

COMPANY MANAGEMENT

HOW TO GET YOUR CAPACITIES UNDER CONTROL



PORSCHE EXAMPLE: HOW HEINZ ALEXY AND HIS TEAM COMBINE CUSTOMER SATISFACTION WITH BUSINESS SUCCESS

The most important prerequisites for the work that Heinz Alexy does are a crystal-clear overview and direct access to all the key instruments. Alexy (49) is responsible for Supply Chain Management at the Porsche sports car company. A qualified mechanical engineer, he's certain about one thing: "If the same or similar activities are done for a single job in different parts of the company, you quickly lose your overview." That is why back in 2002 he set about restructuring all the processes that are set into motion internally whenever a customer orders an individually configured new Porsche. Today Alexy and his team run these processes on a centralized basis. Using an image to make his point, he explains that "we can access all of the relevant instruments and operating elements directly, just like at the controls of a Porsche."

The "customer-to-customer process" is Porsche's name for the comprehensive supply chain system that regulates distribution demands for its production department and its suppliers on the one hand while

also processing orders for new cars worldwide. All from a single source. "We started with just four people and a potted plant," says Alexy, who first had to make his case for change at the company. His plan was to perfectly integrate the sales, procurement, and production processes, tuning them as precisely as the components of a Porsche transmission. And not just in theory. "Our principle is that the people who do projects also have to answer for them," he says. In other words, the only way for Alexy to win was for his plans to prove themselves in practice. Specifically this meant resolving the perennial potential for conflict between the demand for cars on the world's markets on the one hand and the available production and supply capacities on the other—all the while maintaining the highest quality standards.

Making this change was no cakewalk. Restructuring is always a serious undertaking. Alexy had set himself the goal of "creating an organizational unit that provides all the necessary information about the demand for new cars and about the capacities of both Porsche plants and suppliers in consolidated form." This transdivisional service required that all relevant data be supplied rapidly and in its entirety. It also required an open attitude and interdisciplinary thinking. And support from the Board.

To serve as a basis for centralized management this transdivisional service needed a backbone, which was composed of three branches. The program planning branch takes care of the flow of information between sales and production. The demand and capacity management branch guides the interplay between production and purchasers in the procurement

Conflicts between sales and production affect the bottom line. If you want to sell, you have to be able to deliver.

But when there are capacity problems, customers notice immediately. The following article describes the consistent way in which the Porsche sports car company controls its production and orients itself uncompromisingly to its customers in the process. And if you would like to know what Porsche Consulting tells companies that want to get a grip on fluctuations in demand, you'll find all the information on pages 56 to 60.

HEINER VON DER LADEN CHRISTOPH BAUER

department. The third branch is for order management, and takes the form of a circuit. It starts with the customer as the buyer, then goes to the dealer, to the production department, and from there back to delivery of the new car to the customer.

This control circuit is precisely defined. The first step consists of the sales department reporting its demand for cars to the supply chain management. The supply chain management then correspondingly adjusts the production system at the Porsche plants and in the Volkswagen production network—and adapts capacities to meet the demand. The next step is to align supplier capacities to operations at each plant. In the process, Alexy considers flexibility requirements for both the markets and production. This requires close communications with the procurement departments at Porsche and the Volkswagen Group, for they are responsible for securing the required capacities from suppliers. The ultimate aim, after all, is to have all components and modules available at the right time and in the right amounts. “We have to run this actively,” says Alexy—“processes, like an orchestra, need a conductor.”

A specially designed IT system using an SAP platform was set up together with Mieschke Hofmann und Partner, a firm specializing in process and IT consulting. It lays the foundation for each process in the three branches of program planning, demand and capacity management, and order management. “It’s not enough just to bring the orders into the company,” observes Alexy. “You have to process them right away. That’s the only way to have actual customer demand flow immediately into each stage of our customer-to-customer process—and to have it run successfully.”

Together with their customers, local dealers specify the individual Porsche cars directly, using configurators that are linked to Porsche headquarters. The point at which the cars will be built can be directly scheduled. A major benefit here is that dealers can immediately name a delivery date, and one that will be precisely met. Customers also benefit from being able to modify their orders, right up to shortly before the start of production. And this in turn provides an incentive to dealers: the additional flexibility motivates them to send their orders as

soon as possible to Porsche headquarters in Stuttgart-Zuffenhausen. This leads to full order books, which in turn enable early planning based on hard figures. “Actual data” is what the experts call this. This information is the prerequisite for the sophisticated Porsche production and logistics system with its high sequence stability as well as its just-in-time and just-in-sequence processes. This gives plants the advantage of only receiving orders for cars that they can build precisely on that day. For suppliers this means a stable, reliable preview over the short and medium terms.

Of course not everything runs smoothly, admits supply chain expert Alexy, who shoulders a lot of responsibility. “But we’re now identifying weak spots so early on that we can intervene in time and find workable solutions. Conflicts are no longer taking place between the various departments but rather directly within our department—supply chain management.” Production, sales, and procurement can focus entirely on their core competencies. Supply chain management takes over the task of overall optimization. That requires tact and sensitivity. “Our job forces us to remain neutral in everything we do,” says Alexy.

The processes installed at Porsche are not just “good-weather friends.” They have proven themselves to be robust in difficult market situations as well. Alexy and his team have succeeded in ensuring that the processes do their jobs even with a growing range of models and a sharp increase in the volume of cars produced. That lets him take a positive view of the future. “Our scalable processes and systems mean that we are well prepared for the company’s ambitious growth program,” he says.

Every decision made by the supply chain managers focuses on a single person—the customer. “We want to supply a perfect car right on schedule,” says Alexy. “And that can only be achieved with optimum management of the overall process from a single source. This solidarity-based approach among sales, the production plants, and suppliers leads to satisfied customers in well-supplied markets. That is our contribution to the company’s success.” ←

**INTEGRATED DEMAND-CAPACITY
MANAGEMENT**

**NO
MORE
WRENCHES
IN THE
WORKS**

When specialists at industrial companies think in terms of departments, friction is a foregone conclusion. The most obvious example is when production can no longer provide what the sales people promise. Collapse looms on the horizon.

Centralized control can prevent this at an early stage.

Industry is not finding business any easier. Many companies are struggling with very uncertain forecasts, because market volatility is on the rise. This is leading to enormous internal challenges: despite the difficult situation, sales departments want to offer their customers a high degree of flexibility—especially in terms of product variants, volumes, and delivery dates. And of course all the promises that the sales people (have to) make must be conscientiously kept despite large fluctuations in demand. For experience shows that this is the only way to maintain customer loyalty.

Given such difficult conditions, however, manufacturers quickly find themselves in rough waters—all the more so when several departments head off course at the same time. Dr. Christian Fiebig, Senior Project Manager at Porsche Consulting, sketches out a typical scenario. “Despite perfect products, the customers of a large company began to go elsewhere because the promised delivery dates were rarely kept.” This was accompanied by a common phenomenon, namely, high inventory levels. Unfortunately, however, the high-bay warehouse had the wrong products—not those for which there was high demand. The clear diagnosis here: poor planning.

This precarious situation was exacerbated by the fact that the company fell ever further behind in deliveries to its remaining customers. As Fiebig recounts, “Evidently nobody had predicted the sharp increase in demand. So the flood of orders sloshed into the production plants—with no account taken of the limits on capacity.” The consequences were clear. Due to overload, production fell behind—which promptly elicited enormous pressure from the individual sales units. They wanted to see finished products, and to make good on their delivery commitments to customers. In desperation, the plants responded by prioritizing a small number of especially urgent orders. But that did not help matters. On the contrary, the other orders slid even further down the waiting list, which caused these customers to become upset. The problem was like a wildfire spreading out of control.

Moreover, the constant changes to production priorities necessarily reduced output.

The confusion in production also affected suppliers. Constant shifts in production volumes led to mistaken orders and incorrect accounting for order volumes. Frequent changes in planning also put the suppliers on unsure footing. This meant that delivery promises could rarely be kept. Ultimately this sad state of affairs was reflected in sobering indices such as low delivery reliability, high levels of shelf warmers, and supply backlogs. Combined with an acute absence of market-oriented flexibility, this nearly led to collapse.

In searching for causes, we quickly arrive at a diagnosis of “poor synchronization of demand and capacity.” As Fiebig notes, “In many companies that I have seen, the sales, production, and procurement processes are insufficiently integrated or not at all.” It is precisely this weak spot that Porsche Consulting’s integrated Demand-Capacity Management (iDCM) addresses. The iDCM project has two main aims. The first is to integrate processes on an interdepartmental basis by means of defined rules. The second is to synchronize demand (sales/customer) and capacity (production and suppliers) in a foresighted and consistent manner. When these aims are met, they enable companies to remain capable of action at any time and to meet their targets. This applies to changing market conditions and fluctuating customer behavior as well as to adjustments in capacity. The iDCM concept combines the synergies from market-oriented flexibility and high planning stability. Based on concepts that have already been successfully tested at the Porsche sports car company, experts from Porsche Consulting have developed a course of action specifically tailored to industrial companies.

When iDCM is introduced at a company, the first thing that happens is a careful inspection of the demand side. The frequency and time frame for demand planning must be defined in order to generate solid production and procurement planning. In addition, the system has to be examined to see how flexibly and rapidly it can respond in terms of capacity. This extends from additional volumes that component →

iDCM >>> integrated Demand- Capacity Management



Meticulous planning and control—from receiving the order to delivering the product—prevents losses.

suppliers must be able to provide, to delivery periods for new production machinery. A precondition for high reliability in planning is that the sales department keep a constant eye on actual demand. As Fiebig observes, “Unfortunately the job of estimating demand is left far too often to the production plants. That’s even more imprecise than a long-term weather forecast. And therefore very risky.”

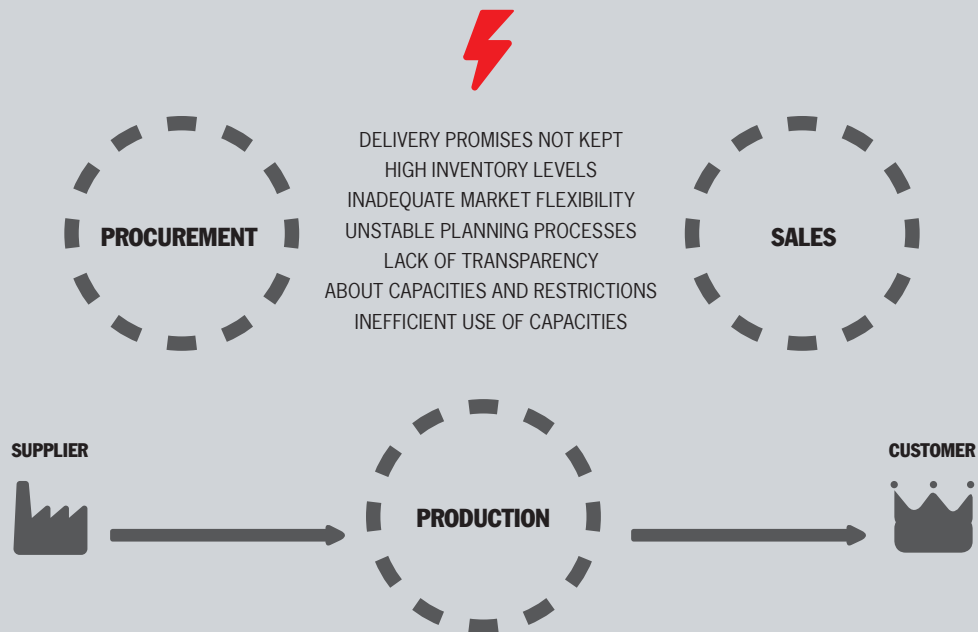
To generate reliable information about available capacities, companies first have to establish the requisite transparency. Capacity restrictions and reliable throughput times have to be known for all value streams. This also applies to lead times and the flexibility to increase or reduce capacities. They form the framework for control. In industry this is often accompanied by a necessary switch from technology-oriented production to flow-oriented production lines.

Together with the companies that it advises, Porsche Consulting specifies the planning time frame and control points for every value stream. A time frame model shows what are known as the material freeze point and the order freeze point. The material freeze point specifies in a binding manner for both the production department and suppliers when materials have to be ordered. The order freeze point fixes the production orders and their planning for the sales and production departments. The time frame model also shows the flexibility of the overall system in transparent form.

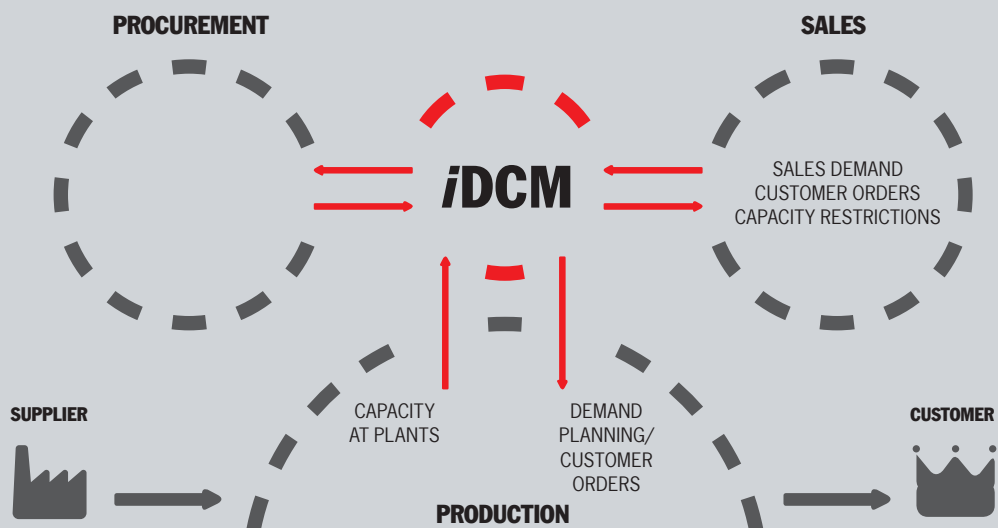
Another element of iDCM is “planning and dispatching against limited capacities.” This does not mean arbitrarily restricting market demand in order to bring production down to a “comfort zone.” Instead it functions something like a safety belt, and thus protects the entire supply chain from unchecked flooding of its capacities.

It’s equally important to closely link all the suppliers to the plants and their processes. “Clear agreements have to be made early on with suppliers about replenishment times and their range of flexibility,” says Fiebig. “Companies and suppliers have to communicate about daily or weekly capacities as well as about delivery frequencies. Ranges of fluctuation also have to be agreed upon. These show the point in time before production starts after which the purchaser can no longer make changes to the volume of goods supplied.” →

Lack of integration among departments impairs the ability to react to changing market or capacity situations

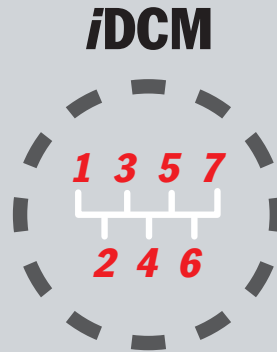


Integrated Demand-Capacity Management (iDCM) stands for foresighted and consistent synchronization of demand and capacity



Integrated Demand-Capacity Management (iDCM) comprises seven individual modules linked by interdepartmental processes

- 1** COMPREHENSIVE, UP-TO-DATE DEMAND PLANNING
- 2** TRANSPARENT CAPACITIES AND RESTRICTIONS
- 3** CONSISTENT MANAGEMENT ALONG TIME FRAMES
- 4** FINITE PLANNING AND DISPATCHING
- 5** COORDINATED INTEGRATION OF SUPPLIERS
- 6** ROLLING DEMAND/ CAPACITY ADJUSTMENT
- 7** SUSTAINABLE ANCHORING WITHIN THE ORGANIZATION



**7 SPEEDS
TO REV UP
REACTIVE
CAPACITY**

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Methodology iDCM

Rolling, standardized comparisons of demand and capacity by all the departments involved form a central module of iDCM. They reveal incipient overload and underload situations in production and in the supply chain. Thanks to this early warning system, sales, production, and procurement can solve conflict situations before it's too late. Together they agree on capacities and take them into account when dispatching orders. The result is a production program that can be put into practice. Comparing demand and capacity is something like a high-performance transmission. The right shift points are important, and also the ability to react quickly when shifting gears.

When an integrated demand and capacity management system is introduced, large-scale interventions are generally needed as well. "This system only becomes truly sustainable when the processes also take on the right organizational form," says Fiebig, who used to be a project manager for demand and capacity management in the "customer-to-customer process" at the Porsche sports car company. iDCM therefore creates new centralized organizational units out of what used to be separate functions, to which all information on demand and capacity flows. Only at such nodes can decisions be made on a rapid and interdepartmental basis, and then be put successfully into practice immediately thereafter.

"Targeted change management is very important here," says Till Friedrich, a partner at Porsche Consulting. "After all, processes are not the only things that change. The attitudes and behaviors of all the employees involved have to shift as well." In order to achieve this, Porsche Consulting has developed a special training program. It is well suited as an initial introduction to the iDCM project. It enables the positive effects of iDCM to be experienced in interdepartmental teams—on a purely playful level, of course. But it is the first step toward practical implementation. And toward plannable action that provides reliable protection against unpleasant and unnecessary surprises. ←



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driving technologies



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