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Practitioner's Section

Procurement in 21st century in the chemical, pharmaceutical and healthcare industry

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Most companies in the Chemical, Pharmaceutical and Healthcare industry have a procurement performance below average, which in turn means a disadvantage compared to other industries. These companies are not able to realize their existing cost reduction potentials in procurement. Additional short term potentials will not be fully exploited, for example these due to the financial crisis.
A large fraction of companies from this industry has neither a relevant procurement strategy nor a procurement controlling. It is easy to see, that companies neglecting these basic elements have no chance to achieve a high procurement performance and optimize potentials.
One specific problem is that the industry lacks of sufficient qualified procurement personnel. At the same time important positions in procurement departments, especially in strategic procurement, were vacant.
In general procurement in the Chemical, Pharmaceutical and Healthcare industry has a strong operational focus. Highest prioritized topics are analysis of prices and offers, calculation and planning of demands and management of supply shortages. In comparison to other industries each of these topics has relevance above-average. The major topics in strategic procurement are evaluation of suppliers, tendering and qualification of suppliers as well as searching for new suppliers. Especially tendering seems to be more relevant for companies in the Chemical, Pharmaceutical and Healthcare industry than for companies in other industries. But still companies in the Chemical, Pharmaceutical and Healthcare industry do not fully benefit from maximum cost reduction effect from tendering.

1. Introduction

The financial crisis has clearly shown the importance of procurement for many companies success. Also the increasing globalization has dramatically changed the importance and more specific the challenges procurement is facing in this rapidly changing world. Unexploited potentials are not only substantial, but also critical for the competitive advantage and profitability of a company. Against this backdrop we wanted to give answers on current relevant trends and questions for procurement, such as: Has Procurement the right setup within the context of further globalization, profound crises and technological development?

- Has Procurement the right setup within the context of further globalization, profound crises and technological development?
- Where are future potentials?
- What are Best-Practices in procurement?
- Which trends shape procurement in future?

Together with renowned cooperation partners we conducted this - regarding sample size, scope and global focus biggest - global procurement study. Important trends and targets for procurement have been analyzed in order to give recommendations for actions at top management level.

The study is a cooperation of the international chamber of commerce (ICC Germany), the most important German Chambers of Commerce abroad around the world, the Federation of German Wholesale and Foreign Trade, the Austrian Association of Material Supply, Procurement and Logistics and the Lorange Institute of Business, Zurich.

2. Methodology

Based on a questionnaire with 187 questions procurement in the 21st century is analyzed based on different topics regarding:

1. Impact of the financial crisis
2. Procurement strategy
3. Processes and organization
4. Procurement controlling
5. Supplier management
6. Benchmarking

More than 5,000 top executives from renowned companies and various industries worldwide were addressed and invited to participate in the study. We received answers from 800 companies from 62 countries. Companies from the Chemical, Pharmaceutical and Healthcare industry are representing 13% of the participants in the study.

North America, Asia and Europe are represented in a similar extend. Also companies from Australia, South America and Africa did participate. The study examines all different business sectors.

All relevant decision levels have been considered (procurement management and executive board level). Therefore important operational and strategic questions can be analyzed from a complementary point of view. The data was collected from September 2009 till January 2010.

For each of the 187 questions we conducted an a priori valuation for all possible answers created by experts.

(i: number of question (1-187), j: number of chosen answer (1-number of possible answers))

$$\mathit{Answer}_i^j \rightarrow \mathit{Valuation}_i^j$$

The valuations are cardinal calibrated: A valuation of zero stands for "average performance", a negative valuation stands for below average performance and a positive valuation for above average performance. The higher the valuation, the higher is the performance.

Each participant gets evaluated as a company by the average evaluation of his answers

(I: Total number of questions answered)

$$\mathit{Company\ Performance} = \frac{\sum_i \mathit{Valuation}_i^j}{I}$$

These valuations are cardinal calibrated too. This company valuation was done once based on an a priori valuation of possible answers. After that this process was done iterative: Based on the answers of the good/bad performing companies the valuation of the answers was redone. For most answers this meant a change of the magnitude of the valuation. Only for a few answers even the algebraic sign changed.

$$\mathit{Valuation}_i^j \rightarrow \mathrm{Re}\mathit{valuation}_i^j$$

Subsequently the company valuation was redone based on the new valuations.

Company Performance → Re*valuation Company Performance*

This iterative process was redone two times. After this full iterative process all questions were analyzed itself. We defined a measurement for the *actual relevance for the overall performance* of each question by measuring the difference between the answers of good performing (first quartile) and bad performing (last quartile) companies. This difference was measured by a difference coefficient which is between +100% and -100%.

+100% would mean that all good companies chose the best (ticked) answers and all the bad companies chose the worst (ticked) answers. Analog, 0% would mean that there is no difference at all between how good and bad performing companies answer this question.

Another objective of the study design was to create an applicable cross-industry framework for procurement and to set a proper basis for further research and development activities in the field of procurement. For that it was important to have a broad base of questions and participants. It is important to us that this procurement framework is based mainly on quantitative data. In the following passages the results of this framework based on the study results for the Chemical, Pharmaceutical and Healthcare industry are presented.

3. Methodology

3.1 Sourcing Market

The trend towards global sourcing will continue to increase for companies in Chemical, Pharmaceutical and Healthcare industry. The current sourcing markets in this sector will change more than for many other industries. The traditionally strong sourcing markets North America and Western Europe are becoming less important, partially up to one third. China remains the fastest growing sourcing region for the Chemical, Pharmaceutical and Healthcare industry.

3.2 Actions taken in times of crisis like the financial crisis

A crisis is a good chance for procurement due to declining procurement prices. For this reason procurement should focus during a crisis on a maximum short term exploitation of these potentials. For companies in the Chemical, Pharmaceutical and Healthcare industry it is often difficult to achieve additional short term potentials in procurement. In our evaluation only 28% of the companies use a professional tendering management to exploit the additional short term potentials due to the financial crisis.

Procurement in the analyzed companies of the Chemical, Pharmaceutical and Healthcare industry did not focus on exploiting potentials, they did just the opposite: More than 60% of the analyzed Chemical, Pharmaceutical and Healthcare companies did a temporary reduction of working hours, which is significantly more than in other industries. These resources are missing for important tasks.

In this industry procurement is often seen as a part of the supply chain with a strong focus on supply reliability: if demand declines, resources should also be reduced.

3.3 Sustainability

Sustainability is as much as for other industries an important challenge. There are no significant differences between companies from the Chemical, Pharmaceutical and Healthcare industry compared to the other industries. Two thirds of all evaluated companies state that there will be an increase of sustainable materials but only half of the companies are willing to pay a surcharge. The analysis reveals some regional differences about sustainability:

Europe

- Importance of sustainability for European companies is a little below average.
- The usage of sustainable raw materials is slightly below average for European companies as well as the perceived opportunity to create competitive advantages from sustainability.
- European companies assume that their customers are typically not willing to pay a surcharge for sustainable products.

North America

- For North American companies sustainability is less important than globally.
- North American companies do not expect a big increase in the usage of sustainable raw materials.
- They are not willing to pay a surcharge for sustainability but their customers are willing to do it.

Asia

- In Asia sustainability will gain more importance than globally.
- Asian companies consider sustainability more as a competitive advantage than companies from other regions.
- Asian companies have the highest willingness to pay a surcharge for sustainability compared to companies from other regions, although they assume that their customers are not willing to pay this surcharge. This is attributed to a more long term strategic thinking.

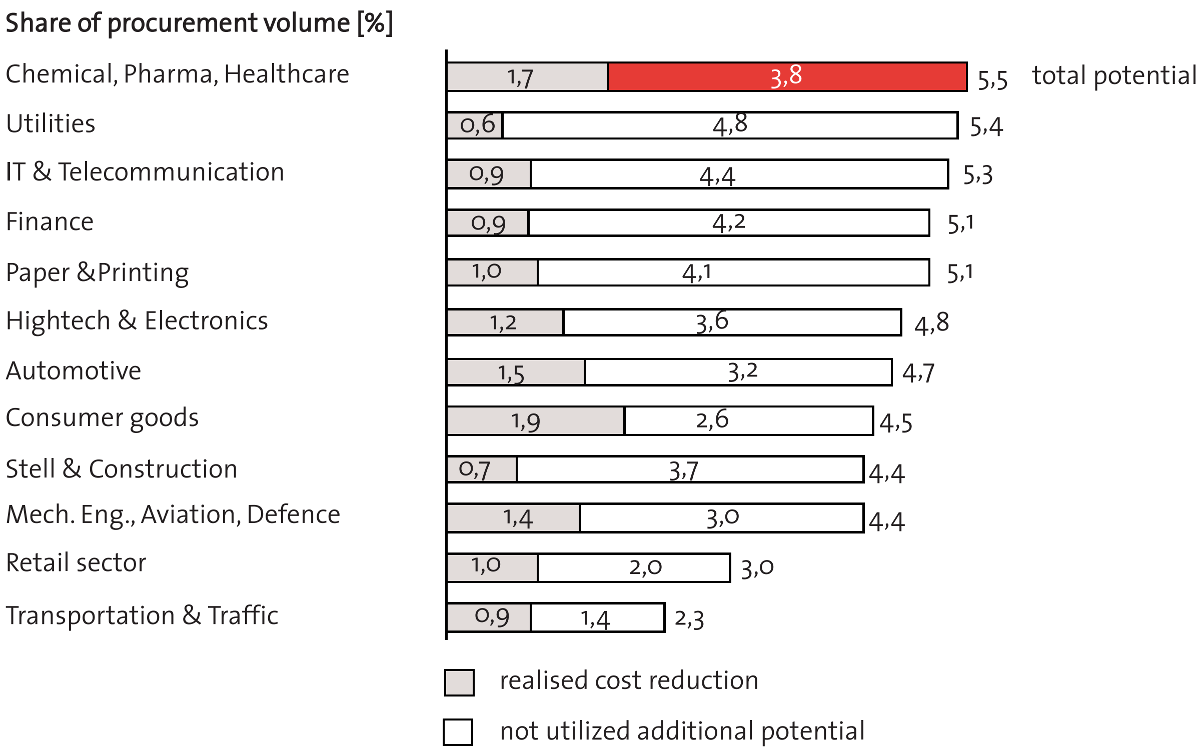
3.4 Possible contribution to earnings from procurement

According to a self-assessment of purchasing managers, there is on average a general cross-industry cost reduction potential in procurement of around 10%. With procurement costs being on average around half of companies revenue, this really is a lot.

The financial crisis added another short-term 4% procurement cost reduction potential. In fact companies were only able to realize sobering 1% point of this additional saving potential within the crisis. An unrealized potential of 3% points still remains – see figure 1. For Companies in the Chemical, Pharmaceutical and Healthcare industry these numbers are different: they had higher potentials. Out of these they realized 1.7% procurement cost reduction and let 3.8% unexploited.

In many industries procurement achieved first major successes to play a role as value-adding player over the past two decades. Due to a lower procurement cost share on total cost in the Chemical, Pharmaceutical, Healthcare industry and

Figure 1 Additional potential and realization due to the finanical crisis



the typical focus on supply stability in process driven industries this procurement transformation process is in this industry neglected. As Figure 1 indicates there is a huge potential to create value through cost reduction in times of crisis and volatility.

3.5 Procurement performance ranking

In our study we examined what separates companies with the best procurement performance worldwide from those which are only average. Is there a relation between procurement performance and the industry a company comes from?

It is a fair first guess to assume, that a very good procurement performance can be found in those sectors where procurement accounts for a high percentage of the total costs. The success of a company in these sectors is closely aligned with the performance of their procurement function.

The following figure 2 shows the average performance by each industry according to our performance index, as described in section 2.

After our analysis the best performing sectors according to our ranking are Retail and Consumer goods. Based on our procurement performance index the Chemical, Pharmaceutical and Healthcare industry is ranked only on #9 out of 12 – see figure 2.

4. Strategy

In our study we examined what separates companies.

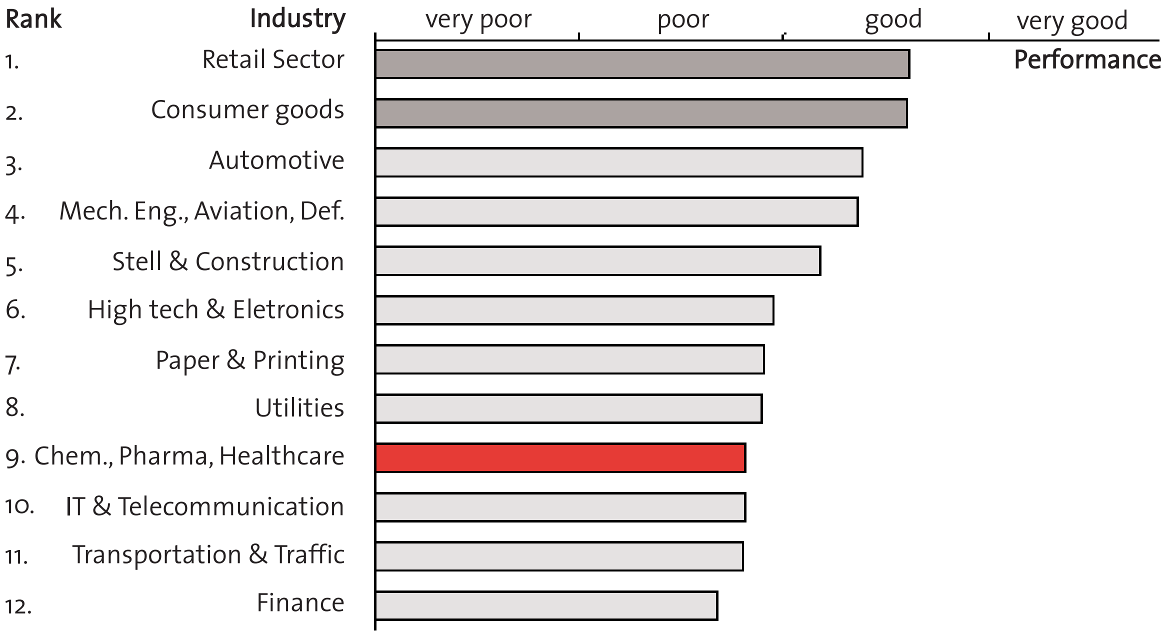
When analyzing best practices we sorted all of these in three categories: Strategy, Organization (including topics like Controlling, Reporting Line, Personnel, and Incentives) and Processes. One interesting question was which of these three areas defines mostly the current procurement performance status of companies. Is it company's Strategy defined by chief officers? Is it hands-on Processes? Or is it Organization and Controlling? Throughout the analysis we found out: it is Strategy!

The question whether you have a procurement strategy is the most important question of all to anticipate total procurement performance. As we found out, this question has a very high difference coefficient of 85%, which is very close to a perfect 100%.

When we look at this a little deeper, we found out that having a procurement strategy comes in three steps: (1) You define a strategy, (2) You communicate it and (3) You act according to your strategy.

Good performing companies pretty much always have a procurement strategy and act according to

Figure 2 Average procurement performance by industry



it. In contrast bad performing companies do not even have procurement strategy at all (or rather no strategy).

Within all industries, on average a little more than half of the companies say that they have a procurement strategy. Furthermore 80% of the companies who say that they have a strategy act according to that strategy.

Do companies in Chemical, Pharmaceutical and Healthcare industry have a procurement strategy and act according to it? Only 30% of companies in the Chemical, Pharmaceutical and Healthcare industry proclaim to have a procurement strategy, which is bad compared to all other industries where almost 60% of the companies have a procurement strategy.

We found out that after having a procurement strategy, connecting this procurement strategy to the company's overall strategy is the second most important attribute of your procurement strategy for the procurement performance. More than 60% of the companies within all industries do connect their procurement strategy to the overall strategy. For companies from Pharmaceutical and Healthcare industry this is only little lower: a good half of these companies do this.

Another very important strategic topic is the standing of procurement within the organization. On average there is a structural (perception) gap between the impact of procurement and its power within the company. For most companies the internal standing of procurement is lower than its influence to the company's total performance. On average within all industries 44% of the companies say, that procurements impact is very high. But only 22% of the companies indicate that procurement has a very high internal standing.

When we look at companies from Chemical, Pharmaceutical and Healthcare industry this is even worse: Because of its lower cost fraction in this industry only 33% say that procurement has a very high impact. This is slightly lower than the 44% average. But only 6% of the companies from the Chemical, Pharmaceutical and Healthcare industry state that procurement has a very high standing.

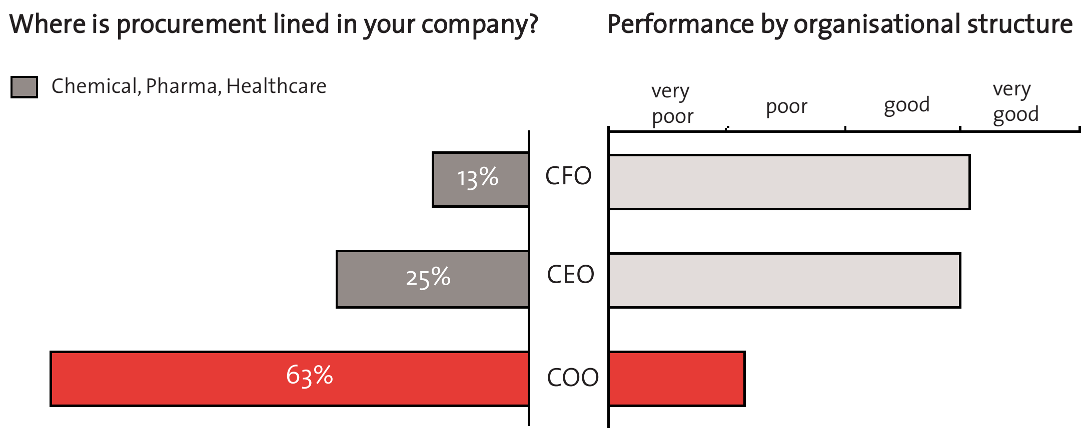
As mentioned before the gap between procurements impact and standing is even higher in pharmaceutical and healthcare industry. This is something we found out in general: the worser company`s procurement performs, the larger is the gap between impact and standing of procurement.

5. Organization

5.1 Reporting line

Another important level for the procurement of a company is its procurement organization model. As Figure 3 shows is an organization of procurement under the chief operations officer is the most

Figure 3 Organizational structure and performance for Chemical, Pharma, Healthcare



CEO = Chief Executive Officer, CFO = Chief Financial Officer, COO = Chief Operating Officer

common in the Chemical, Pharmaceutical and Healthcare industry with 63%. A chief operations officer is focused mostly on (maximal) supply reliability. Typically he does not define minimal procurement costs as his major goal neither he gets measured by it.

So this constellation of the procurement function reporting to the chief operations officer inevitably creates a danger to lead to procurement performance disadvantages– see figure 3.

To further examine the organizational topic we asked the question, which board member should ideally be responsible for the procurement function.

Compared to other industries procurement reporting line to the chief operating officer (COO) is more common – see figure 4.

It is remarkable that in the Chemical, Pharmaceutical, Healthcare industry the vast majority (79%) of the Chief Procurement Officers (CPO) answered that they should not report to the COO but to either the Chief Executive Officer (CEO) or Chief Financial Officer (CFO) – see figure 4.

Figure 4 Comparison as-is organizational model and to-be organizational model for Chemical, Pharma, Healthcare and other industries

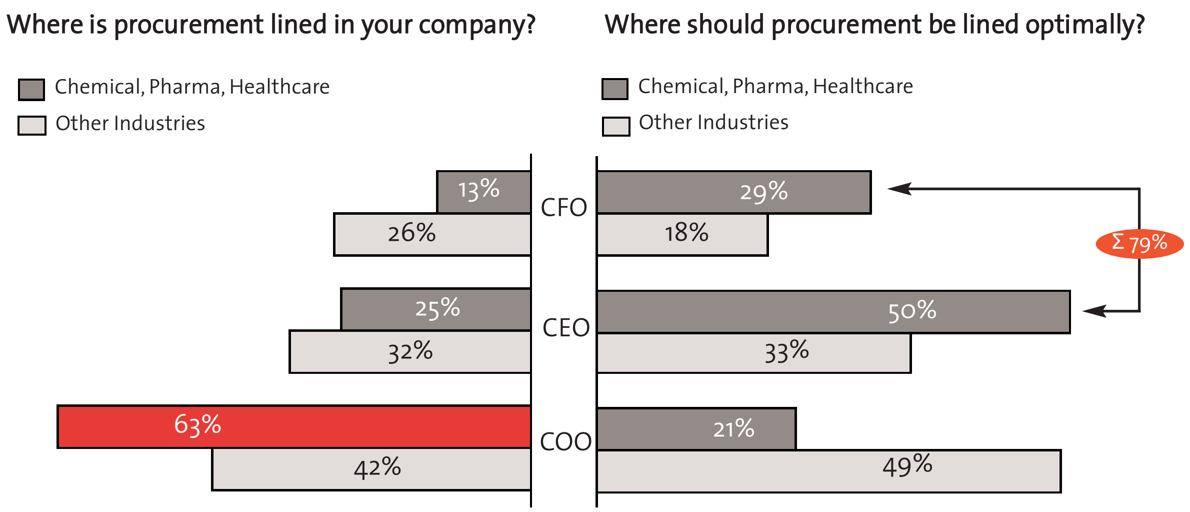
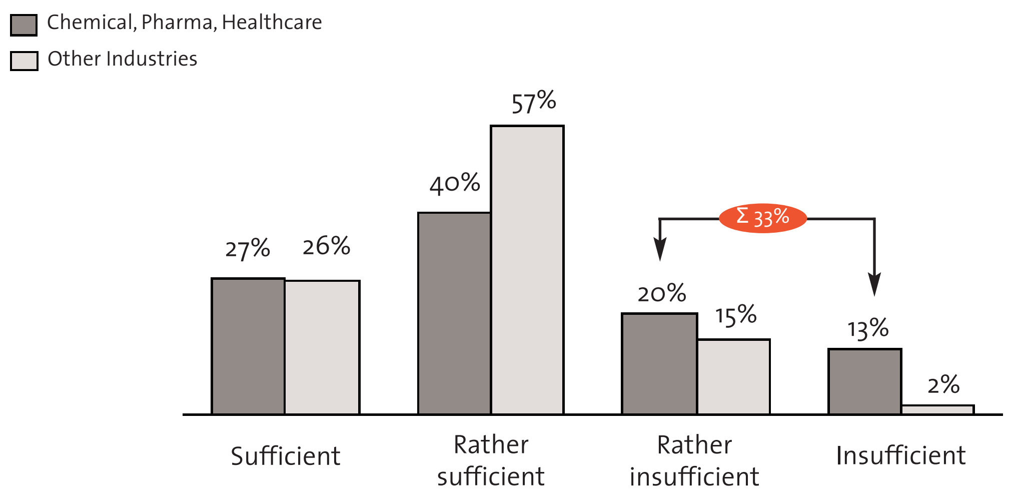


Figure 5 Evaluation of qualification for procurement tasks for Chemical, Pharma, Healthcare and other industries.



5.2 Procurement controlling

In the strategy part we found out that the most important aspect of your procurement strategy is whether a company has one. So what is the major aspect of procurement controlling? One shouldn't be surprised, it`s whether one have one. This question has a high difference coefficient of 75%.

A little more than half of the companies within all industries have on average a procurement controlling. The most of the rest uses "some sort" of a procurement controlling, like excel tools, which have many times little or no acceptance outside of the procurement department itself. Only 7% of the companies say they use no procurement controlling at all.

What about Pharmaceutical and Healthcare companies? Only a third of these companies posses a procurement controlling. More than 40% have some procurement controlling tools, but more than 20% have no procurement controlling at all. That way, Pharmaceutical and Healthcare companies have more difficulties in measuring procurement performance than other industries.

5.3 Procurement personnel and incentives

For achieving ambitious procurement cost reductions sufficient personnel resources and appropriate qualification levels are needed. To analyze the reasons for the given performance we asked about number and capabilities of the procurement resources. The study results show a lack of sufficient qualified procurement personnel and vacant positions in strategic procurement. Particularly alarming is that procurement managers are not successful, to communicate the issues about lacking resources and capabilities to the top management.

Almost half the companies in the Chemical, Pharmaceutical, Healthcare industry answered they have too few procurement personnel. 33% of the participants from the Chemical, Pharmaceutical, Healthcare industry answered that their procurement employee's skills are not sufficient. Other industries have only a fraction half as big as that (17%) who say that the skills of their employees are not sufficient – see figure 5.

A good 60% of procurement personnel in Chemical, Pharmaceutical, Healthcare companies have an academic degree, which is nearly 5% more compared to other industries. However, in this case it is no advantage according to the average procurement performance in this industry.

Rather, the highly qualified academic personnel are not able to implement their knowledge in the daily business. In general, the study shows that an optimal procurement department needs "the right mix" of theoretical and practical thinking personnel.

This creates a very special situation for procurement in this industry compared to other sectors. University graduates, many times with a background in operations often logistics, production (planning) or chemistry and not in procurement form a situation in which procurement is perceived as a poorly unimportant function with (not appropriate) skilled employees who themselves perceive their work in procurement as a periphery function for their company.

In many other industries this problem is a little different, but bad as well. Many times companies from these industries have experienced CPOs who are experts in their area and understand the huge cost reduction and value creating potential of procurement. But this perception is not shared from the other functions.

This induces pressure on motivation and a very strong focus (sometimes over focus) on supply reliability and an under focus on hands on cost reduction. The lack of available and qualified personnel is further intensified by the lack or insufficient incentives of procurement personnel. As study shows managers and staff in procurement benefit too little and too rarely from achieved cost savings – only 44% of the managers, well-fifth less than in other industries and only 29% of employees benefit from savings achieved.

6. Processes

6.1 Major procurement topics in the industry

In general procurement in the Chemical, Pharmaceutical and Healthcare industry has a strong operational focus. Highest prioritized topics are analysis of prices and offers, calculation and planning of demand and management of supply shortages. In comparison to the other industries in the study, each of these topics has a relevance above-average.

The major topics in strategic procurement are evaluation of suppliers, tendering and qualification of suppliers as well as searching for new suppliers. As our study reveals especially tendering seems to be more relevant for companies in the Chemical, Pharmaceutical and Healthcare industry than for companies in other industries. The search for potential new suppliers is given a distinctly minor importance in Chemical, Pharmaceutical and Healthcare industry.

6.2 Time-dominant procurement topics in the industry

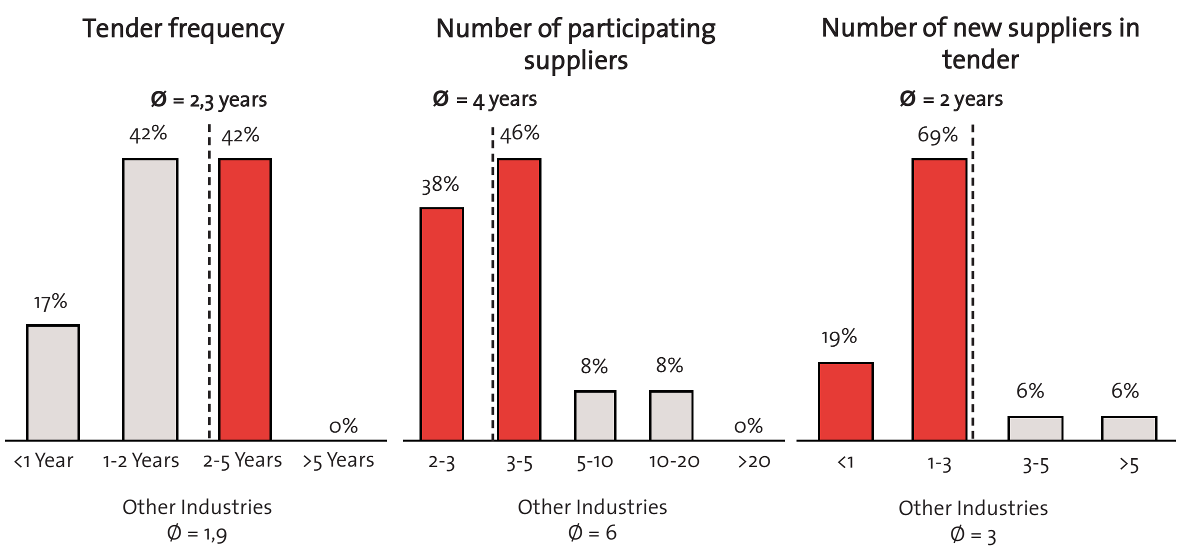
For day-to-day operations the procurement department of most companies is well positioned. The analysis of the major time spending activities in the procurement departments indicates that procurement is associated as the place to carry out orders and ensure supply stability.

But in strategic functions of procurement there is a totally different situation. Only half of the working time which was evaluated as optimal for strategic tasks, is available for these in procurement. Tendering has a higher priority than in other industries. The associated broad qualified search for new suppliers gets also very little time in daily operations.

These arguments lead to the results that tendering is a (standardized) tool but it is not used as broad and cost-effective as possible. It is underpinned by a further analysis which indicates procurement departments do rarely and little tendering, in consideration of the total procurement volume with less participating companies and above all too few potential new suppliers – see figure 6.

One of the most important levers for cost

Figure 6 Assessment of the tender process in Chemical, Pharmaceutical and Healthcare and other industries.



reduction in procurement, a regular and broad tendering is used insufficiently. As a result there are unnecessary high procurement costs. As mentioned before companies in Chemical, Pharmaceutical and Healthcare industry show the highest additional cost reduction potential due to the financial crisis with 5.5% and fail to utilize 3.8% - see figure 1.

The average tendering frequency in the Chemical, Pharmaceutical and Healthcare industry is 2.3 years (see Figure 6). This frequency is lower compared to the average in all other industries with a frequency of 1.9 years. The average participation in the Chemical, Pharmaceutical and Healthcare industry is four suppliers in a tender. This is a lower average participant rate than in other industries with on average six suppliers in a tender. Companies in the Chemical, Pharmaceutical and Healthcare industry have also a lower participant rate of new suppliers in a tender by one compared to other industries with on average three new suppliers in a tender.

Therefore enormous cost reduction potentials are left unexploited. In nearly every fifth company is no potentially new supplier included – what makes the tendering no longer a tendering as such. This leads to a situation in which savings potential is above average, which is especially true for indirect procurement.

7. Mindset and bias in procurement

A lot of companies are not able to evaluate their own procurement performance. This inability results in a great bias of overconfidence. Most participants in the study state that they are not able to evaluate their procurement performance compared to competitors. This fraction was unbelievable 86% for the Chemical, Pharmaceutical and Healthcare industry compared to 56% in all other industries.

According to the perception about their procurement performance 53% within the Chemical, Pharmaceutical and Healthcare industry hold the opinion that their procurement performance is above average, only 13% say that their performance is below. About this perception there is only a little difference to companies from other industries, where 54% of the participants say that their performance is above average and only 10% declare that is below average.

Although the overconfidence bias seems to be as high in Chemical, Pharmaceutical and Healthcare as in the other areas because of similar numbers, you have to take into account that on average Chemical, Pharmaceutical and Healthcare companies have a poor procurement performance according to our measurement (Figure 2). So companies from these industries face a bias higher than the average bias. This bias inhibits necessary changes for a realization of existing potentials.

A further examination about the bias shows that the bias increases dramatically with lower performance. Only the best quartile has no overconfidence. But the worser the performance gets the larger the bias – see figure 7.

The evaluation of this bias was created by a comparison of self-perceived procurement performance of companies and our measurement of the company`s procurement performance.

Figure 7 Analysis of bias of self-perception according to performance quartile.

	Too negative self-perception	Unbiased self-perception	Too positive self-perception
Quartile 1	14%	86%	0%
Quartile 2	10%	59%	32%
Quartile 3	0%	53%	47%
Quartile 4	0%	21%	79%

8. Conclusion

While procurement in many industries achieved first major successes by the development from a simple buyer into a value-adding player between the internal and external operations over the past two decades, this process is neglected in Chemical, Pharmaceutical, Healthcare industry, due to the lower purchasing cost share and the excessive-focus on security of supply. Through the comparison to other industries significant gaps have been identified in the areas of procurement strategy, organizational model and daily business processes as well as in realizing potentials.

The following actions should result in a reliable higher performance and an improved standing of procurement within the company:

1. Companies should look at procurement in a more strategic way and set up a specific procurement strategy that is clearly defined, communicated and effectively applied. Hence the alignment of the group strategy and procurement strategy is paramount to act accordingly.

2. To use the momentum of changes it could be beneficial to re-think the organizational line up to make procurement become more efficient, e.g. change the reporting line and responsibility to the Chief Financial Officer (CFO) or to the Chief Executive Officer (CEO) to drive the financial performance or to transform the procurement function from a pure service function to a more strategic player in a company.

3. The procurement cost reduction potential has not been fully exploited by most companies yet. But as our study proves and best-practices show, a change is not connected to high efforts. To exploit saving potentials timely and quickly a specific and approved procurement controlling is needed. And it should be aligned with the incentive system for procurement manager and procurement personnel, to make the performance visible and make them reliable.

4. A more operative aspect is to increase the participant ratio in tenders and ensure to look at potential new suppliers. This will provide the opportunity for significant cost reductions

5. Furthermore it is important to break out of the biased and the too self-focused situation. Companies should conduct regularly benchmarks and communicate the results to change or act accordingly, and make the progress visible.

For further researches it might be interesting to identify the mind set and personnel perceptions of good and best-performing Chief Procurement Officers (CPOs) as well as the appropriate mixture of skills in procurement. It seems to be that leadership skills and a low risk aversion are important factors for high procurement performance.