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# NO-FRILLS PRODUCTS

Achieving profitability  
in low-price segments

BTM Center  
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2020



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## **No-frills Products**

### **Achieving profitability in low-price segments**

In this booklet, we discuss how companies can successfully deal with the global increasing in demand for low-priced industrial products. We describe ways to adjust a company's technologies and costs for this demand and which obstacles need to be surmounted during this process. In this context, we show different approaches to both product development and the design of business models. We demonstrate the impact that low-priced industrial products have on a company's sales channels and analyze the pros and cons about whether these products should be promoted under a company's umbrella brand or separately. Finally, we discuss the influence of no-frills or low-priced products on a company's organizational structure.

## NO-FRILLS FOR INDUSTRIAL PRODUCTS

Airbus and Boeing have enjoyed an almost utopian era. Thanks to an increase in air travel, the demand for passenger aircraft has grown in recent decades. In the past, airline customers only had two aircraft options in the attractive 150-seat passenger jet segment: the Airbus A320 and the Boeing 737. With a unit price of around \$100 million, both manufacturers have made high profits with their aircraft. Customers have to wait up to five years for delivery. But those times may soon be over. In addition to the technical problems of Boeing's new model 737 MAX in 2019 and a drop of demand due to Covid-19 in 2020, both suppliers will have to deal with a new competitor from China. On May 5, 2017, the Chinese aircraft manufacturer COMAC launched the first flight of its C919 model. The C919 has a similar seating capacity as the Boeing 737 and the Airbus A320, and it is scheduled to be available in 2022. The price per plane is around \$50 million – half of what Boeing and Airbus charge.

In August 2018, COMAC already had more than 1,000 orders and purchase options for the C919. Yet, as attractive as the price of this aircraft is, it does not distinguish itself for its above-average quality and technical innovation. It is not an advanced premium product. Industry experts mock the C919 because it is equipped with last-generation engines, although this does not bother COMAC's price-sensitive target customers in China and Africa in the least. They consider the C919 to be "good enough."



Figure 3.1: The C919 during takeoff in Shanghai

This trend in the passenger aircraft market has been apparent in several other industries in recent decades. The changes have been particularly prevalent in mechanical engineering, but they are also occurring in sectors handling trucks, fire protection devices, intraocular lenses, and combine harvesters. Under these change scenarios, new competitors have challenged premium product manufacturers by launching significantly less-expensive offerings on the market. This has been driven by the economic rise of numerous emerging and developing countries, as well as the increased demand for inexpensive products. Focusing on consumer goods, economist C.K. Prahalad started a discussion at the beginning of this century about these new business growth opportunities, as well as the differences in product requirements, using the term “Bottom of the Pyramid.”<sup>1</sup>

To date, the majority of new, price-aggressive competitors has prevailed in environments with the greatest development needs. These competitors come from emerging and developing countries, and they target customers in their respective home markets. Most of these low-price suppliers cannot sustain themselves over the long term, although some of them have been successful. Thanks to their regional focus, low-price suppliers in China and India have even evolved to become top-selling suppliers worldwide. Among these players are the truck manufacturers Dongfeng and Tata Motors.

Once new competitors succeed in exporting their inexpensive products to other emerging and developing countries, they reach the next growth stage. The most ambitious among them are pursuing another strategy: They want to penetrate premium market segments. In Booklet 2, we presented ZPMC, the Shanghai-based company that entered the container crane market in 1992. Initially, ZPMC simply copied the spare parts of established manufacturers such as Liebherr and Terex. It then used the cost advantages that existed in China at the time. ZPMC reinvested its profits into R&D until it could build complete cranes and enter the market with its own innovations. One of these new products was the “double container crane,” and it was very successful. The innovation allowed port operators, for the first time, to move two containers simultaneously with only one crane. With this product, ZPMC has found a permanent position in the largest ports of Europe and North America.

Western industrial companies have often faced rising Asian competitors with a mixture of arrogance and helplessness. At first, companies mocked Asian products for their supposedly inferior quality. Later, these same critics accepted the new competitors’ above-average growth as inevitable. It is hard to find anyone who shares this mindset today. Now, many established industrial companies are standing up to their new rivals from a position of competitive strength. In other words, these companies have

developed needs-based products for markets in emerging and developing countries, where they can enjoy both location and cost advantages.<sup>2</sup>

Since 2009, for example, Siemens has sold inexpensive fire alarms under the name “Siemens Cerberus ECO” in the building services engineering market.<sup>3</sup> Siemens originally sold these devices for around €22 in China under the premium brand “Siemens Sinteso.” Yet, customers in China’s rapidly growing cities were only willing to pay a third of this price. Regional suppliers filled the demand for low-price fire detectors until Siemens entered this customer segment. Siemens had already embraced a companywide vision of entering low-price markets by the turn of the millennium and began this journey by conducting a cross-market study, which segmented customers worldwide according to their willingness to pay. Segments with a very high willingness to pay were designated “M1.” Those with a very low willingness to pay were designated “M4.” By examining the markets and Siemens’ position in them, it became clear that the company only had a presence in the M1 and M2 segments. This was in spite of the fact that the greater share of worldwide growth was happening in the M3 and M4 segments.

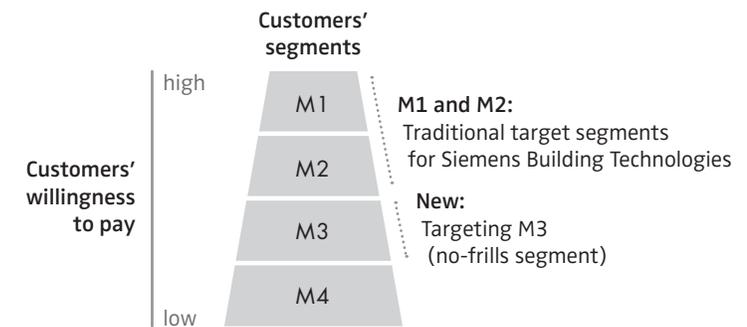


Figure 3.2: Siemens market segmentation based on customers’ willingness to pay

Today, Siemens Cerberus Eco is just one of more than 200 products that the company uses to target M3 customer segments.<sup>4</sup> Siemens’ competitor GE has similarly expanded its offering. The portable electrocardiograph MAC 400 became particularly well-known in this context. The price was one-third of GE’s premium equipment and was particularly attractive to rural doctors in India.

Now, medium-sized companies from Europe and North America are targeting price-sensitive customers in emerging and developing countries with affordable products. One example is the company Trumpf, which is mentioned in Booklet 2. This premium manufacturer of machine tools is the global market leader in high-quality laser machines. In order to benefit from the growth in its industry's no-frills segments, the company acquired Chinese machine manufacturer JFY in 2013. With Trumpf's help, JFY is not only active in China today, but also in markets outside of China. The same applies to Kion, the world's second-largest manufacturer of forklifts after Toyota. Kion acquired Chinese forklift supplier Baoli in 2010 and Indian manufacturer Voltas a year later. These forklifts belong to the same weight class as Kion's premium brands Linde and Still. Yet, they cost only half as much.

Unlike Trumpf and Kion, which entered no-frills product markets by acquiring companies in emerging and developing countries, Körber has leveraged its own resources to achieve growth in this area. Körber is the world's market leader in machines for cigarette production. To expand its portfolio, the group initially bought Fabio Perini, an Italian premium manufacturer of paper- and tissue-processing machines, in 1993. Fabio Perini had a strong market position. New competitors had emerged there to address the Chinese market's growing demand for tissue. Among these competitors were Baosuo, DCY, and OK Machinery Manufacturing in Guangzhou. They focused on offering tissue-manufacturing machines that were less sophisticated but much more affordable. Körber founded the company Sheer in China in 2017. Sheer not only started a price war with its products in no-frills customer segments, but it also located its production facilities in the immediate vicinity of OK in Guangzhou. Furthermore, they did not hesitate to entice employees away from its Chinese competitors.

We have applied the classification "no-frills products" to Sheer machines, Siemens fire alarms, GE electrocardiographs, JFY machines, and Voltas and Baoli forklifts. We define the term in the following way:

- No-frills products reliably meet fundamental customer needs. They provide the basic functionality of advanced premium products, but they do so without including non-essential product features.
- No-frills products offer customers a price advantage of at least 50 percent.

Established industrial companies usually pursue the strategy of no-frills products for four reasons:

1. Pursuing sales growth
2. Achieving profits
3. Creating market-entry barriers to competitors
4. Creating sales and cost synergies

For many top managers of industrial companies, sales growth is the most important goal. Strong global growth in low-price segments make these markets very attractive. Managers can use this strategy to develop completely new customer groups. Consider GE and its electrocardiograph in the previous example. This product made it possible for doctors in poorer parts of India to buy these types of devices for the first time.

Sales growth opportunities are particularly attractive when no-frills products are marketed globally. Mettler Toledo, a manufacturer of precision laboratory balances and scales, is a good example of this. The company initially developed no-frills products for the Chinese market. Now it offers them worldwide as an inexpensive alternative to its premium products in industrialized countries. The literature refers to this phenomenon as "reverse glocalization."<sup>5</sup> The potential demand for no-frills products is enormous. Yet, there are hardly any examples of established industrial companies that generate more sales with them than with their premium products. In spite of successful market launches and good growth rates across numerous countries, for example, Siemens earns less than a quarter of its total sales with no-frills products. This includes the Siemens Cerberus ECO fire alarm, which is part of its Building Technologies segment.

Making profits is just as important as achieving sales growth. Established industrial companies therefore find managing no-frills products to be more difficult than the companies that have built their businesses with this strategy. A well-known example of this comes from commercial aviation. For many years, Ryanair's low-price flights within Europe were more profitable than those of more expensive airlines such as Lufthansa and British Airways. Although these carriers launched their own no-frills airline brands, including Germanwings and Go Fly, they could not achieve the same profitability as Ryanair. As a result, in 2019 Lufthansa started the process of phasing out Germanwings. In the meantime, British Airways sold Go Fly to no-frills competitor EasyJet. These two case examples illustrate why strategic realignments should not be frustrated by short-term failures. Indeed, even premium companies can adjust to price-

sensitive customer segments over time. Both British Airways and Lufthansa, for example, have learned from their experience. They are now successfully offering cheap flights within their group, albeit no longer under their previous no-frills brands. At the same time, the annual results of both groups have improved between 2010 and 2019. By contrast, Ryanair's profitability has declined during the same period.

Even if profits and sales growth do not increase significantly over the long term, premium companies may have other good reasons to offer no-frills products. It was this very insight that guided Siemens Building Technology CEO Johannes Milde. He led the market launch of the low-price fire detector Siemens Cerberus ECO in 2007. On the one hand, Milde saw that new Chinese competitors were succeeding in the very inexpensive, rapidly growing M3 customer segments that Siemens had not yet addressed. On the other hand, he found that a number of these new competitors made high profits in spite of low prices. As in our previous case example of ZPMC, Milde assumed that some of these competitors would use profits to improve their innovation capabilities and product quality. Sooner or later, Milde feared that they would be in a position to move into those premium segments that were earning Siemens reasonably adequate profits. As a result, Siemens entered the price-sensitive M3 segments with Siemens Cerberus ECO and exerted price pressure on its Chinese competitors. Consequently, they were forced to lower their prices, could no longer make high profits, and had fewer funds to invest in R&D.

Milde summarized the strategic logic as follows: "I would rather make life difficult for the new competitors in their M3 market segments before they make life difficult for me in our M1 segments." Milde strategically used the market launch of no-frills products to make it more difficult for new competitors with lower-quality products to access premium market segments. From his perspective, profit and sales growth played a less significant role. Because no-frills products earned relatively low profit margins, high sales turnover would not have helped the overall profitability of this business segment. Other established building technology companies, such as Schneider, United Technology, and Honeywell, have operated in a similar way. To date, none of the new competitors' products from emerging and developing countries have managed to take a leading position in the global market for building technology.

For established industrial companies, entry into no-frills products offers the opportunity to achieve synergy effects that new competitors cannot achieve; for example, they can achieve price advantages by purchasing larger quantities. This, in turn, has a positive impact on the budgets of no-frills products as well as higher-quality products. In addition, established players can leverage existing business relationships with those customers who need both premium and no-frills products. This is particularly true

when companies use the same corporate brand name for both premium and no-frills segments, just as Siemens is doing with Siemens Cerberus ECO and GE with their MAC 400 electrocardiograph devices. These synergy advantages are nonetheless offset by risks. We take a closer look at this dynamic in Booklet 5.

## DEFINING THE OFFER

The decision on whether or not to pursue a no-frills product strategy – and if so, how – begins with a needs analysis. Potential customers' price sensitivity must be weighed against product benefits, as well as the customer segment's regional distribution. The combined analysis of a region's competitive, legal, and social landscape can help managers determine whether or not market entry is worthwhile. No-frills strategies typically focus on fast-growth markets in emerging and developing countries. Yet, the example of low-price airlines demonstrates that there is a corresponding need in industrialized countries. Both aspects should be included in the needs analysis.

Furthermore, premium suppliers should avoid contacting existing customers as part of the analysis. This is standard practice in the market research activities of many industrial companies. Consider the example of when GE wanted to address high-growth, no-frills customer segments for electrocardiographs in the Indian market; it would have made little sense to speak to representatives of India's major metropolitan hospitals because these organizations were already working with GE. It was much more important to engage rural doctors and heads of small rural medical centers – the very people who are responsible for supplying the majority of the population. This segment's needs are driven by a special set of essential requirements. Healthcare delivery logistics is a prime example. In India, many patients lack a means of transport and cannot travel to the doctor. As a result, physicians typically travel to patients. This, in turn, affects training standards, hygienic conditions, and financing options.

In addition to providing regional focus, the needs analysis delivers an important baseline for the technical design of no-frills products. Two distinct conceptual approaches are available. The first option is to use an existing product platform. Alternatively, new products can be developed from scratch. The first option can be broken down into further variations. A no-frills product, for example, could be built on "mature technology" by leveraging the product platforms of previous generations. Alternatively, companies can remove specific features from an existing premium product (i.e., "defeatured premiums"). In many cases, however, the more promising route is to actually develop innovative products that specifically address the needs of price-sensitive customers. For these scenarios, the term "frugal innovations" is used, which can include new products. Alternatively, companies can achieve price and cost

advantages with process innovation. Today, the use of digital technologies is particularly important in this area. The following figure shows the different approaches for developing a no-frills product range.

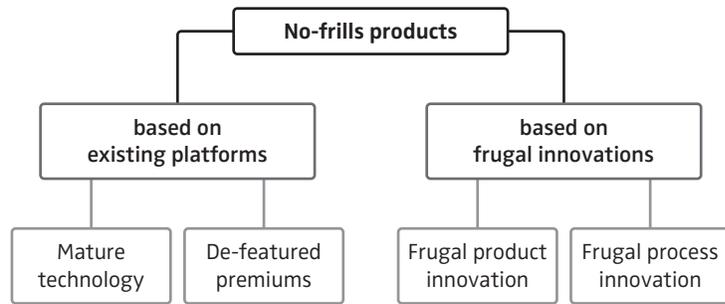


Figure 3.3: Development approaches for no-frills products

Businesses can pursue a “mature technology” strategy in two ways. On the one hand, they can relaunch production. Alternatively, existing products can be remarketed. The latter involves selling used products – a sector that is rarely featured in media reports or scientific studies. This market has nonetheless grown in relevance because of the numerous new production companies in Asia’s growth markets. In the mechanical engineering sector alone, global sales volumes for second- or third-hand equipment are estimated to be over €100 billion annually. Trade fairs such as USETEC in Germany, the International Fair for Used & Used Machinery in Spain, and the Used Machinery Expo in India are very popular. In addition, internet-based trading platforms are increasingly popular. Machineseeker, for example, offers customers a selection of more than 200,000 different machines. Dealers are not the only players who are responding to the high demand for inexpensive, used machines; manufacturers have also become increasingly active in this market. This is why DMG Mori, a premium manufacturer of CNC lathes, describes itself as the world’s largest supplier of used machines in this product category.

Another way to meet the demand for no-frills products with mature technology is to relaunch the production of older, less technologically complex products. A good example in the heavy vehicle sector is the legendary Mercedes short-nose truck. It is still considered the epitome of toughness in truck design. Introduced in Western Europe in the 1950s, these trucks were subsequently taken off the market there in the

1970s. While new models were being launched in Western markets, modified versions of the truck continued to be produced in developing and emerging countries until the end of last century. This classic truck, with its robust technical design, still turns up occasionally in these regions.



Figure 3.4: The Mercedes short-nose truck

Like other sectors, older truck models are often manufactured in cooperation with a partner company in a related target market. As early as the beginning of the 1960s, Tata was already manufacturing Mercedes trucks in India. The company later marketed only slightly modified versions of these models under its own name. In this type of collaboration, the premium product supplier provides pre-manufactured, CKD (completely knocked down) components as parts sets for subsequent assembly. In some cases, the partner company is granted a license to manufacture the parts. MAN – one of Mercedes’ competitors in the truck market – granted licenses for several hundred million euros to leading Chinese heavy goods vehicle manufacturers to build cabins, motors, and axles.

Another approach is to deliberately opt out of keeping pace with technological progress altogether in terms of product design. In 2010, Ron Adner and Daniel Snow published an article about this “bold retreat strategy.”<sup>6</sup> They offered the poignant example of clock and watch manufacturers who, at the beginning of the 1970s, decided not to embrace the advanced technology of quartz and digital models. Instead, they continued to produce mechanical timepieces. For some of them, such as A. Lange & Söhne and

Piaget, this product positioning has proven to be extremely profitable to this day. There is, however, no known example of a “bold retreat” among Western quality leaders in technology-oriented B2B markets. This approach would conflict with these companies’ self-image. Companies such as Siemens or GE would have little to gain from launching steam locomotives in today’s railroad marketplace. One important reason is that customers are not emotionally invested in the decision-making process for these goods in the way that they are for B2C products.

Defeatured premiums are another way for established industrial companies to address the demand for no-frills products. At first glance, this approach seems obvious. Quality leaders reduce the amount of performance features available for existing products and then sell pared-down versions at a lower price. The B2C watchmaker Cartier, for example, is just one of a number of companies that brings new models onto the market each year. Cartier makes watch casings out of solid gold. For customers who cannot afford such a timepiece, Cartier offers models that are gold-plated or made of steel. These cost up to 60 percent less. Many B2B customers who buy technical products in emerging countries expect different price levels. Applying a defeatured premium concept to B2B products is, however, more complex than simply deciding whether to gold-plate a watch or not.

The price reduction process is straightforward when the related parts do not define a product’s technical core. That is the reason manufacturers of high-quality railway trains, such as Alstom, are able to fit lower-grade seats and floor coverings into passenger car interiors. Certain performance features can be pared back in the after-sales sector. Indeed, it has been standard practice for some time now for technology companies to offer differing levels of service. That is the case with XIAMETER, a low-price silicone product from the US chemical company Dow Chemical. The company had been in this market for decades, producing and delivering silicones to fit customers-specific requirements. Dow Chemical’s industry-specific specialists also provided consulting, even for small orders. When new competitors significantly increased price pressure in the silicone market, the company responded by launching XIAMETER. In this case, consulting was eliminated. Customers could only buy large quantities over the internet, and Dow Chemical set the delivery times. The company achieved market success with this offering, although the price advantages derived from the reduction in services only amounted to 15 percent. Under our definition, this does not constitute a no-frills product.

Siemens has had similar experiences with defeaturing premiums in the healthcare sector. In China, the company developed magnetic resonance imaging (MRI) devices for its ESSENZA product range, which was mainly based on premium product technology.

The Chinese machines look similar at first glance, but they have a more limited spectrum. They offer a smaller range of options for diagnostic examinations, for example. At the same time, the related price and costs are lower than those for the premium products. In order to stay within the narrow cost parameters, the company’s China strategy focuses on achieving savings with external features such as plastic machine housings and other core technical elements. The long, fixed spine arrays required for spinal examinations, for example, have been shortened and fixed to the machine to save space. In addition, the number of separate computing units that are typically fitted to a superconducting MRI was reduced from three to two. Engineers had to integrate some of the third unit’s specific functions into the remaining two. This required a new design. Even though the machines’ features are more limited, Siemens had to further develop core technical elements to guarantee their functionality. This – and the related approval processes – took almost four years. As a result, premium product costs were significantly reduced in this case, but not by more than 50 percent.



Figure 3.5: Left: premium MRT from Siemens. Right: ESSENZA MRT from Siemens

The Alstom, Dow Chemical, and Siemens case examples mentioned above suggest that it is difficult in industrial markets to use defeatured premiums to achieve a cost advantage of more than 50 percent. There is also the risk that the defeatured products will not meet no-frills customers’ specific needs, and that more innovative solutions will be required. This brings us back to the GE MAC 400 electrocardiograph for the Indian market. It was an innovation, if only for the fact that it was a portable device. This gave the MAC 400 new utilization characteristics, making it less expensive and better than existing premium products within the target group. In this context, we

speak of frugal innovation. In the business literature, it often appears under the term “more for less.”<sup>7</sup> Unlike some analysts, we do not believe that sustainability is a definition criterion for this category. Frugal innovations may nonetheless achieve environmental goals by consuming less energy and fewer materials.

Products in the consumer goods sector were initially referred to as “frugal.” The word derives from the Latin *frugalis*, meaning usable, modest, or economical. An often-cited example is the practice of the NGO One Dollar Glasses. Local individuals can execute the organization’s eyewear design concept in the poorest countries of the world without expensive equipment and materials. Similarly, anyone can assemble and operate India’s small clay refrigerator, MittiCool, without electricity. These examples demonstrate how frugal innovation frequently refers to small suppliers – often private individuals – who create new solutions that require very modest means and skills for people in developing countries. The ingenuity of these innovations lies in their simplicity. The economist Ernst Friedrich Schumacher’s famous aphorism, which is often attributed to Albert Einstein, perfectly captures this idea: “Any fool can make things bigger, more complex, and more violent. It takes a touch of genius – and a lot of courage – to move in the opposite direction.”<sup>8</sup>

Nevertheless, the rich variety of frugal innovations should not be limited to emerging and developing countries. According to our definition, it also includes SpaceX, the space company owned by the American billionaire Elon Musk. Thanks to an innovative product concept that focuses on the Falcon 9 launchers, SpaceX has managed to cut the price for space transport by more than half. Costs have been reduced even more, as Space X achieves high profit margins on each order. This example shows how difficult it is for established companies to develop no-frills products. For decades, the US National Aeronautics and Space Administration and the European Space Agency have been unsuccessful in developing cost-effective space mission offerings. Although they had more resources and more experience, they were unable to outmatch SpaceX’s innovative product concept.

Unlike one-dollar eyeglasses, clay refrigerators, or SpaceX, frugal innovations do not always have to focus on the product. These innovations can also address underlying manufacturing processes. Therefore, it is important to differentiate between frugal products and frugal process innovations. India offers an interesting example of the latter. A low-price washing machine manufacturer set out to investigate why sales suddenly began to grow in an Indian province. The company discovered that the region’s street vendors were using its machines to make Lassi, a popular Indian yogurt drink. In doing so, they were able to significantly reduce their production costs.

Today, a number of industrial companies are using modern communication and information technologies to reduce production costs significantly. Philips, for example, does this with its “Mobile Obstetrics Monitoring” telemedicine product for pregnant women in Africa. After examining patients with an ultrasound device, experts can transmit the data to a remote facility. From there, doctors can later diagnose the potential risks of the pregnancy. Only one person is required on site to operate the ultrasound device. Thanks to handling instructions, the system can even support interactive examinations. Since doctors do not need to diagnose the potential risks of a pregnancy at the patient’s location, healthcare providers achieve significant cost savings using telemedicine. Given the small number of doctors per capita in Africa, this advantage cannot be underestimated. Since the system was introduced in 2013, it has helped millions of pregnant women there. In addition to a web portal that documents patient data and helps midwives organize their work, Philips has developed an app that helps answer pregnant women’s postnatal questions. Using digital technologies, the company has developed a comprehensive solution package that incorporates an interesting combination of both no-frills products and complex service solutions. These are discussed in Booklet 4.



Figure 3.6: Diagnosis with Philips Telemedicine

This example once again illustrates that the demand for cost-effective solutions is not just limited to emerging and developing countries. Other industrialized countries are also interested in making their healthcare systems more efficient through the use of digital technologies. Philips, for example, has established a teleradiology group in the United States. Using advanced technology, images are captured on location and electronically transmitted to remote diagnostic centers. Philips not only markets the necessary technology, but also provides the healthcare professionals. In the United States alone, the company currently employs more than 100 radiologists to generate test results. Customers usually receive their results within 15 minutes after being X-rayed. In urgent cases, results can even be produced in 8 minutes – turnaround times that are rarely achieved in hospitals. This Philips offering made medical imaging processes more efficient, and the company has since expanded its traditional range of imaging device products. In doing so, it has transformed its own business model.

Compared to the first two alternatives of mature technology and defeated premiums, frugal innovations appear to be the option that requires the greatest investment. In addition, it is the most likely to lead to tensions within the company as a whole. This may be the reason why several Western technology companies have shied away from this particular path so far. On the other hand, it appears to be the most promising strategy to properly address the needs of new growth markets with a low willingness to pay and harbors considerable potential for synergy. Therefore, the following sections of this booklet focus on this option.

## **DESIGNING THE BUSINESS MODEL**

The business models for frugal innovations and premium products are very different. Each requires its own revenue logic and its own way of organizing value-creation processes. In Booklet 2, we discussed how advanced premium products generate the highest profits with after-sales services. Elevators, lathes, and trucks earn the manufacturers low profit margins. The maintenance and repair services that come later generate high profits. Suppliers try to create more or less monopolistic market structures for after-sales services. This strategy gives customers little choice but to use the supplier or an authorized, licensed third party for maintenance and repairs. These companies achieve customer loyalty, for example, by voiding product warranties if a customer buys spare parts elsewhere. Some suppliers apply the same logic by replacing a product's mechanical parts with electronic components that can only be serviced with special equipment. Software provides another opportunity to achieve high profitability in after-sales. By ensuring that the software's usability and compatibility expire over time, suppliers can force customers to switch to newer versions for a lot of money. This opens the door to competitors who want to disrupt this monopolistic

customer–supplier relationship with inexpensive maintenance and repair offerings. Established manufacturers often refer to these rivals as “pirates.”

In the case of no-frills products, revenue models geared toward after-sales services are unlikely to succeed. To begin with, the model ignores customer needs. No-frills customers do not want to depend on a supplier for maintenance and repair work. Instead, they want to be able to have their machines repaired either by their own employees or by low-price pirates. In return, customers accept the lack of a product guarantee. Thus, no-frills products rarely make sense within these types of revenue models. Once they take away the customer's ability to choose who performs product maintenance and repairs, it is the suppliers themselves who must deliver these services. A commercial vehicle manufacturer who wants to sell trucks in Mongolia, for example, would have to operate a repair station network there. That would be a high cost factor. Hence, it is more advantageous for drivers to repair their own vehicles when they break down.

Siemens did not assume maintenance responsibilities when it introduced its series of inexpensive Siemens Cerberus ECO fire alarms. It chose this business model in spite of the fact that after-sales services generated nearly half of its revenues of premium products. On the one hand, no-frills products require less maintenance than the complex fire protection systems, which are embedded in premium products. On the other hand, Siemens operates its own branches in China's major cities, but not in medium-sized cities, although that is where Siemens expects the greatest growth potential. For this reason, Siemens looked for trading partners in these locations who could work with customers before and after purchase. This, in turn, freed Siemens up to focus on product development and manufacturing.

For this reason, Siemens not only redesigned its no-frills product revenue model, but also its entire value-creation process. In addition to working with new customers, the company engaged new suppliers, distributors, and cooperation partners. Each played different roles than those required for premium products. In short, Siemens built a completely new value-creation ecosystem. For the numerous industrial companies that have focused exclusively on premium products in the past, this approach is likely to make sense. If this approach is pursued, one of the key strategic questions is whether suppliers should enter no-frills markets through acquisitions. Alternatively, companies can pursue no-frills opportunities through those organic growth or strategic partnerships that leverage core value-creation processes.

The latter option is best suited for industrial companies with little no-frills market experience. This scenario allows them to leverage the expertise and relationships of a

local partner without investing too much. By contrast, company acquisitions are much more expensive. They pose a bad investment risk if the acquired company's strengths and weaknesses were misjudged prior to purchase. However, when acquiring a company, the buyer can act more independently – an advantage that exists with the organic growth option. One disadvantage of growing organically is that it takes more time. There is also a greater risk of making incorrect operational decisions due to the premium company's lack of relevant expertise.

The success of the three options – organic growth, strategic partnership, and corporate acquisition – depends on too many individual regulations and variables to draw any general recommendations. The following matrix gives a rough overview of the main advantages and disadvantages.

	Corporate acquisition	Strategic partnership	Building own resources
Time required	low	low	high
Investment required	high	low	high
Exercise individual influence	medium	low	high

Figure 3.7: Matrix illustrating the major advantages and disadvantages of no-frills market-entry options

Under a strategic partnership scenario, several established industrial companies choose to partner with a company that is already active in no-frills markets. They work closely together with this strategic partner on essential value-creation processes and share the economic rewards. The participants pursue this cooperative relationship, in part, as a formally established joint venture. Initial hopes, however, are often followed by a phase of disillusionment. Conflicts frequently emerge because of regional and cultural differences. After all, the partnership consists of a company from an industrialized country and an emerging, developing country. Problems can also arise because of cultural differences between businesses, ownership structure, or premium and no-frills

products. Even a family-run delicatessen and a supermarket chain can have deep cultural differences, in spite of the fact that they are located in the same city.

Truck manufacturer MAN faced cultural-driven problems with the owner-managed company Force Motors in India. The two companies entered into a joint venture in 2006, and MAN intended to produce a new vehicle in India together with this new partner. For the established truck maker, the cooperation was designed to be a successful first step in entering the no-frills truck market. Force Motors agreed to assume sales responsibilities in India; MAN played this role in other emerging and developing countries. Disagreements between the partners arose fairly quickly, particularly because of disappointing earnings. In addition, MAN feared damage to its own reputation across markets because of the vehicles' unexpected quality issues. To reduce its dependency on Force Motors, MAN took over this business area in 2011, but the parties agreed to continue working in parallel with some local Force Motors ecosystem partners. In the period that followed, this resulted in conflicts with these partners, especially when they had a close relationship with the Force Motors owner. When the anticipated business success still did not materialize, MAN ended this business in India in 2018 and sold the Pithampur-based production plant to Force Motors.

As mentioned above, MAN was more successful in China. Following the mature technology approach, MAN had already been selling its engines, driver's cabins, and axles over there for decades. In 2009, MAN then acquired a 25 percent stake in the truck company Sinotruk. At the time, it was still unique for a Western and Chinese company to have this type of relationship. Subsequently, the two companies agreed to cooperate on smaller joint projects. The scope of these projects was expanded over time. In 2018, MAN reinforced the move toward cooperation when it announced a joint venture. There are several cases where the Volkswagen Group, which took over MAN in 2011, has pursued this approach with partner companies. In 2016, for example, MAN acquired almost 17 percent of the US truck manufacturer Navistar, in which MAN's leadership is currently interested in taking a majority stake. This would allow the truck maker to overcome one of the partnership model's weaknesses, namely the reduced ability to exercise individual influence.

For this reason, a number of premium suppliers are beginning to enter no-frills markets by acquiring companies that are already active there. The laser machine manufacturer Trumpf, and Kion, the forklift supplier mentioned earlier, are both examples of this trend. Even when the acquiring firm and the business units it has purchased continue to mutually cooperate, problems can emerge because of cultural differences.

To avoid these problems, some established industrial companies accept the disadvantages of organic development. They decide to pursue frugal innovation in no-frills markets without key partners or company acquisitions. This is the strategy Siemens followed with Siemens Cerberus ECO. In this case, companies first have to make a set of critical, strategic decisions. They must determine, for example, customer requirements and targets, as well as the product concept and business model. Finally, vital operational questions need to be answered. Who should develop the frugal innovations, and where? What has to be done to achieve the low manufacturing costs that are required?

## DEVELOPING AND PRODUCING FRUGAL INNOVATIONS

In general, it makes sense to have a product developed by people who are familiar with target customers' requirements. When a company enters no-frills markets in emerging and developing countries with a regional customer focus, it makes sense to involve employees who are familiar with local customs. This is one of the reasons why many Western industrial companies have developed local expertise in those countries in recent years. Because Siemens initially targeted the Chinese market, for example, it created a team of Chinese development engineers to build Siemens Cerberus ECO. GE has deployed a group of local engineers to develop its portable electrocardiograph in India. Making this kind of location decision entails cost advantages. Even if development engineer salaries in China and India have increased rapidly in recent years, they are still lower than those in industrialized countries.

Yet, managers should not overestimate the cost advantages of lower, location-specific wages. In many industrial companies, personnel expenses only make up 10 to 15 percent of total production costs. Bosch provides an interesting example in this area. In order to develop a no-frills ABS braking system for cars, the company commissioned an engineering team in Japan, a high-wage country where inexpensive motorcycle braking systems had already been developed. Engineering competence, as well as an existing ecosystem, offered Bosch an ideal environment for developing an inexpensive product for the automobile market. After all, product design has a far greater influence on costs than the location of the development team. Design determines material requirements and purchase volumes as well as the amount of investment and employee training that will be required for production.

In developing needs-based, no-frills products, engineers can draw upon a number of methods and approaches that have been widely used in recent years, particularly for digital products and services. Design thinking, which is presented in Booklet 4, is one example. When launching IT-based, no-frills products, for example, managers can

pursue open innovation opportunities. In this case, external partners are invited to contribute to the development process, for which they usually receive little or no financial compensation. The logical extension of this approach is the creation of a so-called hyper-collaboration, in which a large number of external partners collaborate in a flexible way to impact the production process.

It does not always take a team of engineers to develop inexpensive, creative solutions. The countless no-frills inventions that have been launched by individuals with modest means support this idea. The innovation community in India uses the word "Jugaad" in this context. It describes a frugal innovation development process that is based on creativity and improvisation.

In the meantime, this term has become firmly established in the specialist literature.<sup>9</sup> Some industrial companies are trying to integrate this underlying mindset into their own development processes. Philips, for example, has been operating an innovation center in Bangalore since 1996. The center's former director, Wido Menhardt, offers these insights: "There is sometimes a tendency for Western companies to over-engineer products – to make them perfect, account for all possible use cases, and make them last forever. (...) Jugaad thinking helps us focus on the essence, the real requirements, and often leads to taking the mental leap that is required for a disruptive new design or product."<sup>10</sup> Today, the Philips innovation center employs more than 2,000 development engineers.

Siemens Healthineers has almost as many employees in Bangalore. In fact, more than 400,000 employees work in this city in the development centers of foreign companies. According to *The Economist*, Bangalore ranks number one among cities that offer companies the best conditions for digital innovation development, ahead of San Francisco.<sup>11</sup>

Although new product ideas based on creativity and improvisation do not always translate well into an industrial company's mass production strategy, they nonetheless emphasize one of the key characteristics of no-frills products: They must be simple. Simplicity keeps material consumption levels low and achieves economies of scale through production standardization. This often contradicts industrial premium product strategies, in which suppliers address customers' individual preferences with a high degree of product customization. More customization, however, generates high complexity costs. In the mechanical engineering sector, this can account for up to a quarter of the costs of a product. Managers must avoid this when they deal with no-frills products. At the very least, suppliers in this area should be able to charge special prices to compensate for customizing their standard products.

The Indian hospital chain Aravind Eye Hospitals is an impressive example of how standardization enhances efficiency, in addition to India's location-driven cost advantages. The first clinic was founded in 1976 by the ophthalmologist Dr. G. Venkataswamy. His goal was to make cataract surgery affordable for poorer segments of the population. He achieved his goal. In industrialized countries, patients pay \$1,500 to \$3,000 for cataract surgery, and in conventional Indian hospitals it is about \$300. At Aravind clinics, the average price is \$50. Depending on their incomes, patients may pay up to \$300, but according to the clinic, 60 percent of patients are treated free of charge.

Despite this, Aravind Eye Hospitals are profitable: The cost per operation has been reduced to \$25; the operating time was reduced from around 30 minutes to 10. The driving force behind these efficiency improvements is consistent process standardization. Unlike other clinics, Aravind involves a larger number of employees for each procedure. By taking over all other non-medical, operation-related tasks, these employees relieve doctors – the most expensive personnel resource. This, in turn, allows physicians to focus on a procedure's core activities. At other hospitals, doctors perform about 400 operations of this type each year. At Aravind clinics, the number is 2,600. Thanks to the higher number of operations, Aravind doctors can gain more experience, which has a positive impact on procedure quality. Aravind Eye Hospitals are now the largest and most recognized clinics of their kind in the world. Today, the Indian chain consists of 14 clinics. By establishing a clinic in Nigeria in 2019, Aravind has taken its first step toward expanding abroad.



Figure 3.8: Operations at Aravind clinics

Aravind Eye Hospitals' frugal process innovation has also had an impact on other products in this market. The normally expensive intraocular lenses were manufactured by the Aravind subsidiary Aurolab. Instead of acrylic, the company uses plexiglass – a material that is less flexible and requires a larger tissue incision. The cost advantages, however, significantly outweigh potential drawbacks. Established lens manufacturers – among them Alcon in the United States and Zeiss in Germany – still work with the more expensive acrylic. At the same time, they have expanded their product range to include plexiglass lens material, some of which still costs a tenth of the premium products. Now those suppliers can successfully target the customers who are willing to pay with offers that fluctuate between Aurolab lens prices and those of premium products. China is currently the most important market for these products.

In addition to product simplicity and the standardization of manufacturing processes, supplier selection has a strong influence on manufacturing costs. In order to keep costs low, no-frills suppliers should work with partners who, in turn, operate in lower price segments and still meet quality standard requirements. With no-frills products, external suppliers can generally take a larger share of added value than they can for technically sophisticated premium products because confidentiality requirements play a smaller role. The higher a manufacturer's own production costs are, the more advantageous outsourcing is. Given the risks associated with defective or missing deliveries, industrial companies should be able to realistically assess their suppliers' performance and reliability. This is often difficult for medium-sized Western companies, which are not familiar with supplier networks in emerging and developing markets.

The cost targets for no-frills products are ambitious. The approach for achieving them can be operationalized and enhanced with a number of additional tactics. Managers should pay particular attention to overhead costs. Although ethical rules such as job security are just as important as those governing premium products, expensive office equipment and complex administrative processes do not fit the no-frills strategy. A no-frills product approach also means no frills when it comes to internal structures.

### **BRINGING NO-FRILLS PRODUCTS TO MARKET**

When it comes to organizing no-frills product distribution, achieving low overhead is an important goal. Let us take a second look at the Siemens Cerberus ECO example to understand why. China was the largest growth market for these fire protection products. This growth was strongest in the medium-sized cities outside of major cities such as Beijing and Shanghai. Siemens had already employed thousands of sales employees across the Group in China to sell its premium products. Most of these people,

however, worked in major cities. In a large country such as China, it would have been very expensive for the fire protection products division to create its very own international sales network. It also would have taken a lot of time.

Furthermore, sales staff from the major cities would have resisted being relocated to high-growth regions. This move would not have been cost-effective, either. Salaries in Beijing and Shanghai were higher than those in cities outside major metropolitan areas. In addition, these employees' relatively high salaries were based on their high qualifications – a critical ingredient for marketing Siemens premium products. The sales staff had excellent technical knowledge. They were often engineers and able to present customized product variants to customers, although this type of qualification was not necessary to sell Siemens Cerberus ECO.

As previously mentioned, no-frills products must be simple and largely standardized. The resulting products require fewer explanations. Customers, in turn, avoid having to conduct an in-depth requirements analysis, which typically leads to expensive product customization. This allows no-frills product sales staff to focus more on sales and less on customer consulting. According to the very simple marketing typology of Jagdish Sheth from the Goizueta Business School, salespeople are either hunters or farmers. Sales-oriented hunters are more suited for no-frills products, whereas farmers and their relationship-building skills are more appropriate for managing premium product marketing. The sales employee compensation schemes should reflect these differences. Consequently, no-frills products have a more variable compensation component. Final compensation is based on actual, total sales results.

The "hunting" sales approach was atypical for Siemens. It was one of the reasons why the company chose external sales partners to market Siemens Cerberus ECO. Managers sought "hunters" to sell within the target regions. An external salesforce was tasked with building relationships with new, price-sensitive target customers to whom Siemens lacked access. Sales representatives were embedded into an existing, functioning distribution system. Using their local expertise, these employees were better able to assess customer requirements, purchasing criteria, and creditworthiness of customers than Siemens. At least in the short term, choosing this indirect sales approach was more cost-effective for Siemens than building up its own sales resources. It also shortened the time-to-market entry.

To achieve lower costs, faster market access, and closer customer proximity, most Western industrial companies use external sales partners to market no-frills products in emerging and developing countries. There is another good but rarely mentioned argument for this strategy. Customer interaction, particularly with no-frills products,

often falls into a gray area when it comes to Western compliance regulations. It is better therefore to manage sales with independent distributors. In this way, the manufacturers avoid legal problems and reputation damage, even though this approach can be criticized from an ethics perspective.

For no-frills product manufacturers, the main disadvantage of indirect selling is that it provides little control over external partners' activities. This is exactly what industrial companies encounter when they want to market no-frills and premium products in the same region. They fear the effects of cannibalization if external sales partners try to sell lower-priced products to premium customers. This threat, however, is not so much a matter of incorrect sales structures as it is a lack of product differentiation. If no-frills and premium products clearly target different needs, only one of the two offers will meet customer requirements. Once there is sufficient differentiation, the two offers will not compete against one another. For some customers, on the other hand, the two product categories may actually complement one another.

With this dynamic in mind, Körber uses the same sales representatives to sell its tissue-processing machines in India, its premium products from Fabio Perini, and its inexpensive machines from Sheer. The product that customers ultimately choose depends on their needs and willingness to pay. We explain the synergy opportunities between no-frills products and premium products, as well as their related risks, in more detail in Booklet 5.

Successful companies achieve product differentiation between the two categories by using clear, visible product naming. In this context, established industrial companies have to decide whether to manage no-frills products under separate brands (second brand) or integrate them into a premium product brand family (brand stretch) or hybrid structure. The term "Siemens Cerberus ECO" is an example of the latter. In this case, the "Siemens" brand was combined with the new "Cerberus" brand.

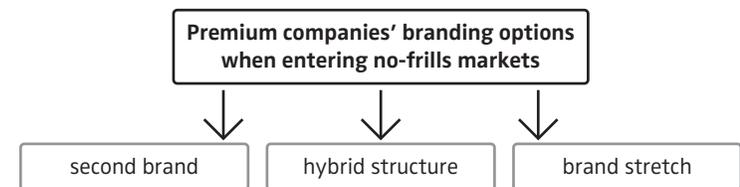


Figure 3.9: Branding opportunities for premium companies when introducing no-frills products

Inside established industrial companies, the very idea of using an existing premium brand for no-frills products frequently becomes a topic of heated debate. Emotions run particularly high when the established brand is closely connected to the company's history. Opponents' main argument is that integrating no-frills products threatens to damage the premium brand name. Behind this rationale is the fear that a no-frills engagement would damage a brand image that is already associated with high performance, technological innovation, durability, aesthetics, and similar positive values. In general, brand stretch has the potential to destroy market goodwill. Naturally, this becomes even more true if no-frills products fail to live up to their quality specifications.

These fears come into play particularly when the company decides to use frugal engineering. The risk of damage to the brand's reputation is considered to be lower if the company offers mature technology or defeated premiums instead. The reasons for these divergent opinions are obvious. Old or pared-down products are still very much part of the company's tradition. They have direct links with the latest premium products. By contrast, new frugal products conflict with the company's traditional self-image. They do not settle well with premium-sector advocates. Psychological dynamics play a role here, too. Although there has been little research in this area to date, the dynamics are centered around terms such as pride and dignity. The selection of a remote location to develop and manufacture no-frills products fuels intense debate. Ultimately, this relates back to the fear of losing fundamental power structures that have become part of the company's core paradigm.

For this reason, many Western industrial companies decide to sell no-frills products under a second brand. This is particularly the case if they have acquired a company from an emerging or developing country that is active and successful within its home market. The acquired company's product brand is typically used to market the less expensive product lines. This is an obvious solution as long as the brand is only sold in the region of the acquired company. Once marketing activities extend beyond these borders, however, new challenges emerge. In this case, managers must invest in the second brand to generate awareness in other countries. There may be additional difficulties if the secondary brand name does not fit within the diverse cultural contexts of the other countries. This is where the advantages of being integrated into an internationally established premium brand become clear. Strong brand recognition and reputation make it easier to acquire new customer segments for their no-frills products beyond local borders.

Sub-brands are a hybrid approach for differentiating between premium and no-frills products. This is in spite of the fact that they share a common master brand name.

Volkswagen is an excellent illustration of this strategy. Throughout the world, the carmaker sells both large SUVs such as the Touareg, as well as inexpensive small cars such as the Volkswagen up!. Yet, the shared use of the Volkswagen brand does not damage the image of the carmaker's higher-quality cars. The sub-brands are so well positioned that customers see a clear relationship between their needs, product performance, and price. In order to further refine the brand-driven customer perception, Volkswagen has introduced an additional layer of branding. This includes performance sub-brands such as GTI that emphasize a vehicle's sportiness.

Incidentally, Volkswagen offers an interesting example as to cannibalization. In 1994, the group acquired the Czech car manufacturer Škoda. The carmaker produces cars similar in size to Volkswagen but sells them at a lower price. Volkswagen decided to continue using the Škoda brand and to gradually improve the quality of the cars. Volkswagen brand proponents were critical of this acquisition. They feared that Škoda could poach Volkswagen's customers and put margin pressure on Volkswagen vehicles. When the Volkswagen Group's then-CEO and co-owner, Ferdinand Piëch, was asked about it, he justified his decision with simple logic. He said he preferred to cannibalize Volkswagen with the company's own products rather than leave it up to competitors. This is a compelling argument. If a competitor such as Toyota or Ford had taken over the Czech carmaker, Volkswagen would have lost customers to Škoda. Under this scenario, of course, the Volkswagen Group would not have benefited from the profits.

Managers should not lose sight of the ultimate goal of branding, particularly during intense discussions on the proper use of an existing parent brand. Historically, businesses have created brands in the consumer goods sector. This is because in certain categories (e.g., beer), product quality differs. Customers would not be able to recognize these differences before making a purchase. Brands help make performance promises. Despite a lack of product knowledge, customers can rely on the fact that when they buy a certain branded product, they will get exactly the quality they expected – regardless of place or time. Particularly in the consumer goods industry, companies engage in an intense effort to manage customer attitudes. Communications tactics can even prompt customers to perceive something in a brand that does not actually exist. For example, supermarket chains feature certain products that consumers believe are inexpensive, but extensive competitive analyses do not confirm this assumption. In cases like this, suppliers use their brand to take advantage of non-transparent markets and a lack of product competence on the part of the customer.

In the B2B area, however, most markets are more transparent than those for consumer goods. There are fewer suppliers, and customers are more familiar with competing products; they have specialist knowledge and product competence. In fact, customer

company managers sometimes have the same training and industry experience as those of supplier companies. Therefore, if the products do not have a high degree of complexity or customization, customers can make a good product assessment. Brands then play a less important role. This does not mean that brand choice is irrelevant for no-frills products, but rather that brands do not outweigh more decisive factors.

## ORGANIZATIONAL SETTING

It is possible that brand considerations take up too much time during the no-frills market-entry planning phase. As a result, companies can pay too little attention to profit targets and group-related overhead costs. “Group-related overhead” refers to cost allocations for the head office. They include board member salaries, central advertising budgets, additional training activities, and even basic research. In most industrial companies, these costs are added to manufacturing costs as a percentage. Accordingly, they are included in no-frills product calculations, as well as in the responsible business unit’s profit-and-loss figures. At the earliest sign that a no-frills business segment will miss profit targets, managers begin questioning whether or not this business should carry the same overhead costs as an established premium product business with a long market presence. Managers with no-frills product responsibility typically argue that their competition and cost pressure are particularly high. Compared to competitors from emerging and developing countries, they claim, high group overhead costs put the no-frills business at a considerable cost disadvantage.

From the perspective of the overall organization, it has to be considered how to deal with this argument. Some companies have changed group-wide overhead-cost allocation rules altogether. They have lowered the corresponding surcharge rates for no-frills business segments. Under this scenario, no-frills entities are only charged for the services that headquarters specifically provides for that business segment. This might include the right to use the company’s premium brands, for example. Market rates could then be used as a reference price. In terms of cost accounting, no-frills entities would be treated as an external institution. This applies even if they belong entirely to the premium supplier.

Central controlling departments are not keen to allow sector-specific exceptions to the traditional cost structures. Usually, they pave the way for other business segments to request further exceptions. In this respect, making exceptions in the cost rules for no-frills entities can create disunity within a company. It can also make the accounting process more complex. Rather than exposing the organization to these challenges, companies would be better advised to set alternative profitability targets to assess no-frills business success. Industrial companies such as Siemens or GE, which operate

in numerous business segments, typically establish profit targets that are tied to specific industries. This allows managers to set different profit targets without major complications – even if both no-frills products and premium products are sold within the same industry.

The topic of goal-setting raises some vital questions. Who defines business goals for a no-frills products segment in the first place? Where should this segment be positioned within the corporate group? These distinctions are especially important for established industrial companies with successful premium product business units. It should be carefully considered whether new no-frills product units should be placed under their control. There is a risk that premium-segment managers will not give the no-frills business enough freedom to develop successfully. The premium managers’ emotional resentment toward no-frills products was mentioned in the previous section. Even if premium product managers are acting in good faith, some may find it difficult to free themselves from their resentment. This can lead to frustration and the loss of good employees in the no-frills segment. This is particularly true when the no-frills entity has been incorporated into the premium company through acquisitions. Trumpf applied this rationale when it acquired the Chinese no-frills supplier JFY for its laser machine business unit in 2013. Consequently, the head of JFY reported directly to Trumpf’s top management and co-owners.

Separating these two segments within the organization makes little sense if senior management forces them to collaborate. One reason to do this would be to realize potential synergies that benefit no-frills and premium segments alike.<sup>12</sup> Both segments should cooperate when there is growing market demand for products positioned between no-frills and premium products. Kion faced this market trend. As previously mentioned, Kion began selling no-frills forklifts when it acquired Baoli in China in 2010. At the same time, it sold forklifts in the premium segment under the established brand Linde. In the 2010s, however, the Chinese demand for a forklift solution in the medium-quality and medium-price range grew. Linde’s attempts to meet this need by “defeating” were not compelling. Neither were Baoli’s efforts to upgrade its forklift trucks. In both cases, the companies failed to achieve the necessary balance between quality and cost requirements. Kion responded by moving in a new direction in 2019. The company asked the engineers of both subsidiaries to jointly develop a new forklift that addresses the market requirements for an “intermediate product.”

Similarly, Trumpf aims to step up cooperation between its premium division and JFY, because managers increasingly see a very clear synergy potential. In order to ensure cross-segment coordination and foster tighter operational collaboration, in 2019 Trumpf decided to no longer have JFY senior management lead the companies’ top

management and co-owners but rather to use managers who are one hierarchy level lower and closer to the operative business.

In addition to these types of organizational changes, a common cultural understanding among the team members of both groups is even more important for achieving successful collaboration. A longer integration process may also be necessary, particularly if the no-frills area has worked independently for a long time or under another corporate umbrella. In this respect, integrating a no-frills business unit within an organization is a matter of time. Although the units should be allowed to operate separately during the initial phase, integration should be a priority after that. The same applies in the reverse scenario, in which no-frills suppliers launch or acquire premium product business units. Managing these types of integrated segments requires managers who are familiar with both businesses.

1. C.K. Prahalad and S. Hart, "The Fortune at the Bottom of the Pyramid," *Strategy + Business* (2002): 26. It should be noted that the economist Schumacher had already initiated similar considerations in 1973; see E.F. Schumacher, *Small Is Beautiful. A Study of Economics As if People Really Mattered* (London: Blond & Briggs, 1973).
2. In addition to the examples mentioned below, there are others with reference to B2B markets in M. Zeschky, B. Widenmayer, and O. Gassmann, "Frugal Innovation in Emerging Markets," *Research-Technology Management* 54, no. 4 (2011): 38–45.
3. M. Kupp, O. Plötner, and C. Liesener, "Siemens CerberusEco in China: Introducing Low-frills Products in a High-quality Company," ESMT case study no. ESMT–311–0123–1/8 (Berlin: ESMT Berlin, 2011).
4. Siemens deliberately did not address the M4 customer segment, among other things, because managers were concerned that the economic framework conditions for procurement, production, and sales would not always be compatible with group-wide compliance rules.
5. In addition to the examples mentioned below, there are others with reference to B2B markets at M. Zeschky, B. Widenmayer, and O. Gassmann, "Frugal Innovation in Emerging Markets," *Research-Technology Management* 54, no. 4 (2011): 38–45.
6. R. Adner and D. Snow, "Bold Retreat: A New Strategy for Old Technologies," *Harvard Business Review* 88, no. 3 (2010): 76–81.
7. See, for example, N. Radjou and J. Prabhu, *Frugal Innovation: How to Do More with Less* (London: British Books for Managers, 2015).
8. See E.F. Schumacher, *Small Is Beautiful. A Study of Economics As if People Really Mattered* (London: Blond & Briggs, 1973).
9. N. Radjou, J. Prabhu, and S. Ahuja, *Jugaad Innovation* (San Francisco, CA: Jossey-Bass, 2012).
10. I. Wylie, *Jugaad Innovation: How to Disrupt-it-Yourself* (2012). Retrieved from <https://www.thinkwithgoogle.com/marketing-resources/jugaad-innovation/> (accessed April 15, 2020).
11. Infographic by Telstra, *Connecting Commerce* (2016). Retrieved from <http://connectedfuture.economist.com/article/the-digital-cities-barometer-infographic> (accessed April 12, 2020).
12. See the discussion on synergy potential in Booklet 5.

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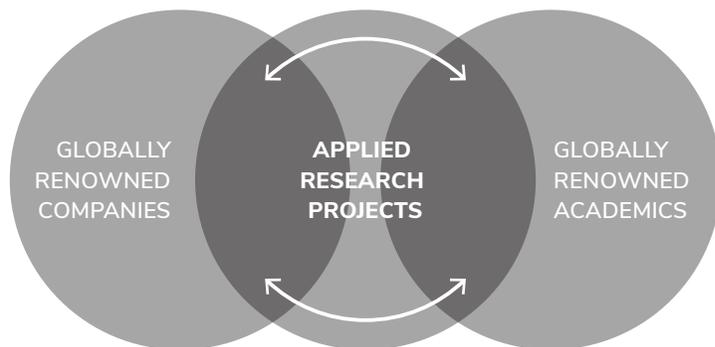
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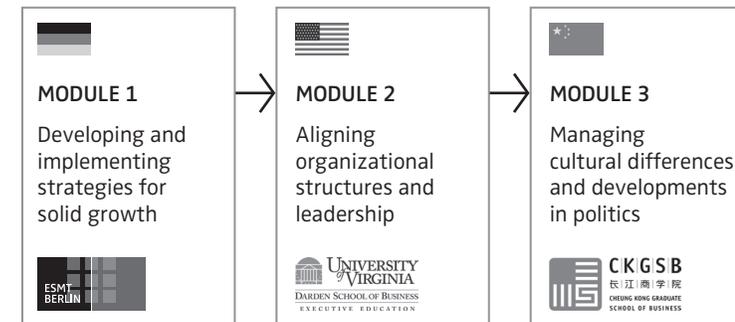


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