

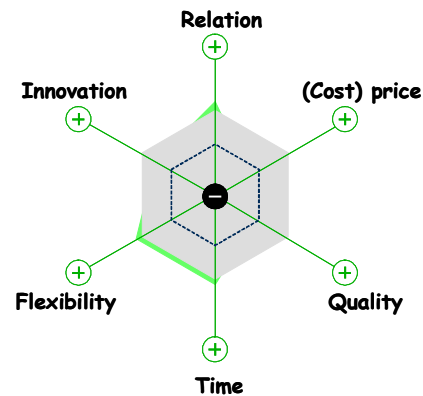
TOWARDS A WELL-BALANCED, AGILE COMPANY



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Strategy... about distinguishing yourself from the competition

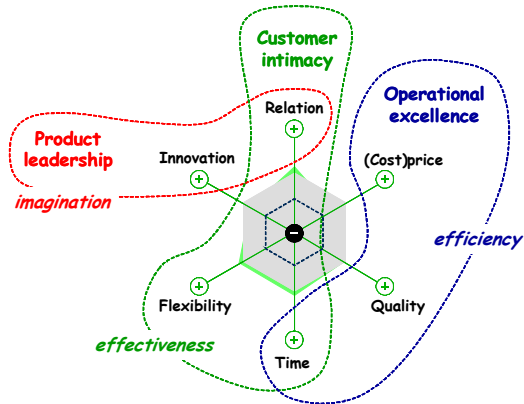
The competitive differentiators between businesses have been changing over the last 40 years (ref. Bolwijn & Kumpe). Six differentiators have been identified, which became successively important over the last decades. The **relation** between a company and its customers has always been important. In the sixties, as the post World War II scarcity was replaced by overcapacity, **cost price** became important. It is in that decade that Cost Accounting was fully developed, in order to support companies to strive for cost leadership. Then, in the seventies, businesses began to distinguish themselves on the basis of product **quality** (remember the Japanese cars?). The eighties characterized themselves through the attention for **time** (lead time, lead time reliability and time to market), an era in which the field of logistics and operations management got a lot of research and development attention as well as consulting attention. Judging from the quality and the time wave, “what the customer wanted” got more and more important. And that wasn’t the end, as in the nineties **flexibility** became important (which can be defined as the ability of a company to adjust to changing customer demands). And now, the big companies are focusing on **innovation** (which can be defined as the ability of a company to create demand and market for yet non-existing products or services). Although the importance of earlier competitive differentiators will weaken somehow with the gaining importance of a new competitive differentiator, it will still remain important. A company will have to keep performing better than the average in the industry to get high scores. Quality - once an order winner - is a good example. Nowadays, quality “just” has to be 100%, otherwise there is no sale. In a lot of industries quality turned into an order enabler. If your product quality is 100%, then the customer may put your product or service on his long list, where other characteristics will be used to select the winner.



The grey hexagon in the figure above represents all the companies that deliver about the same product or service in the same market. As long as they are “the same”, they have a grey color – just as the others. In order to distinguish yourself from the competition you must decide on which characteristic or characteristics you want to get a color, outperforming the best in class of the grey mass. In the example above the choice fell on relation, time and flexibility. It is definitely not enough to make your choice, document it in a nice (and most of the time expensive) report and then store it in your drawer for the rest of times, as is done with so many fancy strategies. You will only be successful if these choices are carefully implemented, building up the necessary knowledge and technology, mapping it to your organization, translating it into the company’s control structure, supporting it with information technology and, last but not least, incorporating it into your marketing and sales communication. As all that is pretty hard labor, it’s nearly impossible to outperform the competition on all competitive differentiators. Choices have to be made, and that’s where Porter comes in.

Strategy... making choices to distinguish yourself from the competition

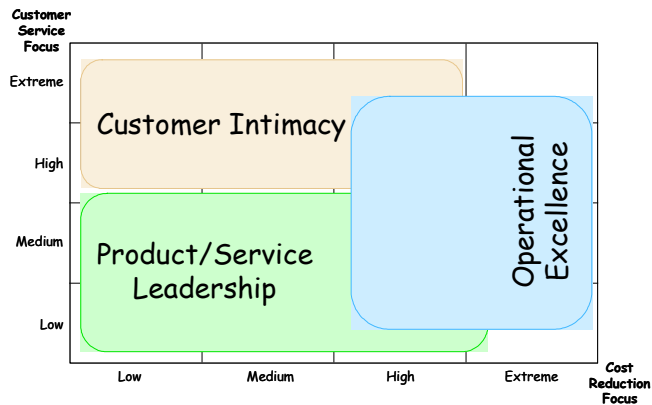
In the next figure we combine our strategic differentiator model with Porter's view on dominant strategies for companies. As to Porter there are three dominant strategies: Product leadership, Customer intimacy and Operational Excellence. When a company strives for **product leadership** (or service leadership), it has to focus heavily on its ability to identify or create new needs and its ability to develop the associated products and services. In the Relation field, such a company will probably heavily invest in marketing to make the new product known to the world. **Imagination** is the driving force behind these companies.



A company striving for **Customer intimacy** has to focus heavily on its ability to identify the changing needs of its customers and its ability to respond quickly to these changing needs. In the Relation field, they must invest in “knowing the customer”, as well as they must focus on short time to market and reliable (and maybe even short) lead times. **Effectiveness** is the driving force behind these companies.

Companies striving for **Operational excellence** have to focus on (very) low cost prices and timely delivery of their 100% quality products. **Efficiency** is the driving force behind these companies.

It is obvious that imagination, effectiveness and efficiency call for a very different business infrastructure and operations management framework. Apart from the big product leaders (such as Philips, Sony, Nokia and ASML), most companies are either Operational Excellence oriented or Customer Intimacy oriented. Operational Excellence oriented companies put high to extreme effort in **Cost Reduction**. Customer Intimacy oriented companies put high to extreme effort in **Customer Service**.

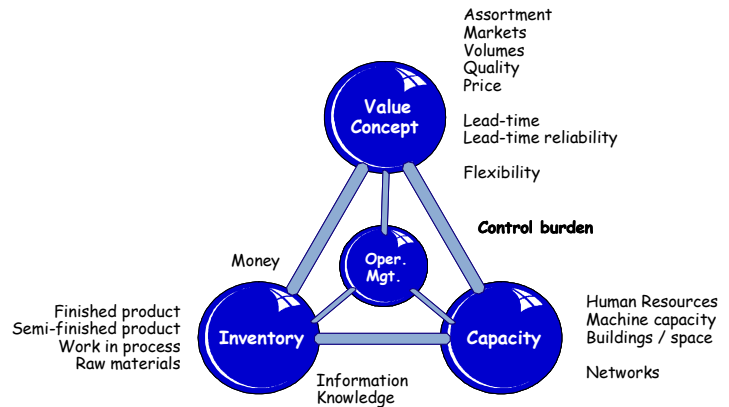


It depends on your position in the value chain whether you have to put more or less emphasis on the less dominant orientation. That is why the three strategies cover more boxes in the Customer service focus – Cost reduction focus matrix.

I am convinced that it is very hard (if not impossible) to put extreme effort simultaneously on Customer Service as well as on Cost Reduction, which would place you in the upper right corner of the matrix. On the other hand I am also convinced that there are very few companies left in the lower left corner (where one doesn't have to deliver customer service and doesn't have to watch the pennies).

Operations management in companies

Companies exist because they deliver “value” to their customers, be it as product leader, customer intimacy player or operational excellence player. The customer demand generates the companies’ income. It’s the most important part of its continuity. So management must strategically decide on the right assortment of products or services with the right quality level and price level in the various markets. Per market, they have to define the standards for lead-time and lead-time reliability. All of this taking the customers’ requests into account. We refer to these strategic decisions as defining the “Value concept”. This “value concept” represents the promises the company makes to its customers. Promises that have to be fulfilled in order to keep the customers satisfied. To deliver the promised value, a company must have capacity, inventory (stocks) and managerial ingenuity on operations management level (which we will further call “control burden”). Operations management is about making the right trade-offs and finding the optimal balance between the Value concept, the available Capacity, the necessary Inventory and the associated Control burden. This trade-off is represented in the above “balloon model”.



“Capacity” in the model exists of human resources (structured within an organization), transformation capacity (such as machines and computers), buildings, space (such as storage locations) and networks of suppliers. The “Inventory” that a company must manage may consist of finished products, semi-finished products, raw material and work in process, on different locations within the companies and kept on stock for various purposes. Not all companies have to keep inventories of physical goods, but they all have to manage a stock of funds (treasury management), information (such as marketing intelligence) and knowledge (knowledge management). The balancing of the value concept (also referred to as customer service), capacity and stocks on strategically, tactical and operational level is an important goal of operations management. The effort needed to carry out this balancing is referred to as “control burden”. But why did we depict it as a balloon model?

Well, as to us, the balloons Value concept, Capacity, Inventory and Control burden are heavily interconnected, as communicating vessels. If one as such increases the pressure in one balloon, this will influence the pressure in one or more of the connected balloons. To prove our assumption just suppose a company needs to deliver products “off the shelf”, meaning that the customer expects to get his product instantaneously (zero lead time). Then suppose the company doesn’t have finished goods on stock, yet it wants to live up to its promises. In that case this company just needs infinitely fast capacity to meet the customers’ expectations, which we at least have never seen. As companies do not have infinitely fast capacity, management will always have to make a trade-off between what the company promises as due-date (lead time and lead time reliability), what capacity they have or want to have available, how much stock they want (or have) to carry and how much effort they want to put in managing these trade-offs and the effects of these trade-offs.

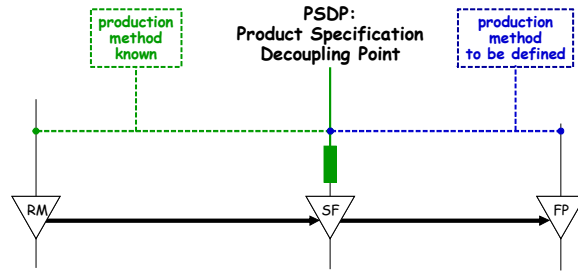
We already mentioned the need for managerial ingenuity on operations management level. A lot of concepts have already been worked out in order to achieve high efficiency or high effectiveness (we will not focus on “imagination” in this article). The “Decoupling Point Theory” is a key to understanding the difference between both.

Decoupling points

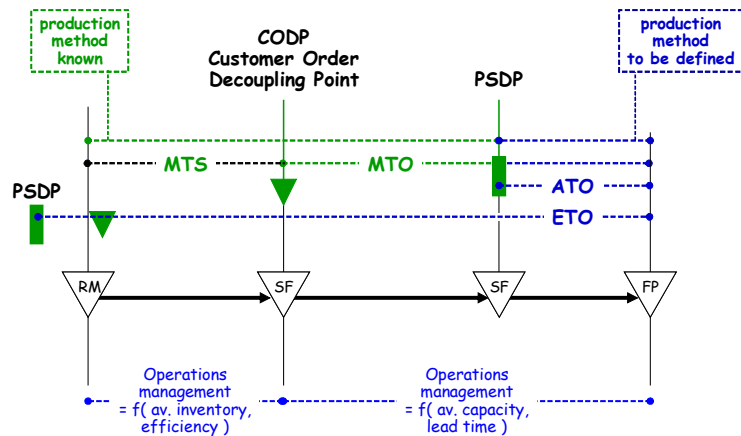
In order to understand the difference between the efficiency focus and the effectiveness focus, we first introduce the **“Product Specification Decoupling Point”** (PSDP). The PSDP specifies which parts of the bill of material and the routing can be influenced by the customer, at the moment he places the order. For standard products (such as a ballpoint

or a snow shovel), the specification cannot be changed by the customer, putting the PSDP at end product level. For products that are specifically engineered for a customer (such as an oil platform), the PSDP may be completely upstream, even before the raw material level. Nowadays it is also possible for end consumers to configure products to your own needs (for instance a Dell computer), an evolution influenced by the broad introduction of the Internet. For configurable products (so called assemble-to-order products), the PSDP is somewhere in between the end product level and the raw material level.

The exact place of the PSDP is important for operations management purposes, as the production method (product structure, raw materials and operations structure) is completely known upstream of the PSDP at the moment the customer orders the product. This may not be so for the production method downstream the PSDP, as this depends on what the customer actually orders.

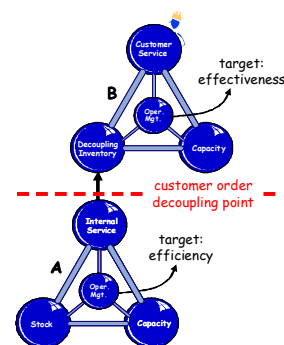


The second decoupling point is the **“Customer Order Decoupling Point”** (CODP). The CODP is the location in the bill of material or routing from where the company produces on customer order. Upstream the CODP, the decision to start the production of products is influenced by the available inventory and the efficiency levels that are needed to make profit. The quantities may be based on a forecast, controlled by statistical inventory control mechanisms or directly set by managerial decisions. Operations management will focus heavily on efficiency upstream the CODP.



Downstream the CODP, the decision to start the production of products is directly influenced by the requested delivery date of the customer order, the available capacity and the needed lead time. The quantities are derived from the customer orders. The level of uncertainty is much higher downstream the CODP than upstream the CODP. Therefore operations management will focus on effectiveness downstream the CODP (making sure that the ordered products are delivered on time with as low extra cost as possible).

The CODP can be put anywhere in the bill of material or routing, be it not downstream of the PSDP (as one wouldn't know what to make).



The combination of the Customer Order Decoupling Point and the Product Specification Decoupling Point allows us to distinguish four major **logistics control types**: **Make To Stock** (MTS), **Make To Order** (MTO), **Assemble To Order** (ATO) and **Engineer To Order** (ETO).

MTS and MTO products are located upstream of the PSDP. Their product structure, raw materials and operations structure are already known before a customer places an order.

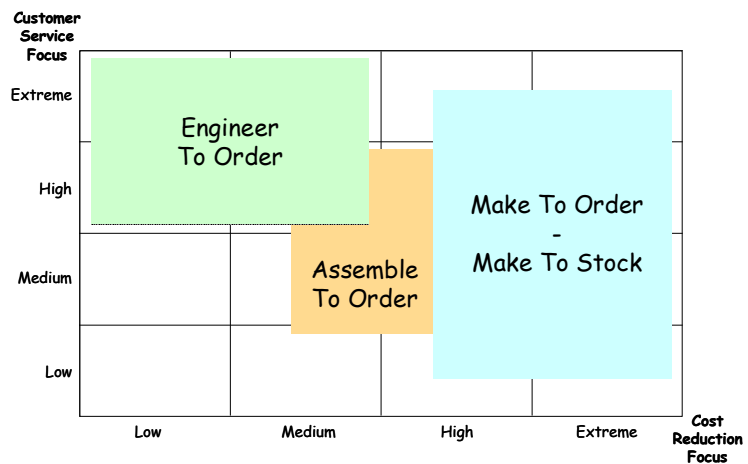
MTS is the only one upstream of the CODP. As the product and production specification as well as the initiative to start production are completely controlled by the company, MTS products can be used to guarantee a high efficiency (both on material use as on capacity use). This is also the case for MTO products with a customer order lead time that is significantly longer than the production lead time. These customer orders can be incorporated in the MTS planning.

Actually these are the only mechanism that can guarantee a high efficiency. The major reason is that there is practically no uncertainty in the production planning, as the customer doesn't influence that part of the production. Consequently capacities can be sized to be loaded up to the maximum, while operations management determines the production batches and sequences on the basis of available inventory and required machine efficiency.

ATO and ETO are the mechanisms that are used downstream of the PSDP. ETO is a special case, as the PSDP is (by definition) upstream of the CODP. As the end products are not known before the customer specifies them, they will highly probably not be on stock.

ATO products are assembled on order, from available components that can already be on stock (e.g. produced as MTS products). Operations management determines the production batches and sequences for ATO and ETO production orders on the basis of available capacity and acknowledged lead time. Lead time reliability is a very important key performance indicator for effectiveness, which is heavily influenced by the available capacity.

The described logistic control types are plotted in the Customer Service focus / Cost Reduction focus matrix in the adjacent figure.



Up to a “well balanced” company

In order to “balance” a company, four strategic questions must be answered.

The first question is “What level of customer service do we strategically want to deliver (or do we have to deliver)?” Keep in mind that the market development is the driver for this question, an environment where change seems to be the only constant.

The second question is “What capacities do we want to deploy (and can we deploy) to deliver the requested customer service?” Given the constantly changing market environment it is appropriate to install agile capacities, able to anticipate these changes.

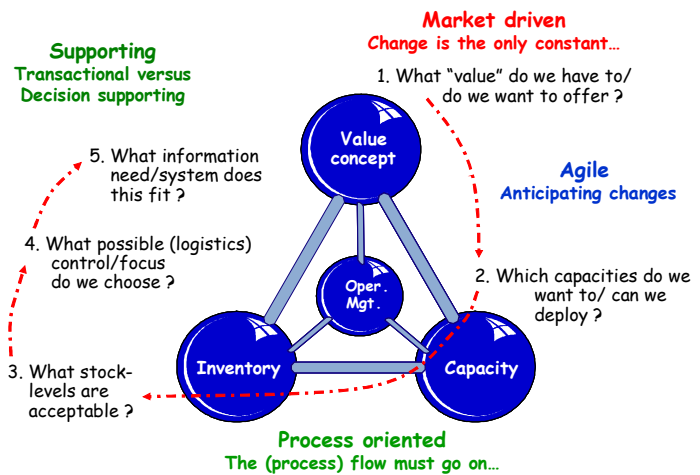
The third question is “What stock levels are acceptable?” The needed stock level is a derivative of the choices made regarding customer service and capacity.

Then the fourth question “What logistic control concept are we going to put in place?” comes up. Based on the characteristics of the requested customer service and the characteristics of the companies’ capacities, the management must make a choice for a specific logistic control concept (due date oriented, capacity oriented or material complexity oriented, with a combination of the described logistical control types).

When all four questions are answered, one can focus on the information support question, based on the information needs of the renewed logistic control concept.

It is important to recognize that the combination of requested customer service, the characteristics of the capacities and the chosen logistics control concept also determine a minimum stock level. When less stock is kept, the company probably cannot deliver the requested customer service.

Suppose a company has a specific type of machines at its disposal. The machines have a very high yield in pieces per hour, but need significant set-up times. In order to be efficient, production has to make as large batches as possible. When the customer only wants to buy small quantities on a regular base, the company inevitably will have to carry stock. Rigorously eliminating stock will lower the customer service level in this case. The only way to reduce inventory here can come from altering production capacity (invest in set-up time reduction) or altering the deals we make with the customer (e.g. increase the lead time to the customer, allowing to collect customer orders for the same product until an efficient batch size is reached). These choices are not evident. It might be cheaper to hold stock than to alter the capacity structure. It might turn out cheaper to keep overcapacity than to coordinate the company using complex logistical planning and control. The costs and revenues of each alternative have to be calculated. The optimal trade-off is the one that yields the most cash flow on the long term. A “well balanced company” has made such an optimal trade-off between customer service, capacity, stock level and control burden, in terms of total company income and expenses. The goal of this trade-off is to maximize the long-term cash flow surplus or “Economic Value Added” of the company.



And up to an “agile” company

Being a well-balanced company is not yet a guarantee for being an “agile company”. A constantly changing environment characterized the last decades, resulting in an increased pressure on the Value concept. The growing competition increases pressure on sales prices. More and more the customers define the product characteristics, the quality and the price they are willing to pay for it. Unlike before, where price and quality were notorious “order winners”, these days the prices of the competition are comparable and quality “just has to be” 100% in most cases. And therefore companies are looking for new “order winners”, many of them being involved in projects on lead-time reliability improvement, lead-time reduction and flexibility improvement.

Agile companies are constantly monitoring the changing requirements and their own performance. They have a capacity and logistical control structure that can easily be altered, whenever the changing requirements call for it. Agile companies have multi-disciplinary work forces and give a lot of attention to permanent education (knowledge management and change management). They have invested in flexible machinery (fast set-up). And most important, information is made readily available, transferred quickly throughout the company and is being well managed.

Their competitive edge to other companies is that they can quickly anticipate on changes, in an economically sensible way.



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