- a — To ensure that sufficient “chemical” competence is brought to the table in future customer meetings, mandatory minimum requirements were defined (e.g. minimum three years development experience). The respective sales representatives can cover these minimum requirements from their local technical service or Application Development. If they have no local employee who meets these requirements, they are obligated to call in a colleague from the development center. To ensure that the development center receives only “concretely” formulated requisitions in future, requirements were defined here as well in the form of a checklist. In future, development will only accept requisitions/inquiries that meet these requirements.
- b — The role of the industry segments was increased to better curb “national egoism”. In the past, customer inquiries from the countries were forwarded directly to Development (without consolidation across all countries). In future, country requirements must first be directed to the segment, which prioritizes the inquiries from the countries and commissions development. To further improve the interaction between the R&D center and the countries, the former will focus on hiring more employees of other nationalities in future. The HR policy is to be adjusted to make this effort successful (see e).
- c — To handle the challenges in interacting with customers (“How do we say no?”), a training course in “customer management” was developed internally, which all sales employees will successively take.
- d — High fluctuation is of course driven by the dynamic of the labor market. But it is also a sign of insufficient attractiveness. In response, the rather conservative human resources policy of this enterprise in Asia was made significantly more attractive (from signing bonus to dedicated career tracks for developers).
- e — In future, representatives from Sales or Marketing must participate in each project review meeting starting in the laboratory phase. The regular review of whether the project is on track both “chemically” and “commercially” was made mandatory.
- f — To secure adequate project management competence, it was decided to establish a limited number of full-time project managers. In future, they are to oversee mainly the large projects over their entire term and across all phases. The team members will contribute the specialist know-how for development, sales, etc.

Success factors:

bringing people and
organizations together

In addition to the material solutions, bridging the gap between Development and Sales was the key success factor. The joint development and implementation of solutions reestablished the basis for a more trust-based working relationship going forward. Santiago contributed decisively to this success through the seniority and experience of its project team. Without their years of experience in the innovation sector, they would not have been able to successfully assume the “mediator” role. The provision of proven practices from comparable enterprises also contributed to putting the discussion on a more objective basis.

Executive Summary

LESSONS LEARNT

Our project experience over the past two years, of which the four case studies presented here are just a small sample, reveals three key insights:

The findings of the Innovation Study are confirmed

The four most important internal obstacles to innovation that the 2015 VCI Innovation Study identified were confirmed by our operative insights in enterprises. All our clients, in both these four case studies and all our other projects, were and are facing the challenge of overcoming one or more of these obstacles. A great deal is already in progress, but much remains to be done.



Innovation obstacles are seldom monocausal

Most projects began with a tightly defined project brief (e.g. “optimizing the innovation process”). Many of these concluded with a more holistic solution that ranged from a restructuring of the business model of the development department to new roles and responsibilities, and even cultural aspects. Too narrow a view of the subject of innovation is thus counterproductive.

Successful innovation is the job of the entire enterprise

If the research and development results are unsatisfactory, blame initially falls generally on the R&D department. The evidence for this is that the R&D departments commissioned all the projects described. However, in almost all cases it turned out that R&D units were not the only ones responsible for the poor performance. Often, deficits in Sales, Marketing, Production or other units prevented the research from obtaining good results. Thus, in many projects the solution approaches focused on the entire enterprise.

