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Knowledge Intensive Services Procurement Strategy
Results of empirical research into current practice and implications for organizations

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The Karlsruhe Service Research Institute

Karlsruhe Service Research Institute (KSRI)

Founded in 2008, the KSRI is an innovative public-private partnership between IBM and the Karlsruhe Institute of Technology (KIT). The KSRI develops concepts, methods, and technologies for innovators and decision-makers to generate and utilize economic value in an increasingly "service-oriented economy". The KSRI employs a holistic, interdisciplinary approach to solve business-relevant problems along the dimensions 'people', 'organization', 'information' and 'technology'.

Executive Summary

The procurement of Knowledge Intensive Services (KIS) is more challenging than the procurement of commodity services or goods due to inherent challenges, such as objectively defining the desired outcome or evaluating service quality during procurement. In our research we have found much anecdotal evidence – both in literature and from interviews – about dissatisfaction with the current state of affairs, voiced by procurement function as well as the line of business. However, solid empirical data that assists in understanding the characteristics, challenges and opportunities of KIS procurement currently seems to be scarce.

To gain an empirically grounded understanding, we surveyed and explored the practices and tapped the experience of 306 line of business and procurement managers in more than 270 companies across different industries and firm sizes in Germany. We present the findings of this study along six dimensions – Strategy, Methods, Organization, Processes, Tools and Culture – and along three perspectives – Company Size, Project Success, and Function. It turns out that suspicions about the challenges of KIS procurement, which were raised by scarce data and anecdotal evidence, have been more than confirmed:

- There is widespread dissatisfaction with the current state of the KIS procurement, with each process step getting a "thumbs-down" from between a third to half of the participants.
- Practitioners estimate potential savings through better processes or consistent standards at about 30%.
- There is marked disagreement between procurement and line of business functions about the main attributes of different contract types: while procurement tends to favor fixed-price models, the line of business is more open towards new contract types like risk-profit sharing.
- While quality is generally considered a very important selection criterion for KIS providers, in more than half of all polled organizations it is not even measured after project completion – with the different functions having very different perceptions on the quality of measurement.
- Unrealistic planning of KIS projects – potentially a result both of project complexity and negotiation pressure – is a major source of friction in KIS delivery.

Based both on direct recommendations of the participating experts and on an analysis of how the companies with high project success differ in their approach, we were able to identify levers for overcoming the challenges and improving service procurement. Some of the main dimensions for improving KIS procurement are:

Strategy: Treat KIS procurement as being different from general procurement and build up KIS domain knowledge.

Methods: Use formalized feedback to build more effective communication between procurement and line of business.

Organization: Measure procurement also with indicators tailored to KIS, like project success rated by line of business.

Process: Re-assess the structure/flexibility trade-off in KIS procurement and implement a mandatory quality feedback step.

Tools: Provide procurement with tools required to gain transparency on the KIS project portfolio and systematically learn from it.

Culture: Align different cultures and expectations of procurement and line of business by providing a context for exchange that is not restricted by a tool.

We have found that KIS procurement is currently mired with problems in many organizations. But at the same time, this widespread challenge poses a major opportunity for those organizations which resolve them earlier or more thoroughly than others. Rather than being focused on the lowest-cost provider, procurement can refocus on the co-creation of value with providers of KIS, and become actively involved in helping line of business achieve their quality goals. By using contracts that reflect this shared responsibility, tracking and feeding project results back into procurement and helping line of business achieve their goals, the procurement function could offer significant value in a complex process currently often burdened by uncertainty, misunderstandings and poorly aligned incentives. In a world in which KIS are increasingly important, the ability to capture the most value from them can provide a compelling business case and represent a competitive advantage to an organization.

Based on the empirical results of this study, we have formulated three kinds of recommendations. The first comprises short-term initiatives to address or mitigate current problems. The second is a more comprehensive approach to "smarter procurement" of KIS along the six dimensions from Strategy to Culture. The third requires making a hard strategic decision on the role the procurement function should play in the future in KIS procurement and then building the corresponding capabilities over time.

We hope that the results of our study will allow the reader to benefit from the broad experience of the interviewed line of business and procurement managers across various industries – and will enable them to capture as much value as possible from the KIS procurement in their own organizations.

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Preface

Knowledge Intensive Services, offered by specialized service providers, play an ever more significant role in today's fast-moving and increasingly information-based economy. And yet, these Knowledge Intensive Services have proven to resist most attempts to define and measure quality similarly to materials or goods procurement. Moreover, traditional contractual options fully assign the risk associated with Knowledge Intensive Services to either the provider or the customer side (fixed-price vs. time & material contracts). Surprisingly enough, risk-profit-sharing contracts are rarely used – although Knowledge Intensive Services are hard to objectively define beforehand and often involve a "co-production of value" by the provider and customer.

This report summarizes the main results of our study into the current practice, challenges, and potentials of knowledge-intensive service procurement for a business audience. It attempts to provide stakeholders in the procurement of Knowledge Intensive Services with some initial starting points. Due to the inherent complexity involved in the topic – such as the difficulty to formally describe a desired outcome or to evaluate the contracted performance quality during the selection phase – there are no simple solutions. Still, some empirical observations indicate improvement potential in areas which have so far received relatively little empirical coverage.

Acknowledgements

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1. INTRODUCTION

Knowledge Intensive Services (KIS) have become an important factor for success. They are characterized by far-reaching co-creation of value requiring close interaction and collaboration between provider and customer.

In an economic environment that is characterized by both global competition and increasing innovation speed, information and communication technology (ICT) enables the de- and recomposition of distributed value networks. As a result, an increasing number of service relationships is emerging that need to be managed – across different legal entities and across geographic regions. We have already witnessed the effects of this globalization in the area of materials, goods and even commodity services which are increasingly traded in a global rather than local competitive space.

When it comes to KIS, many organizations are simply applying and re-using assumptions, metrics, and methods established for products. This approach may be effective for plain commodity services with established metrics – such as the provisioning of voice or data connectivity, computing power or storage capacity. However, transferring these established procurement practices to KIS seems to cause considerable dissatisfaction – both for line of business and procurement functions.

Dissatisfied Business Functions

Some quotes from industry interviews illustrate the kind and magnitude of challenge that service procurement poses in practice:

To ensure that we get the right skills for complex projects, we have resorted to writing skills into the request for proposal that are unique to a single provider. We know that defeats the purpose, but what good is a cheap project to our company if it fails?
— Project sponsor

We are so frustrated with the "cheapest bid, whatever the quality" approach dictated by our processes, but we can't seem to change them.
— Project manager

That people and skills are interchangeable in custom services is a fiction that keeps being propagated contrary to better knowledge.
— Project sponsor

We were forced to use the service provider chosen by central procurement. Even when it became very obvious that they delivered such astoundingly poor quality that we had to re-do most of their output, we found no way to kick the provider out. They have cost us not only money, but more time and effort than if we had done everything ourselves.
— Internal support function

Dissatisfied Procurement Functions

But not only business functions are dissatisfied with the procurement of KIS. Many procurement functions are frustrated with the situation as well:

We would like to better help the business functions procure services, but other than negotiating framework contracts, business functions seem to see us as an enemy rather than an ally.
— Procurement officer

We are grasping at straws trying to predict project success when we choose a consulting provider. We are even creating a database with individual consultants that have worked on projects for us – and we check this against proposed project teams. We feel there has to be a better way, but we haven't found it yet.
— Head of consulting procurement

We procure hundreds of millions worth of services each year. And while we are able to negotiate our materials and parts suppliers down to the last half percentage point, we feel that in services procurement we are probably talking about 30% waste in the area of KIS because they are so hard to compare.
— Head of central procurement

Expressions of frustration like these illustrate that many practitioners feel something is wrong with the approach they use today in procuring KIS. Are all these problems an unavoidable consequence of the inherent characteristics of KIS – or could there be tailored procurement practices better addressing their peculiarities?

2. KNOWLEDGE INTENSIVE SERVICES

Defining KIS

Knowledge Intensive Services are characterized by high degrees of contact intensity and a high number of variants. Typical examples are professional business services like consulting, IT and marketing (Figure 1).
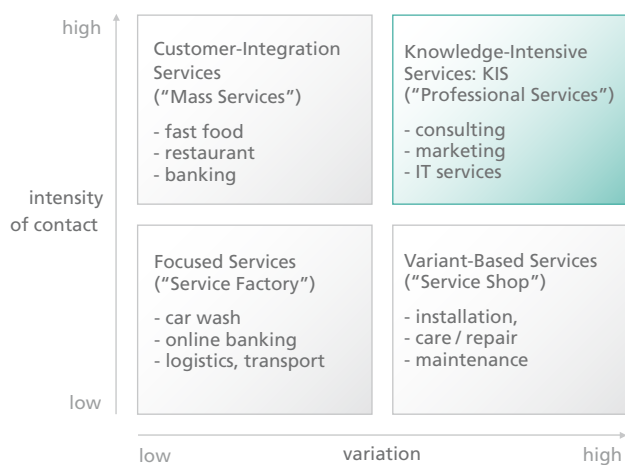

Figure 1: Framework of service types based on Hoffmann (2006), Fähnrich et al. (1999)

Along with increasing modularization and globalization of KIS, the importance of their procurement is increasing. As research has shown, global sourcing of KIS is rising, especially for "pure service" firms (Kotabe & Murray, 2004).

Challenges in KIS Procurement

Identifying and comparing suitable providers of KIS is a difficult task. In light of the challenge to compare qualifications and estimate project success, most recommendations are based on experience in practice.

In order to understand how KIS procurement is working – or failing – in practice today and to see what could be learned from those who are dealing with these challenges as part of their role, we conducted a primary survey by interviewing more than 300 practitioners involved in KIS procurement in Germany.

3. RESEARCH FOCUS AND METHODOLOGY

Research Questions

1. What is the current state of practice in the procurement of KIS?

2. Which steps in the KIS procurement process are showing the greatest need for improvement?

3. Is there a difference in the approach to KIS procurement between organizations with different levels of project success?

4. How are past experiences used to develop procurement concepts for the future – in the sense of a 'continuous improvement'?

5. Are diverging perspectives between procurement and line of business functions causing problems in the process?

Procurement Expertise

Knowledge about KIS procurement typically resides with procurement and line of business experts. One challenge for answering the research questions is that oftentimes no externally available documentation exists for company-internal processes. In addition, the questions are touching sensitive areas of 'efficiency' and 'effectiveness' of internal processes and communication – areas that organizations keep closely guarded. It became obvious early in our research that the common practice of sending a written survey to companies with such sensitive questions would result in challenges with regard to a) the participants' level of expertise with regard to KIS, b) the desired honesty of answers and c) a sufficiently high response rate.

To overcome these challenges, the study was designed to combine the quality of in-depth expert interviews with a large sample size to allow for detailed breakdown and analysis of the results. The target size of interviews was set at 300, 10% of which were intended to be line of business managers involved in procurement of KIS in order to capture the business perspective as well.

Empirical Study

We conducted 30-minute in-depth telephone interviews with 272 procurement managers and 34 line of business managers – a total of 306 interviews. The Center for Evaluation and Methods ZEM (Rheinische Friedrich-Wilhelms-Universität, Bonn) carried out the interviews and provided methodological support in the design, execution and analysis of the study.

Dimensions of Analysis

Client pre-interviews identified the need to examine the issue along several dimensions. For our investigations, we chose the following six dimensions:

Strategy
- General strategy of procurement with regard to KIS
- Alignment of business and procurement strategy
- Strategic goals which procurement is expected to achieve

Methods
- Contract types (time & material, fixed-price, risk-profit-sharing)
- Managing different KIS types
- Evaluation of providers

Organization
- Organization and measurement of procurement
- Governance and Key Performance Indicators (KPIs)
- Roles which procurement and line of business fulfill

Processes
- Communication between business unit and procurement
- Definition of need & scope, identifying service providers
- Quality and feedback process between procurement and line of business

Tools
- Contract and procurement management tools
- Reporting infrastructure and databases
- Formal quality reviews and benchmarking tools

Culture
- Expectations and perceived identity of procurement and line of business
- Culture and language factors in communicating with service providers
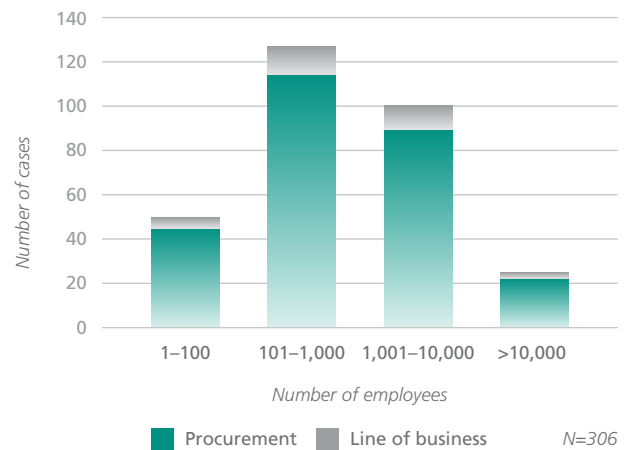- Organizational culture and informal feedback

Figure 2: Interviewed experts by company size

4. EMPIRICAL RESULTS

Within the six dimensions we categorize our findings in three perspectives: company size, project success and function (Figure 3).

Figure 3: Mapping of research dimensions and perspectives

Although KIS account for more than ten percent of the purchasing volume (Figure 4), procurement organizations still struggle when buying KIS.

total procurement volume

service procurement volume

23% Services

77% Materials & goods

46% KIS

54% Non-KIS

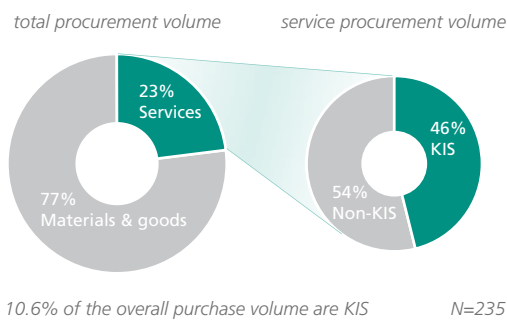*10.6% of the overall purchase volume are KIS*   *N=235*

Figure 4: KIS share of overall purchase volume

While KIS represent such a significant portion of the overall purchasing volume, there appears to be nowhere near the transparency with regard to quality and cost-structure that procurement functions have when dealing with material or goods procurement. Indeed, participants indicated that the information asymmetry in KIS is much greater and their visibility of the provider's cost structure and capabilities much lower, putting them at a considerable disadvantage when compared to their negotiating power in goods procurement (Figure 5).

Procurement manager perception of bargaining position

"Cost structure, ability to deliver, and offering quality of my negotiating partner are fully transparent for me"

"My negotiating partner can clearly use his information advantage to his benefit"
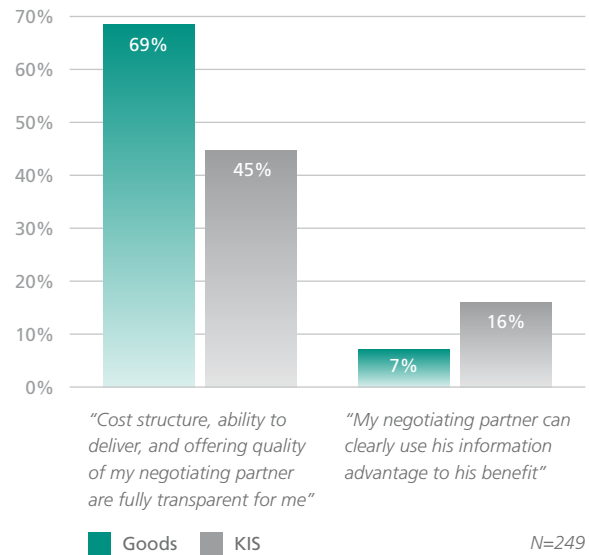
Goods   KIS   *N=249*

Figure 5: Transparency in negotiations for goods vs. KIS

Thus, better transparency for the procurement of KIS is considered as an important cost lever. Procurement managers estimate that they could reduce KIS costs by 10 to 25 percent on average if they had transparency similar to goods procurement.

The contract type distribution shows about half the contracts being time & material, while about a third are fixed-price contracts and only about 15% can be considered risk-profit-sharing contracts that actually attempt to contractually split the risk inherent in the co-creation of value between the involved companies (Figure 6). As we will discuss later, perceptions of the characteristics and impacts of each of these contract types can and do differ significantly.
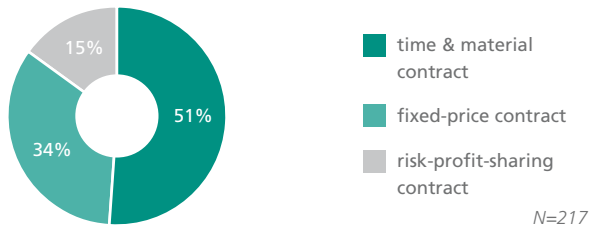
4.1 STRATEGY

Figure 6: Overall distribution of contract types

In order to understand which approaches correlate with project success, we examined project success rates reported by the participants. On average, 72 percent of projects concerning procured KIS were considered successful.

For further analysis, we will differentiate between 'companies with high project success' (share of problematic or failed projects below 25 percent) and 'less successful companies' (share of troubled projects at least 25 percent).

It is very common to apply different purchasing concepts based on contract volume, complexity, or risk. But almost a third of organizations did not differentiate contract types at all (Figure 7).
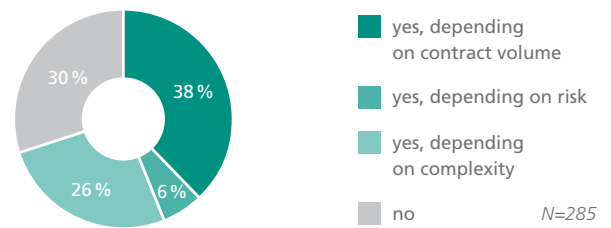
Figure 7: Process variations depending on project characteristics

With regard to selection criteria for KIS providers, procurement and line of business mostly agree – with some significant differences in judging the importance of experience, insight and knowledge of the customer, common partners and local presence, all of which the line of business rates as more important compared to the procurement function (Figure 8).

Figure 8: Perspectives on selection criteria for choosing a provider of KIS

Figure 9: Estimation methods for scoping KIS projects

The perception of positive attributes towards strategic partnerships also shows general agreement between line of business and procurement functions, with strategic partnerships overwhelmingly associated with positive attributes. But also in this case there are some attributes where the different perspectives becoming evident – with procurement having a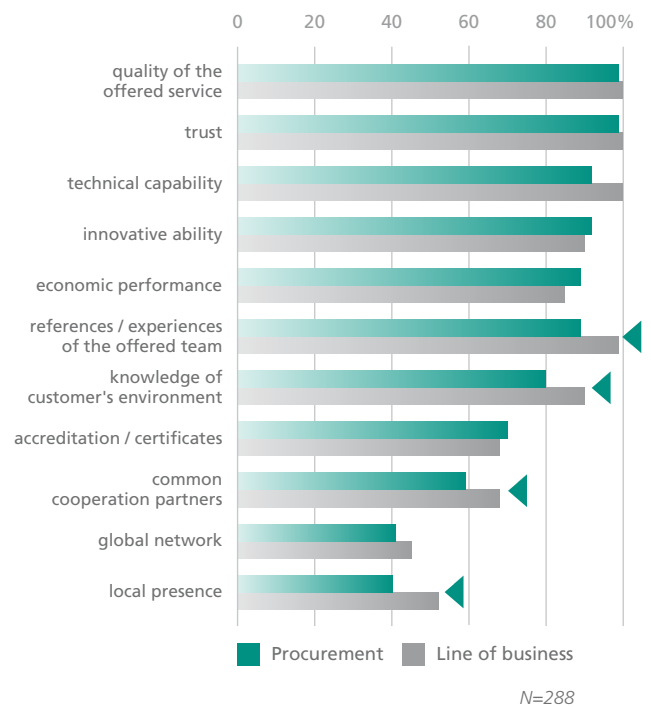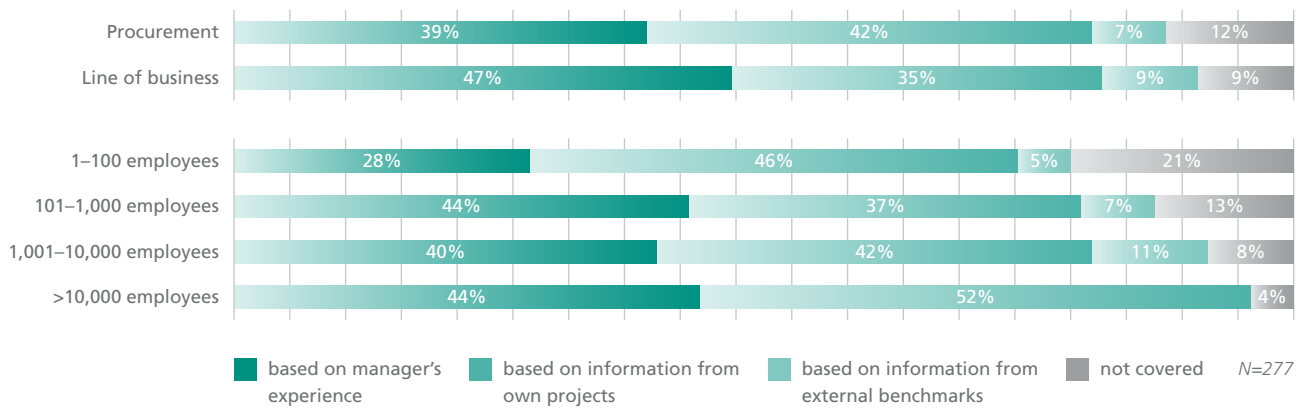 more positive view than line of business with regards to efficiencies, use of proven methods and dependency on the strategic partner.

These results indicate that line of business and procurement do not necessarily share the same strategy – or even their overall mental model with regard to project success – when choosing service partners for KIS. We will discuss how differences in perspectives, assumptions and culture between line of business and procurement functions can lead to communication and coordination problems.

Organizations apply different strategies to estimate resource requirements in scoping KIS projects. With increasing organization size it becomes more likely that some kind of consistent estimation approach is used – the most common approaches being managerial experience and an analysis of an organization's own project history. External benchmarks were the basis for estimations only in less than 10% of all cases (Figure 9).

With regard to certification requirements for KIS providers, there is a clear gap between procurement and line of business strategies, with certifications being much more popular with the procurement function (Figure 10).

This is interesting as one should assume that line of business functions – which will be intimately involved in the project – should have a great interest in any factor that can increase the likelihood of project success.

While our data reveals that the companies with high project success are slightly more likely (63%) to ask for some kind of certification than the less successful companies (57%), this difference does not explain the wider gap between line of business and procurement functions. Is it conceivable that certifications are more popular with procurement functions mainly because they are one of a small number of factors that are easy to be formally verified during the procurement process, rather than any anticipated direct link to project success?
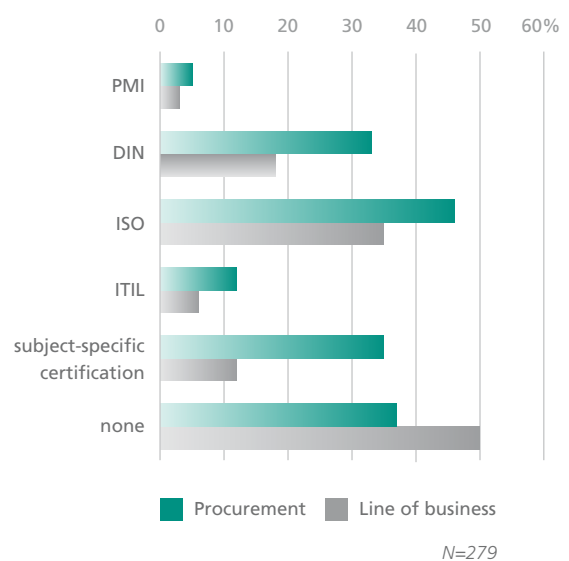

Figure 10: Certification requirements set by procurement vs. line of business

4.2 METHODS

While 93% of participants indicated that "quality" is a "very impor-tant" selection criterion, we found that more than half of all polled organizations do not measure the quality of KIS after completion of the project.

What is even more surprising is what we shall call the "quality measure-ment gap" between procurement and line of business: The majority of procurement functions was convinced that the quality of KIS project results was being measured – a view shared by only 28% of line of business participants. If 72% of line of business representatives state that result quality is not measured at all – where does procurement get its information from? (Figure 11).
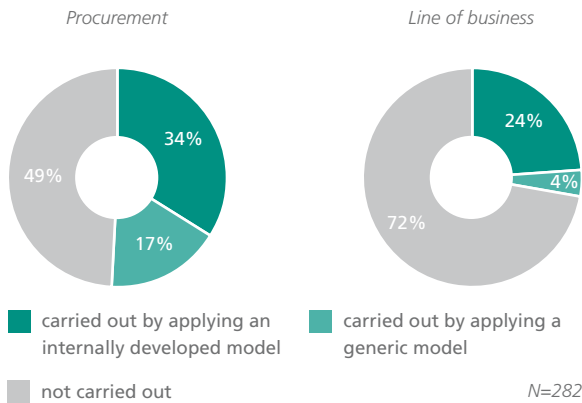
Figure 11: Measurement of KIS project result quality by function

We wanted to understand how information - specifically about problems in KIS projects - is fed back to the procurement function. As this is a prerequisite for improving the quality both of scoping and provider selection – we had participants describe the feedback format. Companies make a small, but clear distinction with regard to project success: The companies with high project success make more – and more structured – use of feedback (Figure 12).
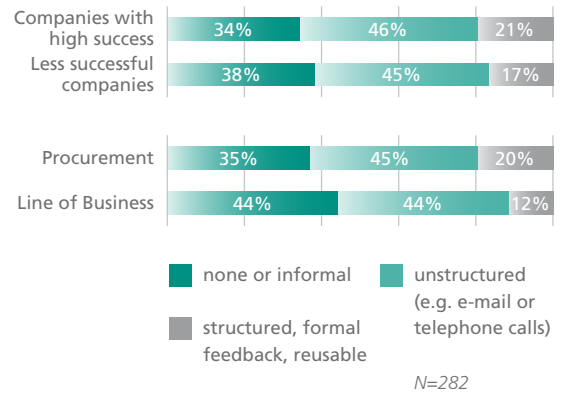
Figure 12: Usage of feedback of problems from project management to procurement after the project conclusion

Summarizing, the level and structure of feedback regarding the quality of KIS project results leaves much to be desired and has revealed a star-tling gap of perception between procurement and line of business functions. In the section on culture later on, we will gain more insights regarding this communication gap as well as basic assumptions of these two functions which are key to the service procurement process.

4.3 ORGANIZATION

While one would assume the procurement function to be involved in every instance of KIS procurement, there are two paths – an undesired and a desired one – in which services are procured without direct involvement of the procurement function: so-called "maverick buying" (circumventing procurement) and framework contracts which have been negotiated by procurement and are invoked by line of business. It is interesting to note that in less successful companies buying without direct involvement of procurement happens increasingly often – with 61% vs. 50%.

When procurement is involved in procuring KIS, an important question is how it is measured and incentivized. Some of the traditional traits in goods procurement – such as lowest-price / rebate focus – may have severe consequences in KIS when outcome quality is difficult to capture and to embed in contracts.

This yields interesting insights when analyzing individual Key Performance Indicators (KPIs) used – showing that "negotiation success" is a more important measure for procurement than project success – as well as when contrasting different perspectives of the functions involved. Line of business mostly seems to be unaware of how procurement is measured (Figure 13).
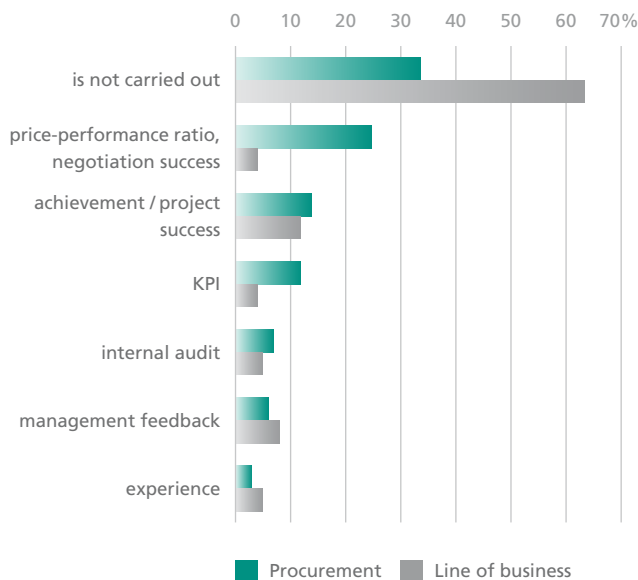
Given that a large share (34%) of procurement managers state that their performance is not really measured – and that in line of business a full 64% believe procurement performance is not really measured – are there some lessons to be learned from the companies with high project success? It appears that they are characterized by a higher level of customer orientation (line of business' satisfaction with procurement) and a more direct impact of project results on procurement's performance rating, as can be seen in Figure 14.

Does line of business' satisfaction with procurement have a formal influence on procurement's performance rating?

	yes	no
Companies with high project success	58%	42%
Less successful companies	46%	54%

Does line of business' satisfaction with the projects result have a formal influence on procurement's performance rating?

	yes	no
Companies with high project success	55%	45%
Less successful companies	50%	50%

■ yes ■ no   *N=282*

Figure 14: Formal influence of line of business' satisfaction on procurement's performance rating

Finally, when discussing organization and governance issues, we question whether procurement KPIs are actually reinforcing the behavior they are intended to promote. We found that about 10% of interviewed procurement managers are faced with dubious KPIs. So a measurement of "negotiation success" is sometimes used to compare the price quoted before and after a round of negotiation. This metric, however, implicitly assumes that project quality is unaffected while it encourages procurement managers to cut either the amount of time or the quality of resources committed to the project. Similarly, the metric rewards inflated provider quotes initially to help procurement meet their KPIs regardless of the impacts on the project for which the services are purchased.

Source: clustered open answers, N=196

■ Procurement ■ Line of business

Figure 13: Methods to measure the performance of the procurement function within the scope of procurement of KIS

4.4 PROCESSES

When examining the formal implementation of KIS procurement, (Figure 15), three process steps are frequently not formally implemented: a) obtaining an overview of the provider market in the form of a long list, b) making the request for proposal public and c) measuring the results.

It is interesting to observe that the desire for more structure in most steps from some companies is balanced by an almost equal desire for more flexibility from others. Two notable exceptions – with almost 30% of procurement managers desiring more structure – are the cost estimate and the measurement of results and feedback. The latter shows the clearest desire for more structure. As we will see again later, this highlights a very problematic aspect of the process as particularly this step enables organizations to learn from and improve their management of KIS procurement.

Less successful companies overall seem to be much less satisfied with all the steps in their KIS procurement process than their more success-ful peers. Also, their demand for change is overall leaning much more towards an increase in structure, with an especially salient problem concerning the cost estimate of KIS projects (Figure 16).

Of course, increased structure and increased flexibility are contradictory goals – each with their own sets of problems. Moving towards one

end of the spectrum may see advantages offset by disadvantages of giving up on the other objective – and cause the organization to move "back and forth". One way to deal with this pendulum effect and adapt better could be by providing both exception handling ("quick fix") and a "meta-process" that can be easily invoked to change existing process structure (lasting improvement) when a procurement process is deemed by its agents as being too strict to be both efficient and effective for KIS.

One common characteristic in both successful and less successful orga-nizations is the desire to have more structure in the measurement and feedback process. Another commonality should also make us think: It is interesting to note that both are looking for more flexibility in the selection of service providers – a demand that would not be surprising coming from line of business. However, in this sample 9 out of 10 participants were procurement managers. If the very people in charge of managing the process ask for more flexibility in one of their main tasks, organizations should take note.

So how large is the expected benefit if the processes and standards were better suited to KIS procurement? What share of the effort could be cut? While the participants from successful organizations provided a slightly lower estimate than their peers from less successful companies, both have indicated potential savings in the order of 30%.

Formal implementation of KIS procurement process within organizations

Companies wish for...

more structure   more flexibility

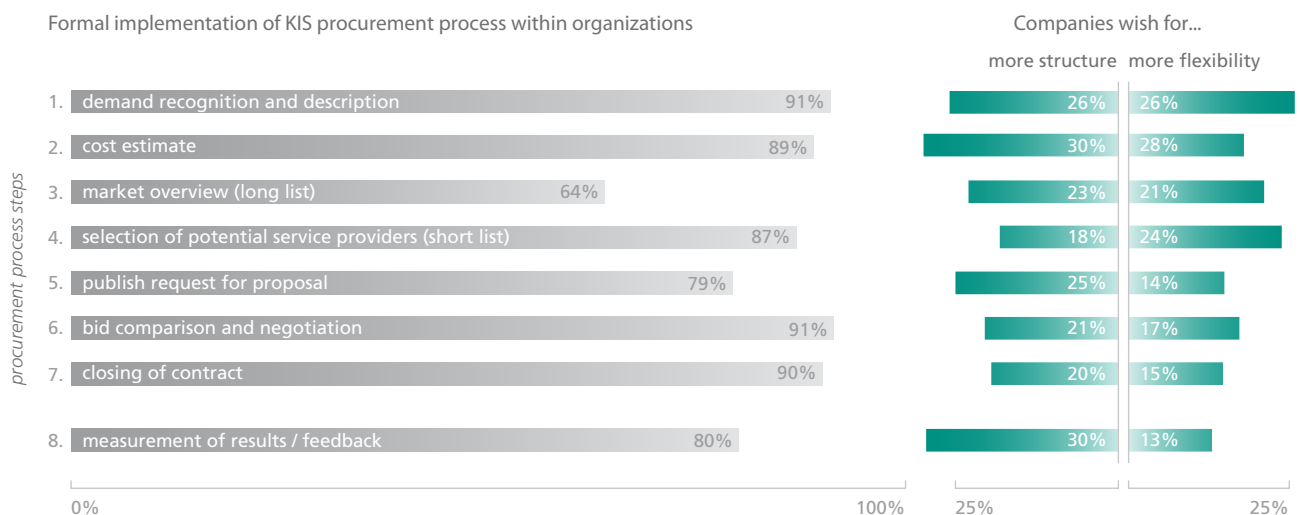| procurement process steps		more structure	more flexibility
1. demand recognition and description	91%	26%	26%
2. cost estimate	89%	30%	28%
3. market overview (long list)	64%	23%	21%
4. selection of potential service providers (short list)	87%	18%	24%
5. publish request for proposal	79%	25%	14%
6. bid comparison and negotiation	91%	21%	17%
7. closing of contract	90%	20%	15%
8. measurement of results / feedback	80%	30%	13%

0%   100%   25%   25%

Figure 15: Formal implementation of KIS procurement process steps and desire for more structure or flexibility

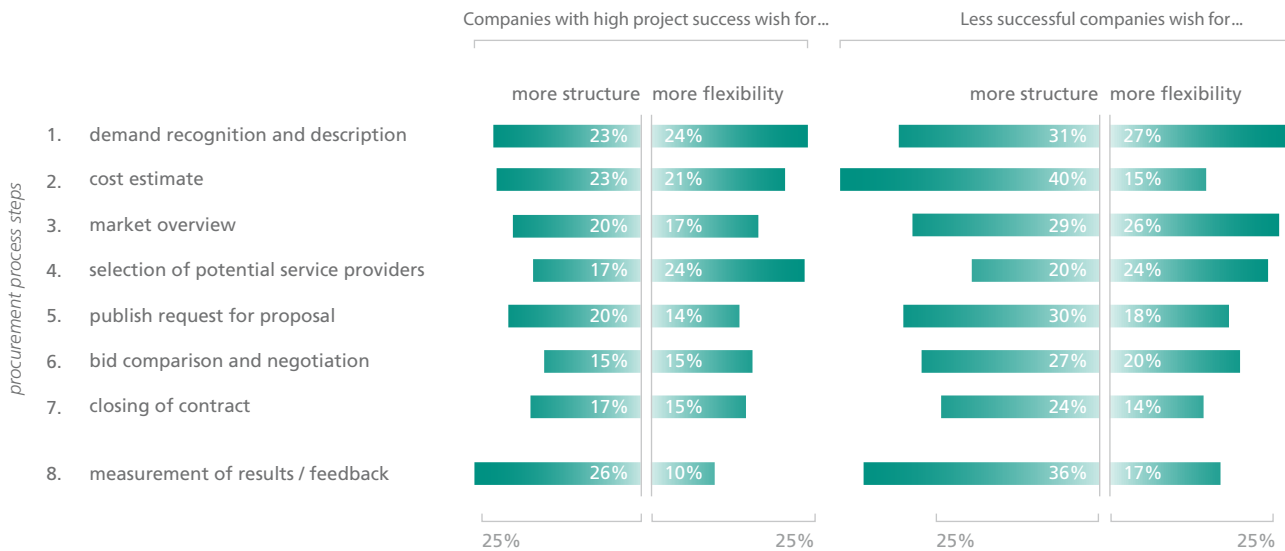| procurement process steps		Companies with high project success wish for…		Less successful companies wish for…	
		more structure	more flexibility	more structure	more flexibility
1.	demand recognition and description	23%	24%	31%	27%
2.	cost estimate	23%	21%	40%	15%
3.	market overview	20%	17%	29%	26%
4.	selection of potential service providers	17%	24%	20%	24%
5.	publish request for proposal	20%	14%	30%	18%
6.	bid comparison and negotiation	15%	15%	27%	20%
7.	closing of contract	17%	15%	24%	14%
8.	measurement of results / feedback	26%	10%	36%	17%
		25%	25%	25%	25%

Figure 16: Desire for more structure or flexibility in the KIS procurement process by project success

If we combine the outcome of the process analysis and the savings potential, we get some disconcerting results. First, the process is perceived as not fitting the KIS requirements very well (with 35–50% of participants expressing dissatisfaction – and seeking improved results in divergent directions of more structure and more flexibility). Second, results measurement and feedback seems to pose a very salient problem, indicating that the system is currently not set up for learning through continuous improvement. Third, procurement experts in both successful and less successful companies estimate about 29 to 33% of "waste" in the current practice. This should be seen as a clear call-to-action towards a fundamental revision of existing KIS procurement processes.

4.5 TOOLS

During the service provider selection phase, organizations use different tools and approaches to decide which KIS provider to choose. It is interesting to see that companies mostly rely on internal sources; external sources such as a provider audit or ratings in a provider database are not used as frequently. The success perspective does not add more insights here – with the only exception that companies with high project success more frequently exploit line of business recommendations (Figure 17). An analysis of this data by company size indicates that organizations with more than 10,000 employees make much greater use of external tools (up to twice as much as their smaller peers), such as provider databases or external quality measurement models.
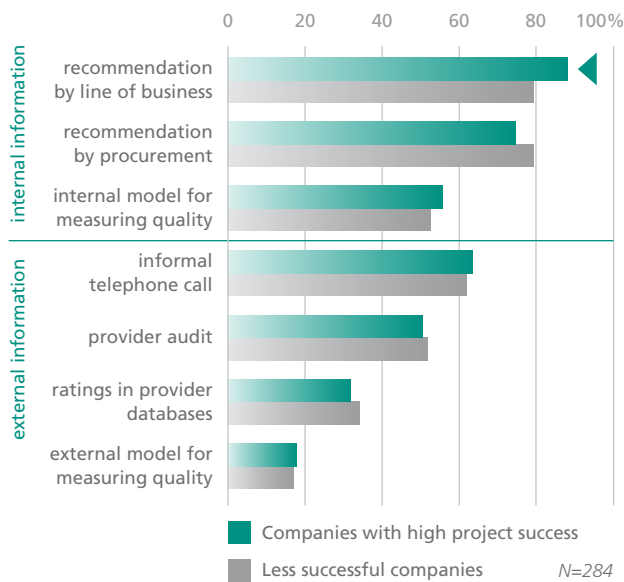
Figure 17: Tools and approaches used for provider selection

Once procurement contracts have been concluded, it is important to track and understand their overall volume and portfolio both to enable organizational learning and to leverage efficiencies as well as buying power. However, about 40% of organizations do not have the ability to perform an IT-based analysis of their service procurement volume – this is an important limitation as it prevents transparency on any details in the overall service procurement spending. A little over a quarter of organizations can track their service procurement, but lack a more detailed breakdown of contracts. Only less than a third of organizations have the ability to analyze the service procurement volume differentiated by types of service. It is interesting to see that those companies with a higher project success rate also have a greater ability to analyze their service procurement portfolio – something they can build on for learning from and improving their control of the procurement process (Figure 18).
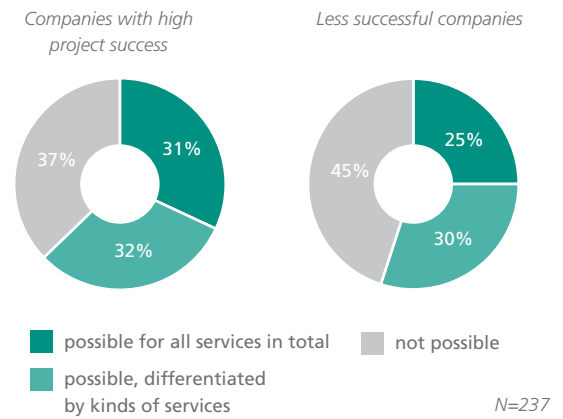
Companies with high project success — *Less successful companies*

- possible for all services in total
- possible, differentiated by kinds of services
- not possible

N=237

Figure 18: Possibility of IT to support the analysis of the service procurement volume

Seen in conjunction with the discussion on the process dimension itself, adequate tools should be introduced to provide the structure, support and transparency for the process. Missing the ability to analyze the service procurement volume, or only doing so at a very high aggregation level deprives an organization of many insights and potential efficiency gains.

4.6 CULTURE

"Providers do not take procurement seriously – as all facts have already been discussed with line of business. Procurement is degraded to mere price-bargaining."
— Procurement officer

We have found evidence of different expectations, conflicts in the relationship, and communication barriers between procurement and line of business causing a great amount of friction in KIS procurement.

Looking beyond the company boundaries, we asked the procurement managers about the main sources of conflict in the provider-customer relationship. Poor documentation, lack of clear goals, communication problems as well as different mindsets and methods were all stated as important factors (Figure 19).

Less successful companies highlighted a greater extent of challenges in all of the areas, while two of the problems showed the most striking
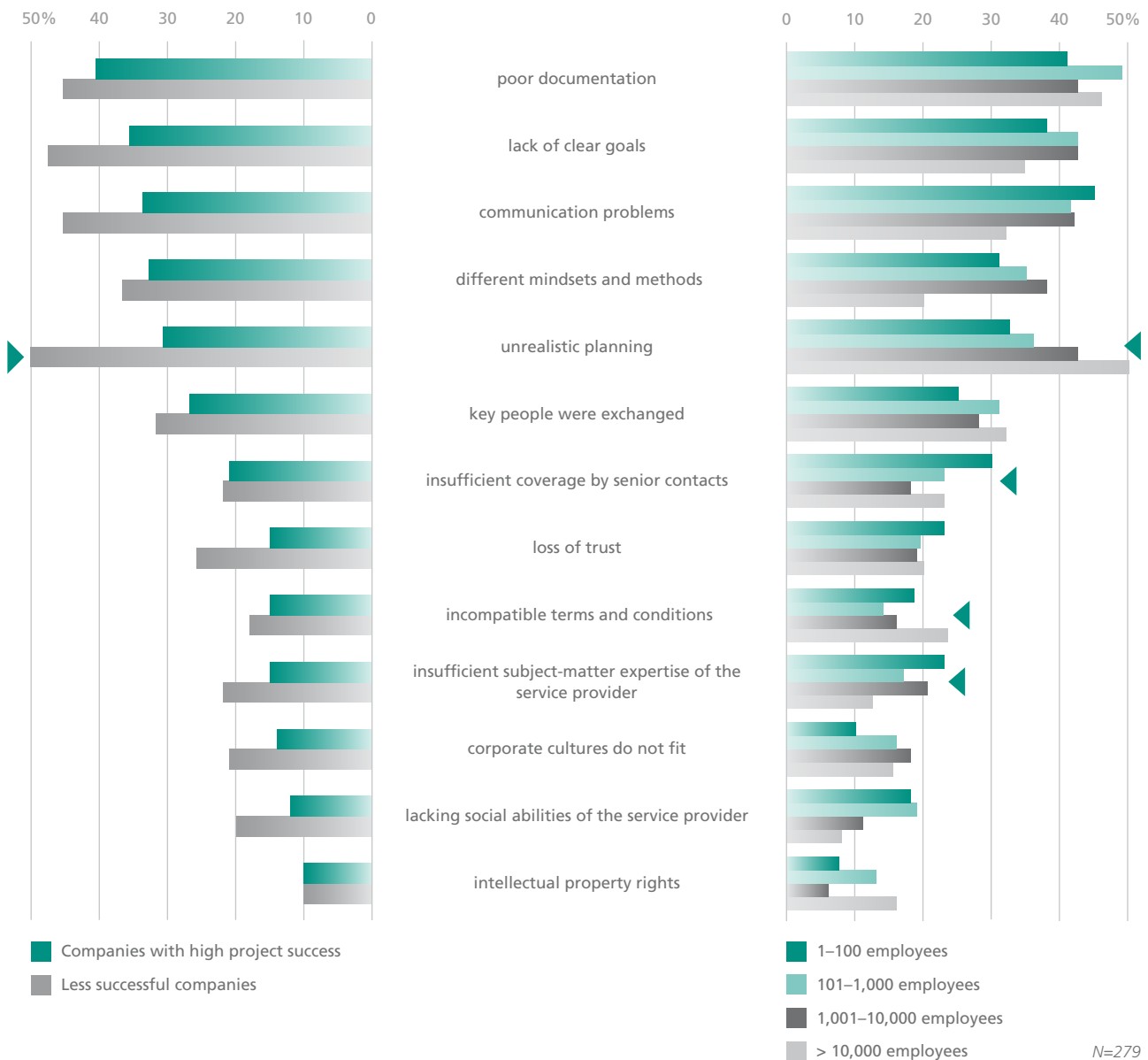

Figure 19: Sources of conflict in the provider-customer relationship by project success and organization size

differences compared to more successful organizations: Unrealistic planning and loss of trust. These factors reveal two issues inherent in KIS: The difficulty of scoping KIS work and the importance of establishing a base of trust for effective collaboration.

What is particularly relevant about the unrealistic planning is the difficulty of defending a realistic project scope and effort estimation against intense negotiation pressure. If we view the results from the perspective of company size, we see that the problem of unrealistic planning steadily increases with company size. As bigger companies are generally experienced with project work, often have an internal project management profession, and should be expected to in fact have better planning abilities, the increase of the planning problem with company size might be related to the negotiation power of the larger customer leading to KIS projects that are under-resourced from the beginning.

Reviewing the problems experienced with KIS procurement, it is important that the best project results in terms of time, budget and quality are pursued. Instead, it appears that with poor results feedback and a limited ability to objectively define quality in KIS, some organizations are reaching negotiation targets for the more easily documented factors – time and budget – at the expense of the core project outcome – quality. Here a different kind of balancing of negotiation targets that is used in goods or material procurement should be considered, which is typically not reflected in the process and measures used for procuring KIS today.

Another of the "soft" top problems involves communications: If we drill down on this, a content-analysis clustering of open responses shows that missing expertise or information is a main issue. Two problem clusters appear to provide particularly large obstacles for those organizations with lower success rates: lack of transparency and insights and especially misunderstandings, which are about 2–3 times as salient compared to more successful organizations (Figure 20).
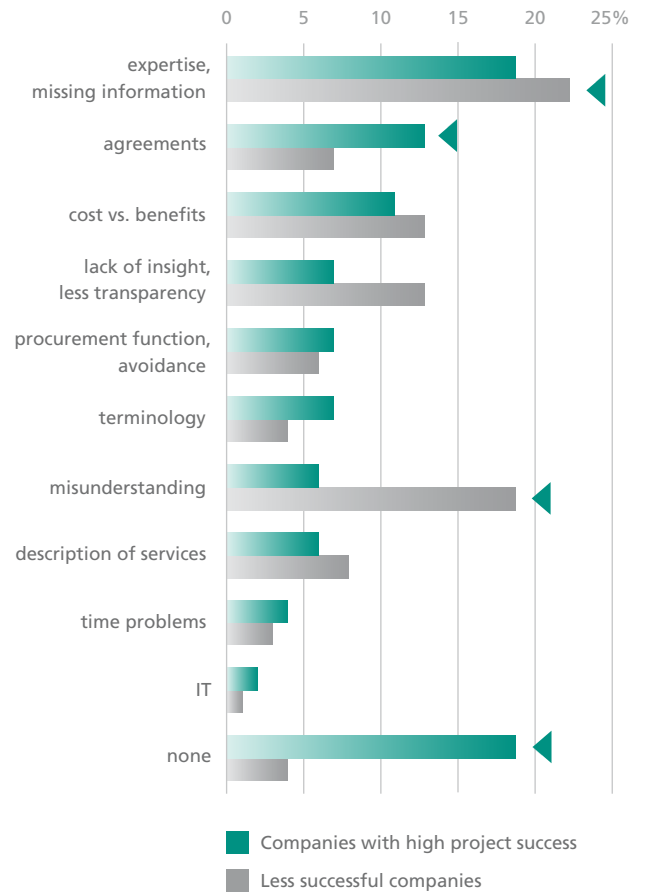
Source: Clustered open answers   N=167

Figure 20: Typical communication problems between procurement and KIS providers

4.7 CROSS TOPICS

Choosing the best contract type for collaborating with the KIS provider is highly critical for the success of the whole KIS project.

A continuing thread in the interviews was the difference in perspectives, assumptions, and cultures of procurement and line of business functions. This becomes evident when organizations choose the contract type for a particular problem at hand. Therefore, we asked procurement and line of business functions which contract type – time & material, fixed-price or risk-profit-sharing – they felt was most suitable for given project attributes (Figure 21).

We can see very pronounced differences in the assumptions and beliefs about these basic, formal aspects of KIS procurement. While risk-profit-sharing contracts are currently uncommon in practice, they are seen as significant – sometimes dominant or desirable – especially from the line of business perspective.

Line of business seems to be much more open for risk-profit-sharing approaches and expects from them higher outcome quality and better management of complexity.
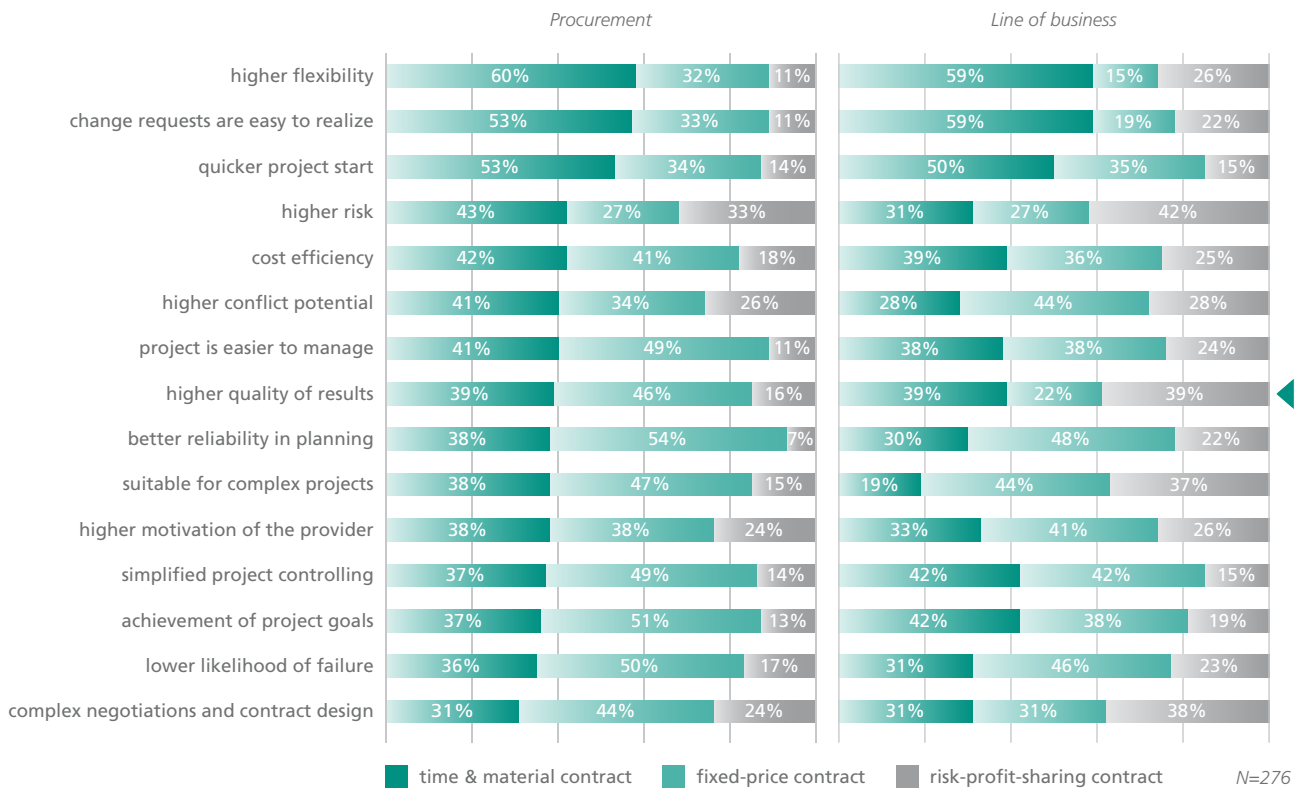

Figure 21: Contract types most associated with each of the attributes, by function
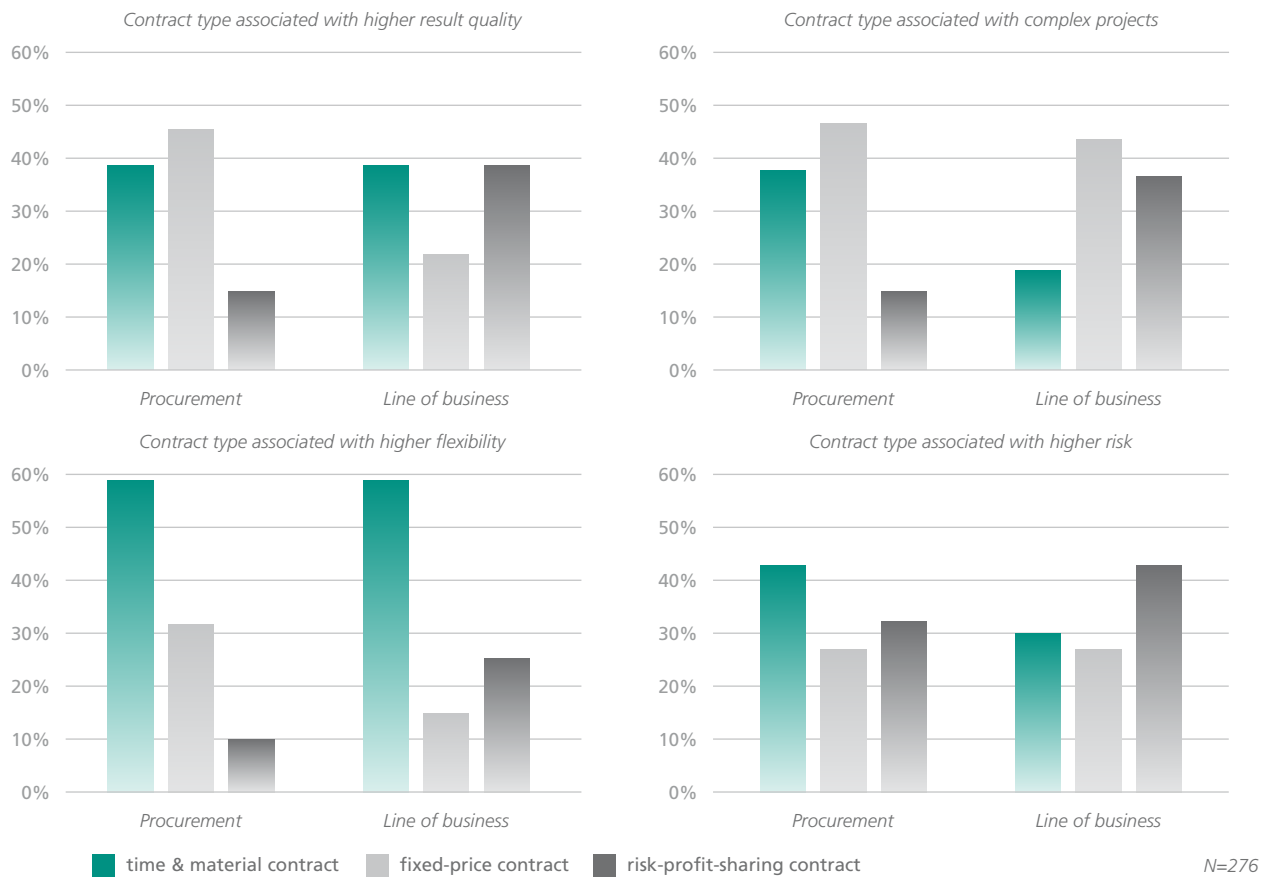
Figure 22: Contract types related to higher result quality, complex projects, flexibility and higher risk

Procurement on the other hand tends to favor 'classic' approaches like time & material and fixed price – with an overall bias towards fixed-price contracts – rating them consistently higher on positive attributes and lower on negative ones than line of business (Figure 22).

Lines of business clearly state that risk-profit-sharing contracts are associated with higher risk. Actually, they rate it as the most risky contract type – a label that procurement instead bestows upon time & material contracts. But despite the awareness of this risk, line of business is clearly more open to risk-profit sharing contracts and considers them the preferred choice in many situations.

With contrary beliefs between the involved functions about basic KIS procurement questions – such as which contract type is most suitable for complex projects or highest result quality – it is not surprising that the process is perceived to hold potential for improvement. However, trying to enforce alignment of these functions through formal process steps does not solve the problem as long as fundamentally different assumptions and belief systems are at work. Instead, it would be better to work on aligning the different assumption and belief systems – e.g. by means of staff rotations or closer integration of procurement and line of business functions.

Finally, we asked participants to share what they would do if they received a mandate to change their current procurement process. Interestingly, the top answers are about transparency, structure, building competence, expertise, and goal clarity. The desire for more budget or personnel came in last. When it comes to trying to implement these changes, this can be a mixed blessing: On the one hand, it suggests that many of the desired changes may be implemented without a significant increase in staff or budget. On the other hand, it also indicates that procurement managers do not believe that simply throwing resources at the problem will do any good (Figure 23).
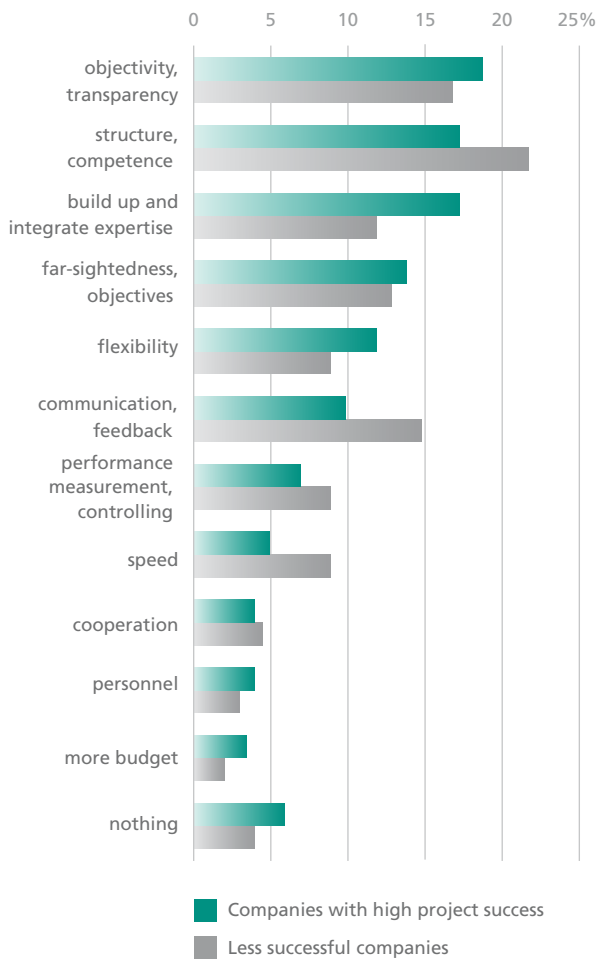
Source: Clustered open answers, N=118

Figure 23: Clustered interventions in the current KIS procurement process

5. RECOMMENDATIONS

Based on our research, the recommendations for organizations procuring KIS fall into three categories:

1. Fixing current problems
2. Smarter service procurement
3. KIS procurement strategy

We will discuss each of them in detail below.

5.1 FIXING CURRENT PROBLEMS

First, we will discuss problems that can be addressed with limited initiatives in a limited area, mostly within existing structures. These problems can typically be solved within current practice and assumptions.

1. Enforce communication between procurement and line of business beyond the procurement software.

2. Ensure that the KPIs you use to measure your procurement department do not reward behavior patterns that sabotage the goal of the KIS procurement process.

3. Close contracts with providers of KIS with involvement of the procurement function and enable procurement to sanction unintended circumvention of its function within the process.

4. Ensure that you are measuring the success of the project and its adherence to agreed time and budget constraints from a business perspective and have this KPI be part of procurement's measurement.

5. Make an effort to identify the root causes for failed or troubled projects involving KIS as well as their real costs to the organization. Such an analysis would examine provider, procurement and line of business as well as their communication and processes and – for the cost analysis – would go beyond the individual project's formal budget to include opportunity costs, time and attention of employees, resulting successes or failure in the marketplace, etc.

6. Ensure price negotiations do not result in poor project planning by lowering the price to a point where the plan is doomed to fail from the outset by being under-resourced.

7. Put a working feedback mechanism in place as part of the standard procurement process to capture and communicate the learnings from each KIS project and provide the basis for improving the KIS procurement approach.

5.2 SMARTER SERVICE PROCUREMENT

Now we will move on to systematic problems reinforced by current systems which need to be addressed across the process and across organizational units and typically require reconsidering current practice or assumptions.

Strategy

1. Develop a systematic strategy to learn more about the provider's scoping and his price structure in order to improve the bargaining position when procuring KIS while reducing the likelihood of procuring a troubled project by misguided price pressure.

2. Build up skills specific to KIS procured to provide a focal point within the procurement function and facilitate negotiation and communication with the line of business and service provider.

3. Re-evaluate the partnering strategy and main requirements of KIS providers, allowing for KIS-specific needs to be different from general procurement.

Methods

1. Use formalized feedback to ensure effective purchasing and line of business communication quality also in late project steps and after conclusion of the project.

2. Leverage the experience of line of business and procurement to design and apply new types of contracts like risk-profit-sharing.

3. Design a framework for KIS categories and provide guidance with regard to contract type and success measurements.

4. Close the "quality measurement gap" – that procurement believes measurement of project success occurs more frequently than line of business knows it happens.

Organization

1. Measure and track project success by using indicators tailored to services and use this when rating the procurement function's performance in addition to their existing KPIs.

2. Better integrate procurement and line of business know-how and perspectives by rotation, cross-mentoring or seeding topical communities.

5.3 KIS PROCUREMENT STRATEGY

Processes

1. Examine the existing procurement process with regard to KIS-specific requirements and set up a mandatory quality feedback step from the project manager to procurement, to ensure the organization learns from past projects.

2. Re-balance the trade-off between structure and flexibility in your processes and ensure this trade-off is tailored to the requirements of KIS procurement.

Tools

1. Provide the procurement department with the tools required to gain transparency over the different KIS procurement categories, contracts, partners, and project successes, to improve transparency of the KIS project portfolio throughout the organization.

2. Ensure that the IT-supported workflow between line of business and procurement adequately reflects the requirements of KIS and allows for a joint, step-by-step refinement of requirements, not "one-shot".

3. Review where the current procurement process may be too "tool-heavy" for KIS procurement: Business and procurement should not only be communicating via an application.

Culture

1. Provide a context and mechanism for line of business and procurement employees to share their experience within the procurement process.

2. Gain a realistic impression of potential conflicts in the supplier relationship to better manage disputes between line of business, procurement and the provider of KIS and to create a joint vision of project success in terms of time, budget and quality between these parties.

3. Align mutual expectations and expertise, and develop a joint language and understanding to improve efficiency and effectiveness.

This is really a "meta problem": What is the organization's strategic decision with regard to the value proposition of the procurement function for KIS?

The strategy for KIS procurement should determine the procurement department's value profile. Line of business and procurement have diverging perceptions on characteristics of contract types, the mutual understanding of roles and responsibilities and the type of value that procurement should provide with regard to KIS.

These discrepancies demonstrate the need for alignment on common expectations. Therefore, it is necessary to clarify what role the procurement function should play for KIS, what procurement's main added-value to the company is in this context and how this function should be measured and incentivized accordingly.

Making a Strategic Decision

The discrepancy between procurement and line of business expectations should be addressed with a strategic decision. Procurement needs to align with the company's overall business strategy to define its own value profile (Figure 24).

Scenario A: Basic KIS Procurement Service

In this scenario the role of procurement with regard to KIS would be to act as a service provider who manages the procurement process mainly by covering the administrative tasks of procurement while leaving the decisions and content discussion to line of business.

- Measurements for procurement would be constructed along KPIs measuring process speed and efficiency.
- Skills for procurement would center on the efficient formal support of the process, but would not need specific expertise in negotiating with providers of KIS.
- Procurement's learning role would be to provide the basic infrastructure and process to capture project success information for the line of business, but the responsibility for this learning resides with the line of business function.

This is a process efficiency perspective of "doing things right".

Basic KIS Procurement Service

Premium KIS Procurement Service

• Minimize procurement-side costs • Trade-off decisions between quality and cost not impacted by artificial procurement KPIs **STRENGTHS**	• No KIS market expertise in procurement • Line of business has to build procurement-related skills up to and including request for proposal writing to make up for limited support **WEAKNESSES**
• Clear separation of roles between procurement and line of business can support more constructive working relationship **OPPORTUNITIES**	• Losing control of spending, if line of business has more decision power • A provider's personal relationship with line of business may become more important than his capabilities **THREATS**

• Procurement builds subject matter expertise on KIS and can translate 'half-baked' line of business demands **STRENGTHS**	• Need to invest in higher value skills and training for KIS procurement, increasing expenses • Several 'spots' of expert knowledge may prevent central decisions **WEAKNESSES**
• Procurement can show added value and speak line of business' language – reducing conflict potential **OPPORTUNITIES**	• Threat of overspending if KIS procurement is too strongly focused on project success • Line of business may feel challenged by procurement expanding its content expertise **THREATS**

Figure 24: Analysis of Strengths, Weakness, Opportunities and Threats (SWOT) for KIS procurement strategy scenarios

Scenario B: Premium KIS Procurement Service

The role of procurement with regards to KIS would be to provide a value-added service to line of business through a deep understanding of the service-provider quality and by generating learnings from project quality feedback.

- Measurements for procurement could partially be based on success criteria of projects.
- Skills for procurement would include expertise for both approach and content for the types of KIS the company procures on a regular basis.
- Learning role of procurement would be to track the project success data and be responsible for implementing learning as part of their premium service provider role to line of business.

This is an effectiveness scenario of "doing the right things". These are of course extreme points along a dimension of choices, which will ultimately depend on an organization's business strategy – and the importance of KIS to its competitive positioning. However, this should not be misunderstood to mean organizations can avoid taking the hard strategic decisions that are required and rather muddle through with what they have.

The more than 300 procurement experts interviewed for this study clearly indicated that the existing approach to procuring KIS currently appears to be inefficient, often even ineffective; that it lacks feedback loops and suffers from mismatches of measurements, expectations and skills at the interface of procurement and line of business functions. We believe that addressing the core of these issues requires a clear – and perhaps hard – strategic choice. And if that strategic choice means taking a new approach, then this will require implementing the new approach with full determination and stamina – because it will not be a painless process. Real change is a hard task.

6. SUMMARY

We have seen that there are significant problems with regard to both effectiveness and efficiency in KIS procurement. In order to overcome these problems, organizations should consider their procurement function's current performance along six dimensions: Strategy, Methods, Organization, Processes, Tools and Culture. In addition to addressing specific problems in these six dimensions, our research has revealed a pattern of problems related to a lack of a clear and shared under-standing of procurement's role, governance skills and added value in the procurement of KIS. These issues cannot be solved by isolated interventions, but first require a strategic decision with regard to the role procurement should play when it comes to KIS, then a clear measurement system and resources aligned with this value proposition. Once this has been achieved, the value profile of procurement can be used to tailor the activities along the six dimensions and launch a concerted effort to integrate procurement and line of business functions to ensure effectiveness, not just efficiency of the process.

Outlook

The findings of this survey reveal the need for action in further analysis and research on different aspects of procuring KIS. By integrating other concepts like tailored contract management, smarter Service Level Agreements or holistic customer-provider interactions, we will better understand the conditions KIS providers and customers are faced with.

The gap in expectations on contract types between different stakeholders builds up barriers which prevent a productive team play, although each unit acts in best faith. Our results point out that communication and true 'service relationships' between the involved parties are the most powerful levers to positively influence project results.

These findings will not only generate positive impacts on the project success of KIS customers. For KIS providers, several options will become available as well. A procurement environment, which provides both partners with a better understanding of their counterpart's possibilities and needs, will enable a much more trustful and gainful co-creation relationship.

At the KSRI 'Service Innovation & Management' research group, we understand services in an economic sense – they are the intentional co-creation of value. Our research strategy focuses on examining this co-creation from two perspectives: 'service relationships' and 'service innovation'.

We examine service relationships on the premise of economic design of cooperation with additional projects on performance-based contracts, customer intimacy, service value nets or smarter service level engineering.

From the perspective of service innovation, we are currently developing methods to capture additional value potential with projects on the service innovation method portfolio, collaborative innovation and human based eServices (People Services).

If you are interested in engaging in the topic of KIS procurement and promoting research in this field, or have your own insights to share, we would like to hear from you. Please feel free to contact us at the KSRI: www.ksri.kit.edu.

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Founded in 2008, the KSRI is an innovative public-private partnership of IBM and the Karlsruhe Institute of Technology (KIT). The KSRI develops concepts, methods and technologies for innovators and decision-makers to generate and utilize economic value in an increasingly "service-oriented economy". The KSRI employs a holistic, inter-disciplinary approach to solve business-relevant problems along the dimensions 'people', 'organization', 'information' and 'technology'.

Zentrum für Evaluation und Methoden (ZEM)

The Zentrum für Evaluation und Methoden (Center for Evaluation and Methods – ZEM) was founded by Prof. Georg Rudinger at the University of Bonn in 1999. Twenty researchers work at the ZEM in the areas of evaluation, media media, and as social and market research. The interview center with 30 telephone workstations conducts surveys with difficult-to-reach target groups to the highest standards. The statistics unit analyzes survey data from interviews, online and paper-and-pencil surveys, including foreign languages.