



Foreword



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The world is digitizing rapidly and becoming increasingly connected. Widespread terms such as Internet of Things and Industry4.0 reflect this. Traditionally, the procurement department falls behind in digital transformations, resulting in inefficiencies, unnecessary high costs and being perceived as an annoyance by the operational departments. But this situation is changing.

The traditional procurement function is evolving, and many people are afraid of this. They wonder about the future, whether procurement will still play a role, while they should be wondering what opportunities it offers, for example in the context of digital, and how procurement can act on the next level.

Procurement, and at the same time management and business stakeholders, should move away from the traditional focus on cost reduction and rather focus on how to get more or, even better, most value out of the relationship with their suppliers. This way procurement will shift to the core of the organization. Unfortunately, the courage to invest in and to execute a procurement transformation often takes far too long, because attention regularly shifts to opportunities or challenges that are regarded as more pressing. However, by transforming the procurement function and providing the right skills, digital enablers, purchasing systems and tools, pure cost management becomes a commodity. As a result, procurement can take up responsibilities beyond their traditional scope. They can become a change agent and transformation partner of the business, focusing on efficiency and innovation, turning themselves into a value adding department.

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Capgemini Digital Procurement Research 2018

Cloud procurement solutions offer many exciting opportunities for every business and in both direct and indirect procurement. However, since there are many players, it is a challenge to determine which ones to shortlist or select.

Therefore, we are proud to present the Capgemini Digital Procurement Research 2018. This research will provide you more insights on functionalities offered by various solution providers and share insights, lessons learned and client cases. Of course, there are other well-respected research reports on procurement solution providers. However, based on feedback from clients we saw a need for a research that purely focused on available functionality. Since many organizations are still at the beginning of their transformation journey, our report should be seen as a starting point for your orientation during the ramp up of your transformation journey. Understanding the basics and getting that right is key to future success. We trust that this report will provide with insights that may help you in creating the business case to transform your procurement organization. And of course, we are always willing to help you.



Table of Content

FOREWORD	. 3
INTRODUCTION	7
THE CAPGEMINI PROCUREMENT WHEEL	. 8
OVERALL RESEARCH RESULTS	. 10
RESEARCH METHODOLOGY	. 12
SOURCING	. 14
CAPGEMINI SOURCE-TO-CONTRACT MATRIX	· 15
HOW WE SEE STRATEGIC SOURCING	
HOW CAPGEMINI IS HELPING A GLOBAL MANUFACTURER IMPLEMENT A SOURCE-TO-CONTRACT CLOUD SOLUTION	
RESEARCH OBSERVATIONS – STRATEGIC SOURCING	
RESEARCH OBSERVATIONS – CONTRACT MANAGEMENT	
RESEARCH OBSERVATIONS – SUPPLIER PERFORMANCE MANAGEMENT	. 22
PURCHASING	24
CAPGEMINI PURCHASE-TO-PAY MATRIX	
HOW WE SEE PURCHASING HOW CAPGEMINI IS HELPING CATHAY PACIFIC TO HARMONIZE THE PURCHASING PROCESSES AND MIGRATE TOWARDS SAP	26
S/4HANASignal Cathat Pacific to Harmonize the Porchasing Processes and Migrate Towards sap	. 28
research observations – purchasing	
ACCOUNTS PAYABLE	32
HOW WE SEE ACCOUNTS PAYABLE	33
AUTOMATING AP – HOW CAPGEMINI IS HELPING INDIAN OIL & GAS GIANT BHARAT PETROLEUM CORPORATION LIMITED	
GO PAPERLESS	. 34
RESEARCH OBSERVATIONS – ACCOUNTS PAYABLE	35
REPORTING & ANALYTICS	26
REPORTING & ANALTTICS	. 30
HOW WE SEE REPORTING & ANALYTICS	
HOW CAPGEMINI CAN HELP OPTIMIZE YOUR PURCHASE-TO-PAY PROCESS WITH PROCESS MINING PARTNER CELONIS	
RESEARCH OBSERVATIONS – REPORTING & ANALYTICS	. 40
MASTER DATA MANAGEMENT & TECHNOLOGY	12
HOW WE SEE MASTER DATA MANAGEMENT	
RESEARCH OBSERVATIONS – MASTER DATA MANAGEMENT AND SUPPORTING TECHNOLOGIES	
OTHER TECHNICAL OBSERVATIONS	. 46
IMPLEMENTATION & PRICING	. 48
HOW WE SEE IMPLEMENTATION	40
HOW WE SEE IMPLEMENTATION HOW CAPGEMINI IS HELPING A FRENCH PERSONAL CARE COMPANY OPTIMIZE ITS SOURCING STRATEGY	
RESEARCH OBSERVATIONS – IMPLEMENTATION & PRICING	
RESEARCH CONCLUSION	. 54
SOLUTION PROVIDER SUMMARIES	. 56
INTRODUCTION TO THE SOLUTION PROVIDER SUMMARIES	. 57
ACKNOWLEDGEMENTS	. 76
CAPGEMINI'S GLOBAL PROCUREMENT CONTACTS	70
CAFULPIINI 3 ULUDAL FRUCURLIVILI CUNTACTS	. 18



Introduction

The procurement organization is evolving. It is transforming to keep up with the change that is happening all around. Over the past decade the focus of most procurement organizations was on realizing cost savings. Today, many organizations are considering to or are already transforming their procurement departments from focusing on cost savings to focusing on value adding. They are trying to move from procurement being a bureaucratic necessity to being a value-adding enabler. This can be seen, for example, by procurement ensuring sources of supply, increasing supplier intimacy and promoting co-innovation.

In addition, the announcement that SAP SRM will no longer be supported in a few years triggered many organizations to re-evaluate their procurement IT landscape and corresponding processes. If you must change your procurement IT landscape anyway, why not consider the overall approach to procurement?

Part of the current procurement transformation is to look at procurement from end-to-end rather than siloed. Due to the previous siloed approach, many organizations faced sub-optimization of their processes, reflected by a slow and inefficient process with many manual interventions, low (spend) visibility, a significant percentage of maverick buying, and a scattered IT landscape. Often, issues are thrown over the virtual fence, because no one feels responsible or has real ownership. These are all challenges that many procurement departments have tried to overcome by adjusting the individual siloes. Unfortunately, the realized results were often temporary, at the cost of the other siloes or at the cost of the business.

For example, introducing catalogue ordering led to an increase in handsfree ordering, but at the same time to a significant increase in the number of invoices received by the AP department. Another example is that implementing a 'No PO, No Pay' policy led to increased 'spend under control' for purchasing, but also to an increased workload for the business to create purchase requisitions, and for accounts payable to reject the non-compliant invoices and inform the supplier and business.

This shift to an end-to-end approach reflects that organizations realize that it is nearly impossible to make changes to one procurement element without affecting other elements at the same time.

To visualize and guide the end-toend approach, a procurement model that properly reflects this is needed. Capgemini's Procurement Wheel (see figure 1) is fit for this purpose.

Definitions				
Procurement:	Overall process from sourcing to accounts payable, also known as Source-to-Pay			
Sourcing:	The selection of a supplier, negotiation, contract creation, contract + supplier performance management and supplier information. Also known as Source-to-Contract			
Purchasing:	Operational activities to place purchase order, including requisition creation, PO creation, goods/services receipt. Also known as Purchase-to-Order			
Accounts Payable:	Invoice receiving, processing and payment			
Source-to-Contract:	Strategic sourcing, contract management, supplier information and supplier performance management activities			
Purchase-to-Order:	Operational purchasing activities only			
Purchase-to-Pay:	Operational purchasing + accounts payable activities			
Order-to-Pay:	Accounts payable activities only			
Source-to-Pay:	All sourcing, purchasing and accounts payable activities			

The Capgemini Procurement Wheel

Instead of having multiple cycles that can be interpreted by organization as different departments with different systems and different accountable people, the Procurement Wheel shows only one cycle, embracing the end-to-end and integrated approach. The procurement process should be interpreted as starting with sourcing and ending with accounts payable. After all, if you want to buy something, you select a store or web shop (sourcing), pick the items you want to buy (purchasing) and then pay for it (accounts payable). It does not make any sense to neglect accounts payable from the procurement process, because buying something without paying does not lead to many sustainable relationships.

Integrated procurement also relies on other elements. Firstly, the data driven component is reflected by having master data at the heart of the wheel. It is the grease that keeps the wheel turning. Many organizations underestimate the necessity of having clean and consistent master data. This often leads to challenges and potential delays when moving to new cloud procurement solutions, since these rely on sound master data to operate smoothly.

Secondly, the overarching procurement strategy and target operating model provide guidance and perspective to the activities in the wheel. This will, in the end, set apart one procurement organization from another.



Figure 1: Capgemini's Procurement Wheel

Organizational impact

There is no need to immediately put people from sourcing, purchasing and accounts payable physically together. Although there are serious benefits to such an approach e.g. elimination of barriers, it is in many cases unrealistic to physically create one department. Most of our clients only consider this when the procurement transformation is combined with the creation of a Shared Service Center.

Nonetheless, we recommend that the barriers are taken away by implementing adequate communication structures and KPIs. Thus, end-to-end KPIs need to be implemented rather than traditional siloed KPIs, for example, hands-free processing (ordering & invoicing) instead of just hands-free ordering. Figure 2 shows an anonymized client example of a procurement organization where all silo KPIs were on green with a minimal 95% success rate, but with extremely poor overall performance. It shows that steering a procurement organization based on siloed KPIs can be a recipe for disaster.

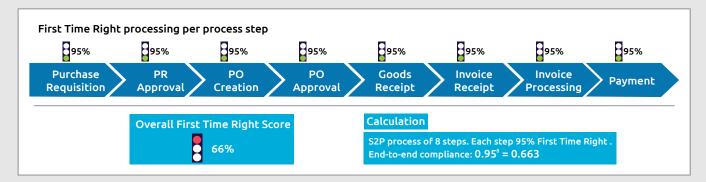


Figure 2: Siloed KPIs leading to an inefficient process

When employees know their counterparts and when proper communication structures are in place, the barriers experienced will diminish. Regular alignment calls between specific people can help with this. Also, there should be one person accountable for the end-to-end process: sourcing, purchasing and accounts payable.

Selecting the right solution provider

An organization's digital procurement transformation is usually combined with, or triggered by, a change in the tools or systems that support procurement. The success of the transformation greatly depends on the extent to which the new tool or system supports and enables the preferred future state of the procurement organization.

This is where many organizations struggle, because how does one determine the future state when there is limited knowledge of what the possibilities and best practices are?

To be able to select the right solution provider, an organization should first determine the preferred future state on a high level, deciding on procurement focus points and guiding principles. That should be the starting point for the rest of the selection process, which is shown in figure 3. It is unnecessary to define and check a long list of requirements with the solution provider. This should be limited to, for instance, security requirements and general high-level requirements.

Organizations can execute this selection phase themselves, however, in many cases it adds value to work together with an independent consultancy firm. These experts have facilitated similar selection phases before, are aware of the possibilities and market best practices, and are able to challenge the solution providers on everything they tell the organization, because they have worked with various solutions in practice through implementation projects.

To determine the shortlist of solution providers, various market researches can be used. However, in most of these, the actual solution functionality is only partially included. Items like vision, strategy and market presence influence the scores as well. In addition, some of the companies that perform market research require solution providers to pay for their inclusion in the research results.

Therefore, Capgemini decided to conduct a research focusing solely on solution functionality, which is also free of charge. It is in line with the SRM Study that was published biannually for over a decade, but the new Digital Procurement Research was completely renewed to embrace the end-to-end procurement approach and include the latest functionalities and technologies.

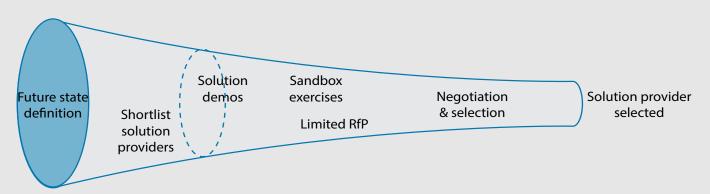


Figure 3: Solution Provider selection process

Overall research results

The Capgemini Digital Procurement Matrix

Figure 4 below shows the brand-new Capgemini Digital Procurement Matrix. The Matrix reflects the width and depth of a solution. The width refers to the Source-to-Pay elements covered in the solution and the depth to the level of detail of those elements. Based on an extensive research of solution providers that offer functionality within the Source-to-Pay area, the 36 participating solution providers were placed in one of the following categories:

Compliants are those solutions that have both limited width and depth. These solutions are useful for organizations looking for basic functionality within a limited scope, for example only for Source-to-Contract.

Specialists are solutions that can be distinguished by a limited width, but extensive depth. These solutions are often considered niche solutions because they have a limited scope. However, they offer a comprehensive range of functionality within this limited scope, for example extensive contract management functionality.

Generalists are solutions with a broad width, but limited depth. These solutions offer many of the Source-to-Pay elements, but with basic functionality.

All Stars are solutions that offer both a wide and deep solution. These solutions cover many of the Source-to-Pay elements with rather extensive functionality.

The solutions

Just over one quarter of the solutions included in this research are placed in the 'Compliants' category. The top part of this quadrant, approaching the 'Specialists', includes four solutions

that each offer functionality within two to four modules. *Per Angusta* is a solution that offers basic functionality within contracting, supplier management and, to a lesser extent, sourcing, strengthened by a reporting & analytics module. *Noventia* is a solution with medium-depth functionality within sourcing and supplier management and has a contract repository functionality. *C2FO* offers an accounts payable solution, supported by supplier management and a reporting and analytics module. Finally, *Leadmark* focuses on contracting and supplier management, allowing for master data management and offers a reporting and dashboard tool.

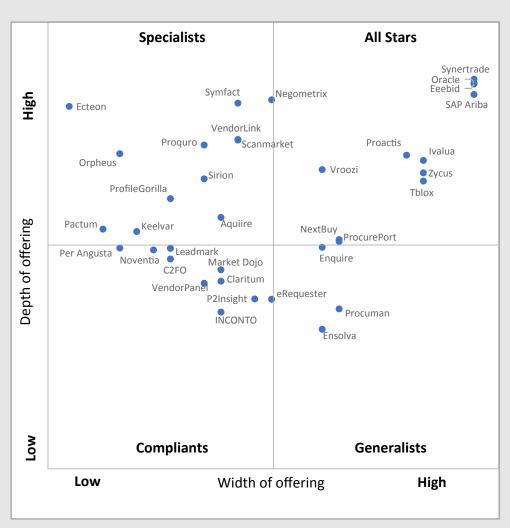


Figure 4: Capgemini Digital Procurement Matrix 2018

The remaining five 'Compliants' solutions are located more towards the right side of the quadrant. *Market Dojo* offers pure Source-to-Contract capabilities, with sourcing as its main strength, supported by relatively wide contracting and supplier management modules. *VendorPanel* focuses on sourcing, and additionally offers supplier management, and reporting and analytics modules. *Claritum's* strongest modules are purchasing and supplier management, while they also offer capabilities within sourcing and accounts payable, supported by a reporting and analytics module. *P2Insight's* strength also lies within purchasing, followed by accounts payable and offers some functionality within all

other modules, but just not enough to be labeled a generalist. *eRequester* offers some functionality across all modules except master data management, with purchasing and reporting and analytics as its strongest modules, and therefore almost falls within the 'Generalist' category. Lastly, *Inconto's* strengths lie in contracting and purchasing, while also offering accounts payable, supplier performance, reporting, and master data management to support their solution.

Twelve solution providers that participated in our research are labeled 'Specialists'. Starting at the bottom of the quadrant, Pactum offers contracting capabilities, supported by strong supplier information- and performance management functionality, and a reporting and analytics module. Keelvar, with sourcing as its strength, offers supplier qualification and risk management capabilities, and some reporting and analytics functionalities to support their solution. Aquiire is a specialist in purchasing and offers supporting modules within reporting and analytics. In addition, they offer good supplier information management capabilities and a sourcing module. ProfileGorilla is a strong solution for supplier management, allows for master data management and offers a good reporting and analytics module. They also offer minor functionality within contract management. More towards the right of this quadrant, Sirion offers a strong contracting and supplier management solution with master data and reporting and analytics capabilities. Additionally, they offer a module for receipt of invoices. *Proquro* offers very strong Purchase-to-Pay functionality, including reporting and dashboards. Next to that, they offer capabilities within contract management. Scanmarket's core capability is sourcing. Moreover, this solution is supported by a strong supplier management module, some contracting capabilities and a reporting and analytics module. VendorLink is located at the same spot, but excels at contracting, supplier management, and reporting and analytics, while also offering some sourcing functionality. Symfact is also strong in contracting and supplier management, and offers a decent reporting and analytics module, supported by master data management capabilities. In the top right of the quadrant is Negometrix, excelling in the area of Source-to-Contract, supported by good reporting and dashboards functionalities. Orpheus offers great reporting and analytics capabilities and basic features in sourcing, contracting and supplier management. Lastly, Ecteon is a pure specialist, offering an excellent contract management module and some supplier management functionalities to support this.

There are three solutions that fall into the 'Generalist' category. One of them is *Ensolva*, which offers functionality within all modules except accounts payable, being especially strong in sourcing and reporting and analytics. *Procuman* offers functionality across all the modules and is, besides reporting and analytics, strong in purchasing and supplier management. The last generalist, *Enquire*, offers functionality within all modules and is specialized in the Source-to-Contract area (including supplier management), but getting very close to be classified as an 'All Star'.

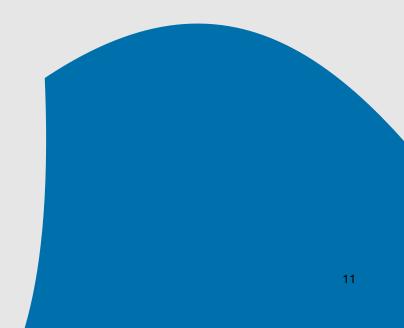
At the bottom of the 'All Stars' quadrant there are two solutions very close to each other. Although NextBuy offers relatively limited depth in accounts payable, it provides very good functionality in the Source-to-Contract and purchasing areas. ProcurePort performs well in the Purchase-to-Pay and sourcing areas with good reporting and analytics capabilities but offers relatively limited functionality within contracting and supplier management. Vroozi, located more towards the center of the quadrant, is a true all-rounder, especially strong

within purchasing, reporting and analytics and their master data capabilities. Proactis offers both wide and deep functionality, especially within sourcing, purchasing, supplier management and reporting and analytics. Although *TBlox* has capabilities within all modules, they have especially strong Purchase-to-Pay capabilities, supported by an excellent reporting and analytics module. Zycus' best elements are Source-to-Contract and purchasing, with strong reporting and analytics capabilities. Ivalua excels within supplier management and is also very strong within the other modules. The four remaining solution providers are all located in the top right of the 'All Stars' quadrant. SAP Ariba, Eeebid, Oracle and Synertrade, all global players, offer outstanding functionality depth across the entire Source-to-Pay suite, all excel at reporting and analytics, and all can handle master data within their solution. Of the four *Eeebid* may be an unexpected solution provider. Although two separate entities, they work closely with Synertrade, which could explains why both scores are very close to each other.

Using this research to select the right solution

Organizations should not by default consider only solution providers that are listed as 'All Stars'. To determine which solution provider best meets the requirements of your organization one should have a clear vision on the desired future state of the organization. After all, not every organization needs the most extensive functionality within all the Source-to-Pay modules. Thus, it is important to think carefully about what your Procurement organization wants to achieve, and how digital solutions can help you realize that.

The remainder of this report will discuss different Procurement elements in more detail, both from Capgemini's vision and experience, as well as research results, describing digital procurement functionalities. It can therefore help you get a first grasp of the digital procurement transformation you want to initiate in your organization. Capgemini can help you with defining and executing this transformation, elevating your procurement organization to a new level. At the end of report, you can find an overview of Capgemini's procurement transformation leads, do not hesitate to contact them in case you have any questions.



Research Methodology

The objective of this research is to assess the width and depth of available procurement solutions. To do so we do not limit the research to solution providers claiming to offer functionality across the full Source-to-Pay suite. The research was open to any solution provider offering a solution for any element in the Source-to-Pay area.

The width of the procurement solution indicates what part of the Source-to-Pay process is covered by the solution. For example, if only an e-auction solution is offered, the width will be narrow. On the other hand, if the solution covers all aspects of the Source-to-Pay area, it will be considered as broad.

The depth of the procurement solution indicates how detailed the offered functionality is. For example, if an extensive e-auction functionality is offered, the solution will be considered deep. On the other hand, if the solution only offers basic functionality for all Source-to-Pay elements, it will be considered as light. Based on the width and depth results the suppliers are placed in he Capgemini Procurement Matrix.

Solution Providers invited to participate

Based on personal contacts, other market research, the previous SRM Study and Google searches, a list of procurement solution providers was compiled containing 298 solution providers. For 234 of those, it was possible to determine or request an email address. Of those, 124 were personal email addresses that were confirmed by the person him/herself. The remaining 110 were generic email addresses (e.g. info@...). The initial invitation was sent early June 2018, and solution providers were given approximately one month to complete the questionnaire.

A total of 47 solution providers (20%) started responding to the questionnaire, of which 36 were able to finish (15.4%). Both non-respondents, as well as partial respondents received multiple reminders to participate and finish their responses to the questionnaire. Unfortunately, a limited number of well-known solution providers were unable to participate due to resource limitations or time constraints. The 36 respondents come from 15 different countries (see figure 5), representing four of the six continents.

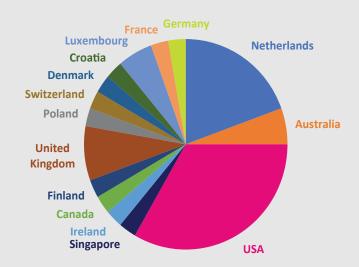


Figure 5: Headquarter Location of Respondents

Set-up of the questionnaire

To determine the depth and width, solution providers were requested to answer an extensive questionnaire. Depending on their answers, a maximum of 614 questions had to be answered. The questionnaire was divided into 11 sections as listed in figure 6, each with additional sub-sections. Respondents were firstly asked whether they offered any functionality in each of the sub sections, allowing the calculation of the width of the solution. When the respondents indicated they did, detailed questions were asked to determine the depth. In some cases, follow-up questions were asked within a sub section to identify the depth of a very specific functionality (e.g. when asking about approval flows within a specific sub section, determining how this approval flow can be set up or run automatically by the solution). Setting up this questionnaire in a dynamic survey tool allowed the research team to critically assess the functionality.

Strategic Sourcing
 Contract Management
 Purchasing
 Accounts Payable
 Reporting & Analytics
 Master Data Management

General Questions

Supplier Management

TechnologyImplementation & OperationsSolution Pricing

Figure 6: Overview of questionnaire sections

A number of different question formats were used within the questionnaire. The majority of the questions about the solution's functionality consisted of closed questions with three answer options: 'Yes', 'No', or 'On Roadmap'. In other cases, tick box questions were created, providing a list of functionalities concerning a specific topic, out of which the providers could indicate which ones they offered (e.g. different types of auctions). Additionally, some open text questions were used to give the research team a more specific indication of the type of functionalities used, and to get an insight into what new technologies and features are used by the providers that are not yet commonly known.

Assessing the responses

After collecting the responses, all questions were scored based on the answers. For almost all of the closed questions with the options 'Yes', 'No' or 'On Roadmap', 'Yes' was scored with 100 points, 'On Roadmap' with 25 points, and 'No' with 0 points. In some cases, the questions were reversed, meaning 'No' would indicate the more positive option, in which case 'No' was awarded with 100 points. Tick box questions were awarded with points based on the number of answer options, always attempting to add up to 100 points per question. In exceptional cases, where the functionality asked in the tick box question was deemed of very high importance to assess that functionality, it would add up to 200 points. Questions assessing the width of the functionality were assessed in a similar way, except that no points were awarded if the module is 'On Roadmap'.

After scoring all questions individually, the scores were summed up by module. To determine the width position in the Capgemini Procurement Matrix, all scores for the width questions were added up. The following sections contributed to the width score:

- Supplier Management
- · Strategic Sourcing
- Contract management
- Purchasing
- Accounts Payable
- Reporting & Analytics
- Master Data Management

Considering the different sub-sections within these sections, the providers could get at most 2900 points. Based on this maximum score, the individual provider scores were translated to a score between 0 and 1 to determine the position on the X axis (width) of the matrix.

To determine the depth position of each solution provider, a score between 0 and 1 was determined based on the relative maximum score the provider could get. Since each sub-section offered a different amount of functionality depth questions, the score was determined based on the maximum score they could get for each of the sub-sections. For instance, if a provider covered 5 out of the 29 possible sub-sections, the maximum score was determined based on these specific 5 sub-sections. If the maximum score for these 5 sub-sections together was 1000 points, and the provider gained 500 points, their depth would be 0.5 (50%). This was done for each sub-sections individually, to make sure each provider's depth was assessed fairly based on the functionality they could have offered within the sub-sections covered. This resulted in solution providers offering for example very detailed contract management functionality and nothing else to appear in the matrix as a 'specialist' with low width and high depth.

Validating the responses

To assess the responses given by the solution providers, several solutions were selected by the research team to give a short live demonstration of the functionalities they indicated to offer. The functionalities to be demonstrated were the ones in which the selected solution providers stood out from the not offered by others. E.g. if a solution provider offered a functionality that was not offered by other solution providers, the selected solution provider was requested to demonstrate that particular functionality to the research team.



Capgemini Source-to-Contract Matrix

Procurement transformation projects are rarely executed as Source-to-Pay all at once. Often organizations decide to split the project into a Source-to-Contract (upstream) and Purchase-to-Order/Pay (downstream) project to make them more manageable and reduce project risk. Whether there is a best order to execute the projects in remains open for debate, because fact is that both need each other, and full benefits are only realized when the complete Source-to-Pay process has been transformed. To support decision making if only part of the Source-to-Pay process is considered, Capgemini has created two additional Digital Procurement matrices: Capgemini's Source-to-Contract Matrix and Capgemini's Purchase-to-Pay Matrix. The latter matrix will be discussed when deep diving into purchasing and accounts payable. This section focuses on the Source-to-Contract Matrix.

By focusing solely on the solution providers that provide functionality in the Source-to-Contract area (sourcing, contract management, supplier information management and supplier performance management) there are quite some significant movements in the matrix, compared to the overall Digital Procurement Matrix. All large, well-known providers (*Synertrade, Ariba, Oracle, Ivalua* and *Zycus*) are located at the far right, indicating that they offer all S2C modules. Eeebid is the top performer with the highest depth of all solution providers, while being quite unknown to the general procurement public. Another interesting S2C provider with full width and a high depth is *Negometrix*, providing functionality across the entire S2C range.

When a more basic functionality is required for S2C, organizations may turn to the bottom right quadrant, with providers such as *Market Dojo* and *Tblox*, offering quite wide functionality with medium depth. On the other hand, when a deep solution is preferred for a very specific functionality, consider the solutions in the top left quadrant, with for example *Ecteon* being an expert in contracting, and some supplier management functionality to support it. For more details on the offerings of the individual solution providers, take a look at the solution provider summary pages at the back of this report.

All in all, determining which solution provider is best suited for your organization does not just mean picking one of the solution providers in the top right corner. It may very well be that your organization requires a solution provider with less extensive depth or width to cover your requirements. Therefore, the different elements of Source-to-Contract will be discussed in the next chapters to provide additional insights and highlight the top performers. Make sure to look at the Purchase-to-Pay matrix as well, which is discussed later in this report.



Figure 7: Capgemini Source-to-Contract Matrix

How we see Strategic Sourcing

Strategic Sourcing is an often-used overarching term referring to the various elements involved with Source-to-Contract: Sourcing, Contract Management, and Supplier Management.

Sourcing

When you would google on sourcing you will get many different hits with results all saying the same, but with a slightly different name. Capgemini's Strategic Sourcing approach is shown in figure 9.

Most organizations that have harmonized purchasing departments act according to the described sourcing steps. What the outcome of the sourcing activities should be, besides a signed contract, greatly depends on the purchasing channel that will be used. For instance, if a catalogue is required for a specific category, this will result in different supplier discussions than if it concerns a framework contract for maintenance services. To determine the sourcing strategy, it is important to take the category channel matrix into account, which will be discussed in more detail in the purchasing chapter, as this shows the default process of a (sub-)category for the Purchase-to-Pay elements.

Regardless of the sourcing strategy all sourcing activities requiring interaction with suppliers can be executed through the solution. Benefit is that all communication can be done at once to all suppliers without the risk of accidentally identifying the participating parties to everyone, or forgetting to include a party. In many initial conversations about eSourcing the assumption is that it can only be used for indirect material purchasing. However, this is a misconception. eSourcing can be used for any type of sourcing ranging from direct materials to indirect services. Just as in the 'paper way of working' the buyer needs to decide what elements will be used, but using the system for the online gathering of RfX responses can be done in almost every case. Even eAuctions can be used for all types of purchasing,

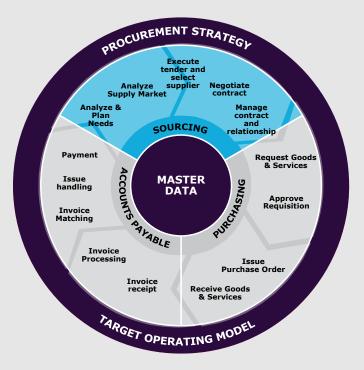


Figure 8: Capgemini Procurement Wheel: Sourcing

since market dynamics dictate whether it is applicable to a tender rather than the category being tendered.

It is important to realize that even with an eSourcing event the buyer remains in full control, like in the 'traditional' sourcing way. The main difference is that the process takes place in an online tool rather than via email and Excel. A few other differences between eSourcing and traditional sourcing are shown in figure 10.

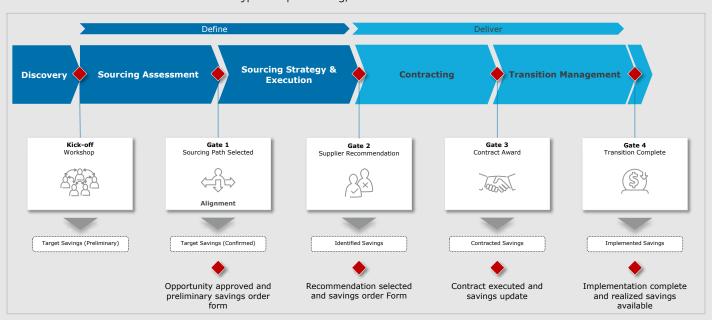


Figure 9: Capgemini's Strategic Sourcing Approach

Contract Management

Creating the contract through the procurement solution is a natural continuation of the eSourcing process. Although we see that the current use is still quite minimal, contract clause libraries have great potential. Having a central repository of all clauses that are allowed, indicating which are mandatory, which optional and providing alternatives for certain clauses ensures that buyers continue to have the flexibility to adjust the contract to their needs, but that they can do so using pre-approved clauses. Using a clause library acknowledges the fact that a one-size fits all contract is not realistic, but still results in standardization and harmonization across an organization. In addition, using a clause library will speed up the process, because the legal department is no longer required for every change.

Using a system to manage contracts will help prevent contracts from expiring without anyone noticing. Alerts that are provided should bring this to the buyer's attention. However, making sure that the contracts are indeed renewed remains a human responsibility.

Supplier Management

Supplier management ranges from supplier qualification to supplier performance and risk management. Essence is that an organization wants to limit the number of suppliers it works with, thus limiting and preferably even reducing its supplier tail. This is realized by ensuring that only qualified suppliers are entered into the system. By actively managing suppliers, non-performers can be removed as well.

Especially the supplier performance part remains a challenging aspect for solution providers and organizations. Top management often wants supplier performance management to take place in the procurement system, because it creates transparency. To some extent this is possible, but one should prevent that too much standardization is pushed into performance management. Certain KPIs can be used to evaluate all suppliers (e.g. safety KPIs), but there should always be room for category- or supplierspecific KPIs. Especially if an organization has very diverse business groups (e.g. a company like DSM, with business groups ranging from vitamins to fibers), a one-size-fits-all approach for supplier performance management is not ideal. Over the years many organizations have built their own category-specific dashboards and scoring methods. These should not be simply thrown away and replaced by the information in the system. It is best to work with the individual categories to design and configure the correct reflection of their performance management approach in the procurement system. Only by taking this approach it is possible to truly manage your suppliers and be able to work together with them, achieving higher performance.

- Increased transparency of the sourcing process
- Fact-based benefit calculation
- Scoring determined beforehand
- Automatic processing of responses
- Possibility to automatically disqualify suppliers based on responses
- Auto-archiving of all communication and documents

Figure 10: Some differences of eSourcing versus traditional sourcing

How Capgemini is helping a global manufacturer implement a Source-to-Contract cloud solution

The client's sourcing process was a completely manual process with limited transparency and only supported by various Microsoft Office programs. However, there was a standardized way of working, which was properly documented in a process management system. Unfortunately, this process was not followed closely by all employees, and there were known to be significant differences between the different countries.

To streamline the process across countries, improve process transparency and realize increased savings, Ariba was selected as the solution of choice for Source-to-Contract.

Capgemini worked closely together with client resources to get approval for the procurement transformation project and acquire the required funding. This was followed by an iterative-based approach to design processes, configure the solution and test whether it acted according to expectations. Before full rollout a smaller pilot implementation was executed.

The sourcing and contract management modules were successfully deployed, with the client becoming one of the first companies to fully utilize the clause library potential. Supplier performance management turned out to be more challenging than expected, because many sub-categories had developed their own, quite advanced, performance management dashboard over the years. A standard set of KPIs was determined to be used for all suppliers, but did not take into account any sub-category specifics. Finally, within sourcing the eAuction functionality was introduced. Although there was some initial hesitance, the early adopters were able to execute auctions successfully, showing higher than expected savings.

Industry:	Manufacturing
Headquarters:	United Kingdom
Revenue (2017):	€7+ Billion
# of employees (2017):	20,000+
Selected solution:	Ariba
Back-end system:	SAP (multiple)

Please note: This client story has been anonymized at the client's request.

Main benefits

Increased transparency. Ongoing sourcing events, status of contracts and supplier qualification status are known and available in the system. Therefore, it becomes easier to properly manage all sourcing activities.

Increased savings: Due to using the eAuction functionality for the first time. Results of the first dozen eAuctions indeed show that cost savings were realized.

Standardization: Using the procurement solution ensures that the default process is followed for various sourcing elements. Also, using the clause library helps buyers in creating contracts quickly and without legal involvement.

Less than a year after deploying Ariba Source-to-Contract the client is evaluating the options of moving the Purchase-to-Pay process to a cloud solution as well. Of course, Ariba is one of the shortlisted solutions, but other solutions are being evaluated for P2P as well. Again, Cappemini is considered for leading this transformation.

Research observations – Strategic Sourcing

Twenty-nine solution providers offer certain strategic sourcing functionality. The below discussion is based on the responses of those solution providers. The top 5 of strategic sourcing, based on their depth score, is shown in table 1. Figure 11 shows the different combinations of strategic sourcing elements offered by the solution providers

The first step in the strategic sourcing process is to conduct a thorough analysis of the current and future needs of the organization in terms of required products and services. This needs assessment is a component of the work of sourcing professionals, and it forms the basis for the sourcing strategy. In just over half of the solutions that offer sourcing functionality it is possible to register the analysis of organizational demand. However, 72% of the solutions support in the gathering of requirements across procurement and business. Of those solutions, another 72% nable prioritization of the requirements and formal approval of the specified requirements.

Another step in formulating a sourcing strategy would be to analyze the market. Similar to the needs analysis, in slightly more than half of the solutions it is possible to register this market analysis within the solution.

The procurement solutions try to make their solution as user-friendly as possible. Therefore, they offer various opportunities that may benefit the buyer. Some of these are shown in figure 12. An example is that over 80% of the procurement solutions provide tender documentation in pre-defined formats, with information from the system. Furthermore, in over 86% of the solutions, the systems automatically show preferred suppliers when the buyer starts a tendering procedure. This sort of intelligence can save valuable time for procurement employees.

Solution Provider	Depth Score
Eeebid	98.96%
Synertrade	98.68%
Negometrix	95.35%
SAP Ariba	94.65%
Scanmarket	94.10%

Table 1: Top 5 Strategic Sourcing depth scores

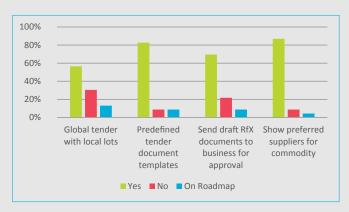


Figure 12: Functionality benefits during RfX creation

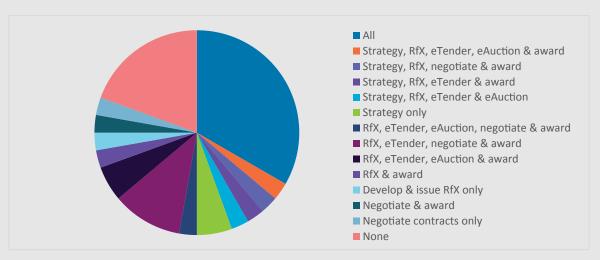


Figure 11: Combination of strategic sourcing elements offered by solution providers

A drawback of inviting new suppliers to participate in an RfX is that in 74% of the solutions the supplier needs to be set up in the procurement solution before they can be invited. Although vendors do not need to be approved (in 65% of the solutions) or qualified (in 83%) to participate in the RfX, buyers often see the set-up of the suppliers as a hurdle and therefore try to limit the number of new suppliers that are invited. Ideally solution providers take this drawback into account and will try to develop a new status for a vendor which allows them to participate in RfX events without the requirement to be fully set up in the system.

In the execution of the sourcing events the solution providers try to make the buyer's life easier as well. More than 69% of the solutions provide the possibility to directly post the tender to an online supplier marketplace. Ninety percent offers the possibility to include acceptance of the terms and conditions as a mandatory first step before proceeding. Other functionality benefits are shown in figure 13.

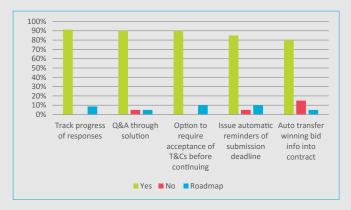


Figure 13: Functionality benefits during sourcing event

Solution providers try to make it easier for suppliers to participate as well. Therefore 87% offer the possibility to have multiple users from the supplier working on the bid simultaneously. Also, 91% of the solutions allow a supplier to save its answers and continue at a later moment before submitting them.

One of the sourcing options available in 59% of the solutions is the eAuction. Figure 14 provides an overview of the different auction types that are supported by the solutions. If a buyer decides to use the eAuction functionality the type of auction to be used needs to be determined at the very start of the process, because it determines how a buyer should approach the whole tendering process.

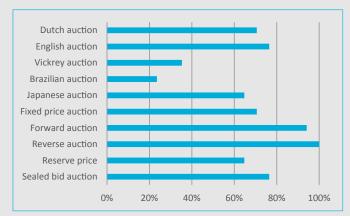


Figure 14: Auction types supported by solution providers

During the eAuction process, 88% of the solutions have the possibility to show a supplier its position based on their best bid. This is beneficial to the buyer, because it may stimulate a supplier to improve its bid if it is clear that they are not amongst the top bidders.

Evaluating supplier responses has always been a tedious exercise, compiling and comparing responses. Luckily, many of the procurement solutions can, for a large part, do this for the buyer, as long as default criteria, weighting and scoring are determined beforehand. Figure 15 shows an overview of some of the functionality offered that may benefit the buyer during the evaluation of the bids. Half of the solution providers offer the option to automatically calculate the optimal combination of bid components from different suppliers, considering total cost of ownership and volume and bundling discounts. As this is quite a complicated calculation to execute, it is beneficial that some of the solution providers offer this to support the buyer in selecting the optimal supplier or combination of suppliers.

Buyers still want to be in full control, using the procurement solution as a facilitation tool, but making ultimate decisions themselves. Most of the solutions are designed this way, but still 12% do not allow the buyer to overrule a proposed contract award.

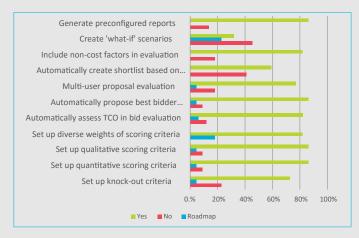


Figure 15: Functionality benefits during bid evaluation

To increase efficiency, 80% of the solutions allow the buyer to create a draft contract based on the results of the sourcing event, including possible line item pricing details. All solutions allow a buyer to award a contract to multiple suppliers based on a single sourcing event. If the sourcing event was executed as part of operational sourcing, a contract may not be preferred, therefore 80% of the solutions allow a buyer to directly send a PO to the supplier instead.

Research observations – Contract Management

If the outcome of the sourcing event should be a contract the contract management module of a solution will be required. Thirty-two solution providers offer contract management elements. The below discussion is based on the responses of those solution providers. The top-5 of Contract Management, based on their depth score, is shown in table 2.

As shown in figure 16, contract lifecycle management and a contract repository are offered by most solutions that offer a contracting module. However, just 60% of the solutions offer contract creation functionality, proving that thorough analysis of the solutions unveils great differences between them.

	ı	ı				ı
Contract performance management						
Contract lifecycle management						
Contract repository						
Contract Creation						
0	% 20	0% 40)% 60)% 80)% 1	100%

Figure 16: Contract Management functionality offered

Working together across teams, divisions, and time zones can be challenging. Also, for contract management professionals this poses a great challenge. It is a constant challenge to work together as efficiently as possible, where communication (tools) are key to facilitate this. avoid streams of e-mails across organizations, automated workflows and alerts can be set up in some of the solutions. In figure 17 we see that in half of the solutions that offer contract management, (draft) versions of contracts can be pushed to colleagues for approval or feedback. However, if the colleague still needs to be alerted to the fact that a contract is ready for his approval or feedback, the efficiency gain is still not yet fully realized. Therefore, a solution that offers the push function as well as the workflow functionality truly offers efficiency gains in the contract management department. All the solutions that offer the push functionality have this workflow capacity. Three solutions already have workflow capabilities and offer a contract management suite, but do not have the possibility included to push the contract into the workflow. That means that only the alert for the task will be pushed to the staff member, rather than the actual task.

Solution provider	Depth score
Ecteon	100%
Eeebid	97.1%
Symfact	95.5%
Oracle	95.0%
Synertrade	92.7%

Table 2: Top 5 Contacting depth scores

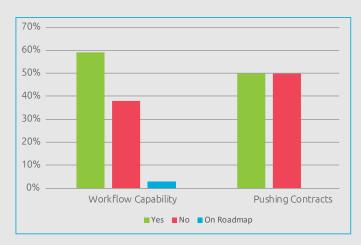


Figure 17: Organizational collaboration features in contract management

Research observations – Supplier Performance Management

All procurement solutions that took part in the research offer some extent of supplier management functionality. The top five performers within overall supplier management are shown in table 3. While supplier management has different aspects, this section focuses on supplier performance management, and on the challenges that come with it.

Measuring supplier performance starts with obtaining the right and correct data. Modern procurement solutions can aid in the process of gathering this data. Solution providers were asked whether they offer ways of collecting supplier performance data through a questionnaire or survey both internally (by sending the questionnaire to colleagues) and externally (by sending the questionnaire to suppliers). As figure 18 shows, slightly more solutions offer the possibility to send out automated questionnaires externally than internally.

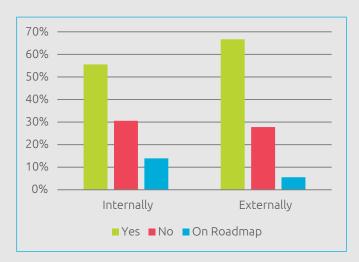


Figure 18: Survey options to gather supplier performance data

With most organizations using ERP solutions, often the question on the supplier performance data does not consider the availability of the data, but rather the accessibility and ability to interpret the data.

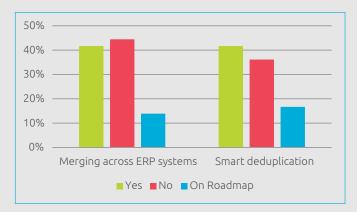


Figure 19: Supplier Performance Data gathering and improvement functionality

Solution provider	Depth score
Eeebid	98.2%
SAP Ariba	96.3%
Synertrade	95.7%
Oracle	93.6%
VendorLink	92.4%

Table 3: Top 5 Supplier Management depth scores

Merging data across multiple ERP systems and using smart de-duplication functionality can offer added value to the procurement department in their quest for the correct data. A significant selection of the solution providers is still developing this functionality, as can be seen in figure 19.

Having the right data at hand forms the basis for the supplier performance management activities most procurement organizations know so well. The data forms the input for the assessment based on KPIs, and observed through KPI dashboards. If not incorporated in the functionality of a procurement solution, then in most cases these dashboards are created internally and/ or are updated manually.

Figure 20 shows that nine solutions offer the functionality of an automated scoring of KPIs based on data from interfaced ERP systems, while for four solutions this functionality is still being developed. More interestingly is thus the broad range of solutions that does not offer this functionality. If organizations adopt such systems, the performance of the KPI scores still needs to be analyzed offline. Logging of KPI scores is more widely offered across the solutions; within 22 solutions this can be performed.

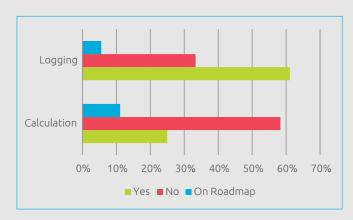


Figure 20: KPI Calculation and storage

As discussed, it is essential that suppliers can be scored on KPIs that are relevant for their specific category. This category management view should be enabled in the supplier performance functionality. Not only should KPIs be selectable per supplier, the target score per KPI should also be customizable per category and supplier. In 16 out of the 22 solutions that offer KPI measurement such category management views on supplier performance can be enabled.

Another feature in supplier performance management that offers true added value to the procurement department is to show the performance of suppliers over time in a trend report. Eighteen out of the 22 solutions that offer KPI measurement functionality offer the possibility to show trend reports from previous supplier evaluations and such offer the procurement professional insights into the progress that suppliers make on certain KPIs. These insights provide valuable input for supplier meetings, whereby the supplier relationship can be managed. The management of the relationship with a supplier can benefit greatly from the use of advanced procurement solutions. It is important that procurement speaks to suppliers 'with one voice'. However, this can be complicated when several different touchpoints between procurement and suppliers exist, or when changes in staff occur.

Being able to store and share insights on supplier performance and agreed steps among supplier facing personnel are therefore key in successful supplier relationship management. As can be seen in figure 21, around 40 percent of the solutions offer such functionality. More than ten percent of the solutions have identified this functionality and have currently placed this on their development roadmap. An interesting insight is that all solutions that offer the functionality to share supplier improvement plans, also have the option to track progress against this plan in the system, so that this progress information can be shared in the system, instead of having to be shared offline. This can create efficiency benefits for category management.

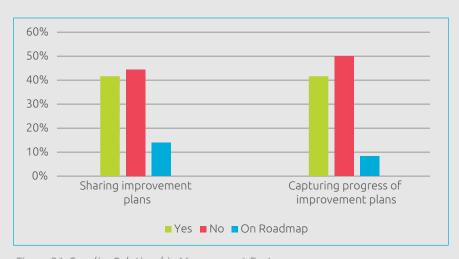


Figure 21: Supplier Relationship Management Features



Capgemini Purchase-to-Pay Matrix

The Capgemini Purchase-to-Pay Matrix, as the name implies, takes into account the functionality offered within the different modules of Purchasing and Accounts Payable. Twenty-two out of the 36 solution providers offer some functionality within these domains. In the top right of the matrix the solution providers offering wide and deep functionality within P2P are shown. As one may expect, the large providers are located within this area with varying solution depths.. But there are also a number of more unknown players well-represented within the top-right area. TBlox and Proquro both offer wide and deep functionality within all modules of Purchasing and Accounts Payable and can therefore be characterized as expert solutions within the P2P domain. Also, the solutions of Vroozi, Proactis, eRequester, ProcurePort and P2Insight offer relatively wide and deep P2P functionality.

Interestingly, none of the companies can be considered pure specialists within one of the P2P modules, which is significantly different in the Source-to-Contract domain. This is reflected

by no solution providers being present in the top left part of the matrix. However, there are a number of players that offer wide, but not so deep functionality within P2P. When more basic functionality is required, organizations can thus turn to companies such as *Inconto* and *Procuman*, offering a wide functionality with medium depth, or *Claritum* and *NextBuy*, offering a more narrow solution, also with medium depth.

All in all, the majority of P2P solution providers offer a wide solution with varying functionality depth. For more details on the offerings of the individual solution providers, take a look at the solution provider summary pages at the back of this report. The next sections will separately discuss both purchasing and accounts payable in more depth.

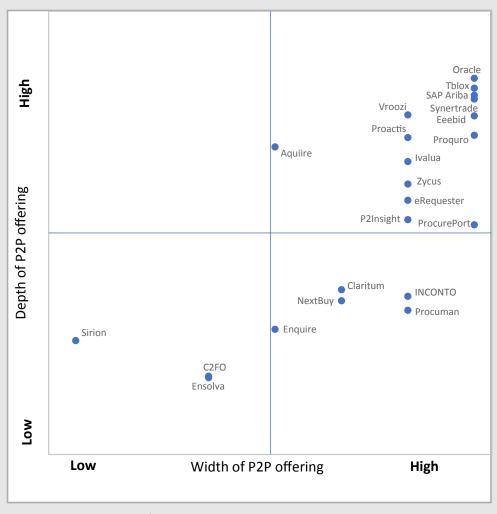


Figure 22: Capgemini Purchase-to-Pay Matrix

How we see Purchasing

The Purchasing area of the Procurement Wheel includes all operational activities that need to be conducted to place purchase orders at suppliers, including requisition creation, PO creation and the receipt of goods or services. This is also known as the Purchase-to-Order process (P2O). An effectively designed P2O process enables consistency in what is ordered at the preferred supplier base. This is reflected in minimized process lead times, and optimal grip on spend, supplier performance and purchasing compliancy.

From Capgemini market studies and from what we see at our clients, it becomes clear that when an organization grows at a fast pace, for example via merger & acquisition activity or due to global expansion, a mismatch can arise between the Purchase-to-Order processes and the requirements of the business. This is often caused by an ineffective organizational set-up or by an inefficient purchasing process or IT landscape.

An organization should fully utilize existing supplier contracts to maximize volume and realize savings. At most of our clients this theory is common knowledge for all purchasers. It is well anchored in procedures and governed by the Chief Procurement Officer. However, practice often shows that the same purchasers deviate from these procedures. 'Maverick buying' can happen for a multitude of reasons, most of which have the same root cause: established procedures are not aligned with what the business needs.

In addition, we see that organizations can benefit from improving their Purchasing IT landscape. Organizations often work with outdated legacy systems that are not connected to each other or to a common backbone. This means that the purchasing department needs to conduct its activities in several systems, manually combining data and performing repetitive—and often unnecessary—tasks. In some cases, the Sourcing team has negotiated contracts, which are not visible to the purchasers, because they are stored in a different system. As a result, the theoretical savings reported by Sourcing are often not realized. Thus, organizations face risks stemming from manual mistakes, incomplete or unavailable data and extended process lead times.

Creating an optimal purchasing process

To be able to overcome the challenges that many organizations currently face within purchasing, it is important to create clarity and one standard way of working. Only when you do this will you be able to realize the benefits that the modern cloud procurement solutions can provide.

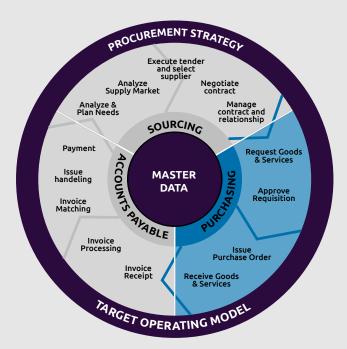


Figure 23: Capgemini Procurement Wheel: Purchasing

Clarity is created by providing employees clear instructions on who can purchase, what can be purchased, who needs to approve and how the purchase should be made. The category channel matrix reflects this information, including the available purchasing channels. Figure 24 shows a graphical depiction of the category channel matrix for one specific category, which may help visualize its purpose. The overall matrix is an Excel document with all (sub-)categories listed and the selected channels for each process step.

For each purchasing channel it should be clear in which cases it should be used. In addition, all purchasing channels mentioned should be available. This may seem like an open door, but we have encountered various clients where several purchasing channels were not yet available to their people. As a result, overall acceptance of the purchasing channels and the acceptance of the preferred way of working was negatively affected.

To positively impact acceptance of the new way of working, and in many cases the acceptance of a new purchasing system, it is important that the content is available. It is possible to implement a state-of-the-art cloud procurement solution, but without content it will be as good as the old-fashioned writing of a purchase order or simply calling the supplier. Having relevant catalogues and contracts in the system at go-live is a must. This is what people expect, as they are used to it from their own athome experience with Amazon or any online shop.

Catalogues are no longer just for ordering laptops from Dell and printer paper from Staples. You can order specific chemicals from VWR or custom create equipment from Endress & Hauser. In our private lives we can already order a vast variety of services online (taxis, cleaners, etc.), and it is only a matter of time before professional services will be widely available through a catalogue in the new purchasing solutions as well, reducing the need for so-called 'free text orders' even further.

Purchasing

Invoice Management & Payment

Requisition	Approve	Order	Арргоче	Confirmation	Receipt	Invoice	Matching	Payment										
Catelogue									Self Billing	No Matching/ Approval								
Plan Driven/MRP		Standard		No Approval Yes	GR/SR	GR/SR E- invoicing (EDI/XML)		To Supplier										
Intercompany	No Approval				Yes		Against Invoice Only list											
Invoice Only			Blanket			Network/ Portal												
Free text		Blanket					Invoicing	2-Way Matching										
				SES/ Tim Writing		SES/ Time Email Writing invoice												
Framework/ blanket																	3-Way Matching	
P-Card		Scheduled		Appoval via				Paper invoice	Matching									
Credit/T&E Card	Appoval via	via	via No		via No			4-Way Matching	To Employee									
Expense	Workflow			W	No	Expense Claim												
Reimbursement							Approval flow											
Requisition								P-Card Statement	Approvatitow									

Figure 24: Category Channel Matrix

Because of the importance of having enough content available in the system and having suppliers embrace your new way of working as well, we always advise our clients to have a dedicated Supplier & Content Onboarding stream as part of the implementation project. Having such a stream greatly increases the likelihood of success of the project by increasing the acceptance of the new system.

Creating a common way of working across an organization and across regions often leads to initial resistance. It requires people to give up some of their 'freedom'.

However, for the company it will lead to various benefits, including:

- Increased economies of scale by combining the purchasing power and efforts of multiple plants, possibly across regions, leading to increased savings and better service;
- Increased operational efficiency;
- Increased control over purchasing, less maverick buying;
- Increased efficiency in the ordering process, more hands-free ordering;
- Possibility to set up a global support structure for users;
- Increased availability of spend data and transparency, reducing financial risk;
- Enabled purchasing collaboration across plants;
- Increased mobility potential amongst employees.

Automating the purchasing process not only makes it easier to create purchase requisitions and purchase orders, but it also makes it easier to approve those. Non-automated purchasing processes used to require physical signatures. Now they are replaced by digital signatures (or simply a push of a button), no longer depending on the presence of the manager in the office. Approval can be given from everywhere, as long as one is connected to the internet. Especially because many solutions offer mobile applications that allow the monitoring and approval of purchases from a phone or tablet.

How Capgemini is helping Cathay Pacific to harmonize its purchasing processes and migrate towards SAP S/4HANA

Cathay Pacific Airways is a leading global airline company based in Hong kong. In the aviation industry there is a constant need for operational efficiency due to high competition and an uncertain business environment. Therefore, Cathay Pacific needed to modernize its procurement functions with advanced IT purchasing solutions, while also harmonizing the processes.

In an extensive study into the efficiency of the procurement set-up of Cathay Pacific, points for potential improvements were identified. A possible improvement was to increase control over spend.

Horizon8 – bringing IT and processes together

To modernize the existing Procurement functions on a global scale, Cathay Pacific started a new program titled 'Horizon8'. With Capgemini as system integrator, Cathay Pacific implemented a suite of SAP S/4HANA modules including a procurement module as well as finance modules. Payment activities are now only conducted via the SAP system. This suite of integrations helps Cathay Pacific to drive transparent information, automate invoice and payment processing and provide information for making management decisions.

Besides the implementation of SAP S/4HANA, Cathay Pacific also standardized a number of procurement processes. It became clear that within the organization, 'one standard process does not fit all'. Therefore, all third-party spend was categorized and placed in a corresponding purchasing channel. From this point, all spend types were standardized in an official purchasing procedure. Although these procedures differ in nature, the requirement has been set by Cathay Pacific that a supplier invoice



Client name:	Cathay Pacific Airways
Industry:	Aviation
Headquarters:	Hong kong
Revenue (2017):	€10.6 Billion
# of employees (2017):	29,000+
Selected solution:	SAP S/4HANA
Back-end system:	SAP

cannot proceed to payment without a valid Purchase Order, which increases the visibility and control that procurement has over the spend.

Matching the figures

With SAP S/4HANA, Cathay Pacific gained improved analytical insights of the direct and indirect spend, which helped the procurement team to identify potential areas for improvement. The 'No PO, no Pay' principle has resulted in better compliance of spend via preferred suppliers.

Research observations – Purchasing

Approximately 56% of the respondents offer functionality in at least one of the Purchasing elements: Purchase Requisitions (PR); Catalogs; Purchase Orders (PO) or Goods Receipt (GR). Figure 25 shows the spread of functionality offered. The research observations discussed in this chapter are based on the responses from the solution providers offering that particular purchasing element.

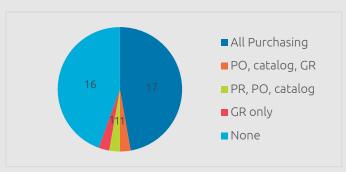


Figure 25: Spread of offered purchasing functionality

The total score for the purchasing domain was calculated, resulting in the top 5 solutions displayed in the table. As you can see, there is only a small difference in coverage between the top

Requisitioning

Free text and internal catalogue requisitions are the main options offered by the solution providers, as shown in figure 26.

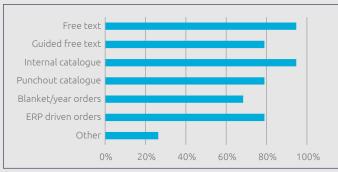


Figure 26: Type of Purchase Requisition supported

Thirteen of the solutions try to guide the requisitioner to the right supplier even with free text requisitions, by showing the contracted/preferred suppliers for a specific category. This will help the requisitioner with selecting the right supplier and with sourcing, by ensuring that spend is channeled to the right suppliers. The information shown can even be dependent on the user's account, thus considering plant, business group or regional specifics.

Surprisingly two solutions do not offer the possibility to create mandatory fields for purchase requisitions. This may affect the purchasing efficiency later in the process if not all information is filled out by the requisitioner.

Catalogs

In 17 out of the 19 solutions that offer catalogs, the PO can automatically be created after the Purchase Requisition has been

Solution provider	Depth score
Eeebid	94.6%
Oracle	92.9%
Tblox	90.4%
Synertrade	90.1%
SAP Ariba	88.6%

Table 4: Top 5 Purchasing depth scores

created through the catalog. This greatly increases purchasing efficiency by no longer requiring the manual conversion of the requisition into a purchase order by the purchaser.

An overview of the different catalog types offered is shown in figure 27. Of the 19 solutions that offer catalogs, 17 offered the functionality to connect the solution with external catalogs or B2B supplier platforms. Offering both access to external supplier platforms, while also having the possibility to send out POs via an electronic data interchange (EDI) or XML, offers organizations the opportunity to create a purchasing environment with a user experience like that experienced at home. Such an environment could also be a purchasing environment in which nonprocurement professionals place their own orders. By setting some ground rules, such as having only the fully integrated platform of the preferred supplier base integrated in the solution, compliance levels are ensured, while the internal client feels empowered and workload for procurement staff is being reduced.

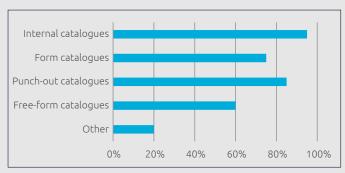


Figure 27: Types of catalogues offered

Although all solutions offer a search function within catalogues, only 14 of the 19 solution providers offer the option to compare different articles to each other, of which 13 even offer it across catalogs, and one having it on its roadmap. However, it is important to consider that there may be specific technical requirements for the catalogs to enable this functionality. On consumer websites it is very common that alternative articles are proposed to the one that you are looking at. This functionality

is offered by nine of the solution providers, while three solution providers have it on their roadmap.

Sixteen solution providers offer suppliers the option to maintain their own catalog within the purchasing solution. Through a portal, items and corresponding details can be maintained in the multi-tenant environments (e.g. the solution provider's Network). Still, fifteen of them allow for client-specific pricing in the catalog, All of them allow approval flows to be required before content is made available to the end-user in the solution, thus safeguarding that the client remains in control of the content published in its purchasing system.

Purchase orders

In the vast majority of the solutions, requisitions that need to be manually converted into a Purchase Order show up in a PO creator worklist. Sixteen of the solutions allow purchasers to combine multiple requisitions into a consolidated Purchase Order. In ten of the solutions, the system automatically proposes the bundling of various requisitions into a PO, thereby assisting purchasing staff in the aggregation of requisitions and aligning their actions towards the supplier base. All solutions offer the possibility to raise Purchase Orders, even if there is no contract with the supplier available. Furthermore, in 70% of the solutions, purchase orders can be created directly against a contract, so without a formal requisition having to be raised first. Offering this possible routing provides organizations with the flexibility to use the procurement solution for various types of orders. Figure 28 shows a full overview of the different ways POs can be created.

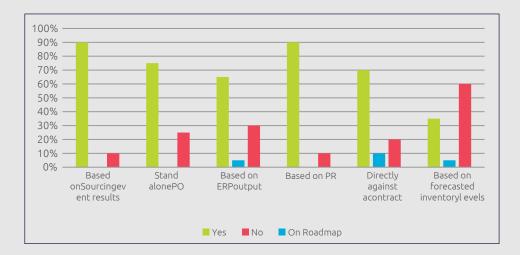


Figure 28: Different ways POs can be created

Many solutions try to help in ensuring that contract compliance is realized. Seventeen of the solutions automatically check whether a contract is available for the selected supplier. Nine of those offer the option to show an alert when a contract is available, but not attached.

In the past, many organizations faced difficulties when creating complex, hierarchical service orders, usually generated from the ERP back-end system. This difficulty was recognized by the service providers, as 70% indicate that they now offer this functionality in their solution. Moreover, organizations face another challenge that is related to discounts. Category managers and buyers negotiate discounts in their contracts, but it is often difficult

to properly reflect this on the PO. Figure 29 shows that 75% of the suppliers offer at least one discount functionality: percental discount, absolute discount or scaled discount.

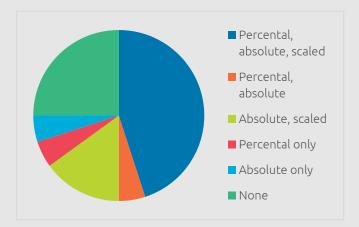


Figure 29: Discount functionality offered by solution providers

Half of the solution providers offer functionality that allows the Purchase Order confirmation to be automatically processed by the system and to automatically update the PO accordingly. This takes away the need for a purchaser to manually enter the confirmation data in the system, thus increasing efficiency significantly. The solution providers who offer this functionality also offer the possibility to send notifications when the confirmation is received and/or when the PO is changed accordingly. Most of the other systems allow the confirmation

to be registered manually. In almost all solutions a change to the PO can trigger an approval flow again. This ensures that the necessary approvals, even after possible price increases, are always received.

Goods Receipt

Whether a Goods Receipt is required can be determined at many different moments, for instance when the PO is created or is predetermined for a category or supplier. Figure 30 shows the combination of options offered by the solution providers. If the GR requirement can be determined on various levels, it will allow great flexibility in the purchasing process.

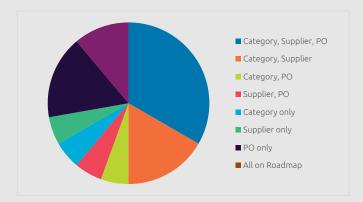


Figure 30: Levels at which GR requirement can be determined

The goods receipt functionality offered was rather extensive for nearly all solutions, with different data elements that can be registered. Nineteen out of 20 solution providers offer the possibility to register partial deliveries, and 16 out of the 20 offer an alert mechanism for deliveries that are overdue. This alert will help the purchaser to monitor orders and will allow them to proactively contact the relevant plant to find out whether the shipment was indeed not yet received or just not yet booked in the system. Even though the goods receipt functionality is elaborate, only 10 solution providers offer the functionality to register a receipt in the form of a Service Entry Sheet (SES). Seven of them allow the supplier to enter the SES themselves directly in the solution, thus reducing the workload for procurement. In four solutions it is possible to even add materials to reflect the materials used to execute the service. In addition, five of the solutions offer the option that a supplier entered SES triggers an approval flow, with the other two having it on the roadmap, to ensure that the procurement remains in control of the data entered. It is expected that the possibility for suppliers to enter an SES themselves in the solution will become more common in the future, because it creates a more efficient process for services procured.

An improvement opportunity for many solutions is to offer track and trace functionality in such a way that the supplier can upload its own track and trace link. Currently, this is only possible in less than half of the solutions that offer Goods Receipt functionality.



How we see Accounts Payable

Accounts Payable (AP) is the final area of the Source-to-Pay process. In Capgemini's Procurement Wheel it receives an equal share as Sourcing and Purchasing, because we believe it is as important as the other areas. In fact, when looking at the Source-to-Pay process from a savings perspective, it may even be the most important part of the process. Sourcing reports hypothetical savings, Purchasing reports paper savings and AP materializes the savings. Therefore, it is important that the necessary checks or matching, to ensure contract and PO compliance, are carried out as efficiently and effectively as possible. Without this, it is very likely that the expected savings are not realized.

In addition, AP plays an important role in safeguarding the company's current sources of supply. Missed or late payments can result in decreased supplier satisfaction and can as such lead to suppliers withholding shipments, putting an organization's production capabilities or store stock levels significantly at risk.

In many organizations, AP receives even less attention than the rest of the Source-to-Pay domain, being seen as purely back-office and 'admin only'. As a result, the number of staff within the AP department is often relatively high, and the number of invoices processed per FTE rather low. Capgemini often sees AP departments that process less than 10,000 invoices per FTE per year, which, in most cases, is an indication of a highly manual and inefficient process. Optimized AP organizations should be able to process 35,000-50,000 invoices per FTE per year. A number that has increased significantly over the last 5-10 years due to the use of new technologies.

Optimizing, streamlining and automating the AP process offers a significant opportunity to increase operational efficiency. In many cases, the AP efficiency increase is the main driver of the Purchase-to-Pay project's business case. With average efficiency benefits of 50-80%, this can be no surprise. In a recent project performed by Capgemini for BPCL, highlighted on the next page, similar efficiency benefits have been realized.

Supply Chain Financing & Dynamic Discounting

Many solution providers are pushing Dynamic Discounting or Supply Chain Financing functionality to their customers because, in theory, the savings can be enormous, thus adding nicely to the business case.

Supply Chain Financing: a way to optimize working capital and increase liquidity to businesses through various solutions.

Dynamic Discounting: buyers get the flexibility to pay their suppliers earlier, in exchange for a discount

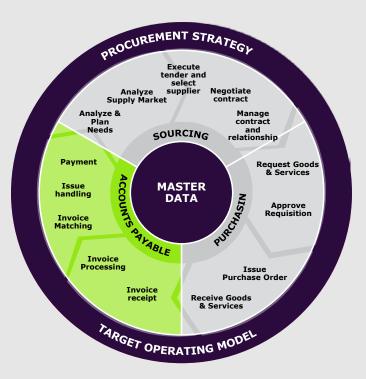


Figure 31: Capgemini Procurement Wheel: Accounts Payable

However, although the savings can indeed be significant, it is tricky to fully include them in a business case. The extent to which the savings will be realized greatly depends on the industry, maturity of the Accounts Payable organization, the skillset of the employees and the priorities of the overall organizations. For example, if the focus is on maximizing the cash position, performing early payments may not be preferred.

Nonetheless, Capgemini supports the vision that financial solutions like Supply Chain Financing and Dynamic Discounting will offer great opportunities in the future. It is in line with the integrated supply chain vision that many organization are developing, and ensures that an organization's suppliers, especially smaller suppliers, can make investments more easily and can offer discounts based on their cash needs. However, it is crucial that an organization first gets the basics right before taking the next step.

Organizational impact

An optimized AP process results in minimal manual invoice processing. The so called 'happy' flow, being the flow of error-and dispute-free invoices, is automated as much as possible, allowing AP staff to fully focus on the 'unhappy' flow. The latter are the cases that have the potential to harm the organization, since suppliers that are not paid will at some point cease to provide the goods the firm needs. For that reason, while fewer resources will be needed for performing data entry tasks, the resources that remain must possess stronger analytical capabilities, which are required for identifying the root causes of payment issues and then resolving them. When commencing on an AP optimization project, it therefore is important that organizations realize this, and are willing to invest in the necessary training for their personnel.

Automating AP – How Capgemini is helping Indian Oil & Gas giant Bharat Petroleum Corporation Limited go paperless

Gearing up to meet more demanding requirements

Bharat Petroleum Corporation Limited (BPCL) is a Global Fortune 500 company and one of the leading Oil & Gas companies in India. It is highly vertically integrated, and undertakes the exploration, production, refining, transport, distribution and marketing of petroleum and derived products in India, through a vast network of petrol stations, refineries and other installations. As any Oil & Gas company, it is dealing with significant challenges related to the depletion of natural resources, as well as increased regulations. Also, as a state-owned company, BPCL is under increased public scrutiny and must maintain high standards of accountability and transparency, also in its dealings with vendors. In addition, BPCL faced the introduction of Goods and Services Tax in India, with new requirements for remaining compliant.

To address these challenges, BPCL was required to operate with greater efficiency and effectiveness, and with greater control over its financial processes and spend. To this end, BPCL embarked on a digital transformation journey, together with Capgemini. The journey included setting up a new Shared Services Center (SSC) for Accounts Payable through open text Vender Invoice Management for SAP Solution.

Robust implementation leading to tangible results

Capgemini supported BPCL in designing, building and running the new platform and the Shared Services Center, which was called Business Process Excellence Center (BPEC), as well as through end-to-end consulting on BPCL's target Purchase-to-Pay processes and overall transformation agenda. In the first phase of the plan, the new VIM platform coupled with ICC invoice capture centre (optical character recognition tool of open text) was implemented to bring vendor invoice processing under the SSC. After the ramp-up to country-wide services the accounts payable SSC managed to reduce the total number of employee touch points significantly and boosted productivity.

Finally, Capgemini delivered post go-live operational and application support to ensure a smooth transition to a stable operation, leading to a sustainable outcome. The main benefits achieved by the implementation are:

- Savings of \$19 million through availment of tax credit after the first 6 months of its operation
- Centralized approximately 90% of all accounts payable activities within the SSC after 1 year
- Digitization of vendor invoices, which are now accessible through the SAP platform across more than 250 locations
- Standardized Accounts Payable process and centralized document management



Client name:	Bharat Petroleum Corporation Limited
Industry:	Oil & Gas (Publicly owned)
Headquarters:	Mumbai, India
Revenue (2017):	€30.3 Billion
# of employees (2017):	42,000+
Selected solution:	SAP ERP 6.0 & Opentext VIM
Back-end system:	SAP

- Increased compliance to dynamic tax requirements
- Smoother transition to GSR regime
- Improved vendor relations with real-time status of invoice & payments
- Significant reduction of turnaround time for invoice processing

In the wake of the successful accounts payable transformation, BPCL is geared up to take the digital transformation journey to the full extent of transactional processes under Procure-to-pay and Order-to-Cash Cycles.

"Our digital vision is to drive innovation and transformation in a manner that enhances operational efficiency, improves stakeholder management and satisfaction, and helps BPCL stay ahead of the curve. The SSC and vendor invoice management automation are some of the early steps in this journey. It has been a very satisfactory collaboration with Capgemini, who was not only instrumental in driving a successful digital transformation but was a strategic partner who understood our challenges and advised us on the right way forward."

Prabhu Venkatesh, Head - Business Process Excellence Center, BPCL

Research observations – Accounts Payable

Within the domain of accounts payable, the research distinguishes between three sub-sections: invoice receipt, invoice processing, and invoice payment. Twenty out of thirty-six participating solutions offer at least one of these modules. Half of the solutions that are included in this research indicate that they offer some functionality in the areas of invoice receipt or invoice processing, while only 30% of solutions offer payment functionality within their system. Nine solutions offer functionalities in all three areas of accounts payable.

Invoice receipt and processing

Receiving invoices from suppliers is the first step within accounts payable that can be automated. Receiving invoices by email and manually typing them into the ERP system is something each company wishes to avoid. Luckily, many procurement solutions offer various ways of receiving invoices directly in the AP system. Eighty-four percent of solutions that offer invoice receipt functionality allow for the supplier to upload PDF invoices directly to the solution. Sixty-three percent of the solutions even allow suppliers to create invoices within the supplier environment of the procurement solution, based on the PO and/or the contract registered within the solution.

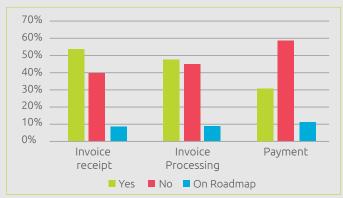


Figure 32: Accounts payable functionality offered

Multiple solutions additionally offer the possibility to retrieve data from the invoices sent to the system. Seventy percent of the solutions offering invoice receipt functionalities make use of intelligent character recognition software, with an average data capture rate of 73%. We expect these percentages to drastically increase over the next few years.

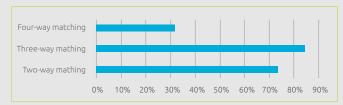


Figure 33: Matching functionality offered

To continue the flow of automatic processing, matching the invoice needs to be automated accordingly. 84% of solutions that offer an invoice processing module make use of three-way matching (matching the invoice against the PO and the receipt note). When an invoice is matched, based on predetermined

Solution	Functionality coverage
Oracle	90.5%
Tblox	90.0%
SAP Ariba	87.9%
Synertrade	87.0%
Proquro	76.6%

Table 5: Top 5 Accounts Payable depth scores

tolerance boundaries, it could be automatically processed for payment (depending on company policies). When the invoice is not matched, eighty-four percent of the solutions offer an automated workflow, whereby a staff member is assigned to do what technology cannot yet do; contact the supplier and solve the issue.



Figure 34: Data capture percentage for different types of invoices

Payment

Although invoice receipt and invoice processing technology can be considered 'quick wins', automating payment can be a big step for many organizations. Still, over half of the solutions in this research that offer accounts payable functionalities have the option to progress further with payment. Sixty-nine percent of the solutions in this report support early payment discounting and 50% allow the company to prevent early payments being made when no discount is offered.

A common point of attention within the area of accounts payable is dealing with regulations and restrictions in multiple countries, and organizations expect software solutions to support them in this. Sixty-two percent of solutions indicate that they tackle this by ensuring that their software is compliant with the financial regulations of all areas in which their clients operate. This will be easiest to execute for large common business areas such as the European Union or the United States. It can cause issues when dealing with businesses in smaller countries across the world that have more distinctive regulations. Interestingly, 54% of solutions indicate that they support initiatives for e-invoicing standards such as PEPPOL¹, an initiative for standardizing e-invoicing for dealing with public authorities in the European Union.

¹For more information on this initiative, see https://peppol.eu/aboutopenpeppol/what-is-openpeppol/

Reporting & Analytics



How we see Reporting and Analytics

As the last decade has undoubtedly shown, the world's most valuable resource is no longer oil, but data. This applies to tech companies collecting personal data, but most definitely also applies to procurement. Most companies are already sitting on troves of procurement data, ranging from internal transaction data from their back-end systems, to supplier contracts and invoices, to third-party market intelligence. Evidently, such collection of data is just a means to an end: true value can only be derived when the data is processed, structured, interpreted and then used for substantiated decision-making. Capturing of transaction data is easy. The holistic interpretation of larger data sets is, however, a complex and time-consuming task. The question arises how companies can use existing transaction data to identify inefficiencies within their process landscape. New technologies, such as process analytics, also called process mining, create transparency, help to discover process inefficiencies and improve operational excellence. In procurement, there are three types of analytics that can be deployed across the Source-to-Pay process diagnostic analytics, predictive analytics and prescriptive analytics. See figure 35 for a non-exhaustive overview of applications.

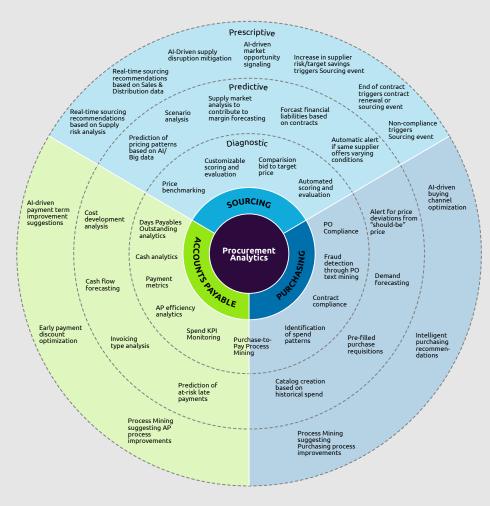


Figure 35: Analytics applications within Procurement

Diagnostic analytics

Diagnostic analytics aims to explain what has happened in the procurement environment, and why. In sourcing, this can involve comparing contracted prices with external benchmarks to identify whether the company has obtained "a good deal" from its sourcing activities. Diagnostic analytics for purchasing can include an investigation into contract compliance, or the

uncovering of spend patterns across categories and buying channels. Diagnostics for the Accounts Payable function can focus on gaining insights to optimize cashflow, Days Payable Outstanding (DPO), or the efficiency of the AP department measured through, for example, invoices handled per AP employee.

Finally, a more advanced type of diagnostic analytics is Process Mining, which is currently gaining significant traction, particularly in the Purchase-to-Pay domain. With Process Mining, procurement transactions from the ERP backbone can be analysed, revealing significant opportunities for process improvement. Process analytics means that digital footprints are gathered from database tables and converted into process visualizations, showing real as-is processes – unvarnished and not manipulated.

Predictive analytics

Predictive analytics also makes use of historical data, but in addition applies statistical models with explanatory capability to predict what impact historical events will have in the future. In purchasing, an example is to deploy text mining on historical transactions (requisitions, POs, invoices) to identify, based on their predicted purchase frequency and/or value, which items to include in catalogues and which items to remove. Another example, linked to Accounts Payable, lies in analysing spend and DPO to optimize discounts and payment terms, after which predictive DPO analytics can be deployed to better forecast cashflow and to plan working capital requirements accordingly. Finally, procurement analytics not only brings greater insight in downstream activity with suppliers; it can also provide a better understanding of the needs of (internal) customers upstream in the supply chain. One example of this is through demand forecasting, which not only helps to drive required sourcing activities, but also informs suppliers' production plans and inventory levels, driving total supply chain costs down.

Prescriptive analytics

While predictive analytics can draw cause-effect relationships, it still leaves actual decision-making up to management judgment. By contrast, prescriptive analytics, as the most advanced analytics type, proposes the best way forward, based on the selected data inputs, company objectives, decision constraints and derived outcomes. An example is the analytics platform raising realtime sourcing recommendations based on either sales data or supply chain risk analysis, triggered by a sudden spike in sales or by suppliers being flagged as 'at-risk' based on social media tendencies. In the requisitioning process, prescriptive analytics models can select the right buying channel for the requester, maximizing use of existing contracts and preferred suppliers. Finally, in the AP process, prescriptive analytics provide real-time suggestions for optimizing early payment discounts or, in its interface with sourcing, raise recommendations for optimizing payment terms in negotiations with suppliers.

Meeting the challenge

The three types of procurement analytics are increasingly complex, but also bring increasing potential for value-add. Nevertheless, most procurement functions are still struggling to meet the basic preconditions for sound analytics. One of such preconditions is the availability of sufficient data points, which is almost always the case. Another less obvious precondition is a high level of data integrity, which must be achieved by cleaning, structuring, rationalizing and aggregating the available datasets. If these hurdles are taken, establishing a foundational diagnostics capability is yet no easy task. Many firms rely on outdated or otherwise inadequate tools, lack the required analytics skillset, or simply (and perhaps because of the previous limitations) lack

trust in (the outcomes of) most analytics applications, and rather rely on their own judgment.

Given this often considerable difficulty to implement key diagnostics, it comes as no surprise that predictive and prescriptive analytics, that come with even more demanding requirements, still represent uncharted territory for many. Nevertheless, they too present powerful new sources of competitive advantage, enabling procurement to function smarter in both strategy (e.g. making better Sourcing decisions) and execution (e.g. running a more efficient AP organization). As such, analytics has the potential to be one of the core drivers of procurement's evolution from an enabling cost center to a strategic profit driver.



How Capgemini can help optimize your Purchase-to-Pay process with Process Mining partner Celonis

Over the last years, Process Mining has taken off as an extremely powerful and cost-effective way of improving operational processes, such as Purchase-to-Pay. As many companies still have insufficient transparency within their own organization, processes and systems, they have difficulty in objectively identifying true bottlenecks and potential improvements. While the as-is Purchase-to-Pay process is often well-defined, they still wonder "the process on paper looks nice, but what does my real process look like?", "what are my real process lead times?", and "where are non-compliant steps performed?".

Capgemini approach

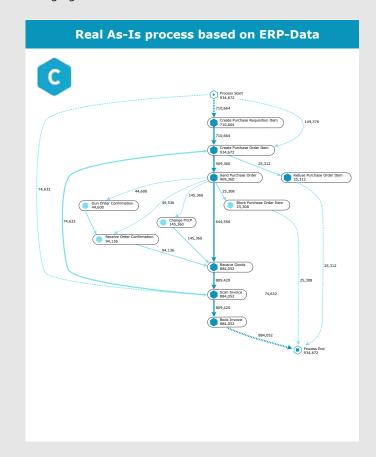
Together with official partner Celonis, Capgemini can address these questions using a unique Process Mining approach. A typical project approach for Process Excellence consists of various steps starting with a Proof of Concept, usually taking 1-2 weeks. Current pain points are analyzed to select a prioritized process using client data. After a successful Proof of Concept, the 2-3 months long tool implementation phase will take place, while the process analysis has started in parallel, uncovering key process inefficiencies, bottlenecks and compliance issues. An example of a comparison between a 'prescribed' As-Is process and a 'real-life' (as Celonis will display) As-Is process for Purchase-to-Pay is given in figure 36.

Start Create Purchase Requisition item Create Purchase Order item Approve Purchase Order Receive goods Book invoice

celonis

Partner:	Celonis
Solution type:	Process Mining
Headquarters:	Munich, Germany
Valuation (2018):	€1.0 Billion
# of employees (2018):	300+

The next stage of the journey, taking between 3 to 4 weeks, is to review the analysis and to define, agree on and plan the improvement measures that will be taken, as well as to streamline and re-design the processes in scope where needed. This builds the foundation for the final and most important stage, being the implementation of the process improvements to capture the projected benefits. These improvements often lie in the elimination of redundancies, increasing compliance, reduction of costs and lowering throughput time. Together with Celonis, Capgemini is currently implementing its Process Mining solution at several clients in the manufacturing domain, thereby already showing significant added value.



Research observations – Reporting & Analytics

Almost all solution providers offer Reporting & Analytics to some extent within their solution. In Reporting & Analytics, we distinguish between four different categories; reporting, dashboards, spend analysis and benchmarking. Although some solutions offer more advanced technologies around reporting and analytics (33% of solutions indicate making use of predictive analytics technologies within some part of their solution), reporting (89%) and dashboard (86%) functionalities are most used within procurement solutions. 61% of the solutions also offer spend analysis, and 31% offers benchmarking functionalities. Interestingly, an unusually large 36% of solutions indicate that benchmarking is on their roadmap, so we can expect to see a large increase in this within the near future. See figure 37 for an overview of offered functionalities.

Provider	Depth Score
Synertrade	100.0%
Oracle	97.9%
SAP Ariba	96.2%
Orpheus	95.3%
Eeebid	95.2%

Table 6: Top 5 Reporting & Analytics depth scores

Reporting and dashboards

Most solutions (84%) offer at least standard reporting functionality, creating standard reports for historical data and forecasts within the different areas of procurement. Of all the solutions, 72% of the solutions can create reports on realized savings or benefits gained from procurement activities based on data from within (and outside) the solution. Another popular area for reporting is process KPIs, analyzing the process of activities within the solution. Sixty-six percent of the solutions include reporting on default process KPIs, and 44% automatically monitors process KPIs in the reporting tool. Thirty-one percent of solutions even offer capabilities in process mining, allowing insights to be gained on every step of the entire Procure-to-Pay cycle.

100% 80% 60% 40% 20% Spend analysis Benchmarking Reporting Dashboards Yes On Roadmap No

Figure 37: Reporting & Analytics functionality offered

Besides reporting capabilities, most solutions also offer standard dashboards for representing data graphically. Eighty-four percent can create dashboards based on commodity breakdown, and 81% offer drill-down functionality within their dashboards. Besides this, 78% of solutions allow users to create their own custom dashboards to have the ease of visibility within their personal responsibility areas.

Spend analysis

The 61% of solutions that offer spend analysis capabilities have rather similar functionalities in this area. Most solutions can consolidate data from multiple sources, automatically aggregate this into reports and show it on dashboards, allowing to see a spend break-down.

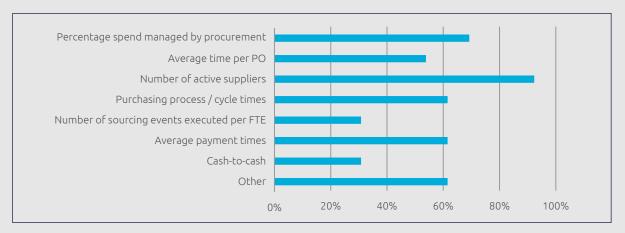


Figure 38: Benchmarking options

Benchmarking

Out of the suppliers offering functionality within benchmarking, 77% allow benchmarking within the solution, comparing for instance data across different business units. Sixty-nine percent allow external benchmarking, of which 90% run benchmarks against other users of the procurement solution.

Most of the solutions offer benchmarking on simple procurement figures, such as the number of active suppliers (92%) or figures on spend, savings and payment terms. The running of procurement processes is also recognized as a popular area, benchmarking purchasing process cycle times (offered by 62% of solutions) or average time per PO (54%). Some more advanced solutions (31%) even offer benchmarking on cash-to-cash time. See figure 38 for an overview of different benchmarking options offered.

New technologies and analytics

In the research, the participants stated their current adoption of new emerging technologies, as well as the current offerings on various analytics, see figure 39. A large number of solutions have adopted Artificial Intelligence (44%) and predictive analytics (33%) to a small or large extend. Robotics Process Automation is also adopted in nine solutions (25%). Comparing the adoption rate of blockchain to the other emerging technologies, it is still low (5.6%). The same applies for speech recognition (8.3%) augmented reality (5.6%) and virtual reality (2.8%).

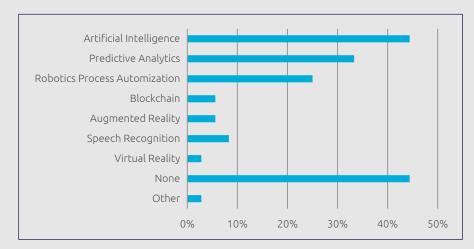


Figure 39: Emerging technologies used within procurement solutions



How we see Master Data Management

As explained in the general introduction, Capgemini has put master data right at the center of the Procurement Wheel. Without master data nothing within Source-to-Pav will function, not even as standalone. There are various types of master data and not all may be required within an organization. Therefore, it is possible to split master data into essential and optional master data. Regardless of whether your organization uses only the essential or some of the optional master data as well, the governance structure around it should be tight and well managed. If it is not, a wild growth of master data is likely to be the result. Unfortunately, many organizations have always underestimated the importance of master data and neglected its governance. They are now faced with various master data management (MDM) processes, ways of working, and most destructively, many instances of the same master data.

Essential Master Data: Supplier Master Data

Supplier master data is an absolutely essential element of the procurement process. Without supplier master data it is impossible to order anything, because the supplier's details are unknown. Yet, the importance of master data is often overlooked.

When organizations move to one way of working, one system and one MDM process, they usually face an abundance of supplier master data with lots of duplications. In our experience, it is critical to convert this into one unique supplier master data set during the project, regardless of whether the project merely implements new processes or covers a whole solution implementation.

Having a single supplier master data set ensures that orders are send to the right supplier using the right details. Also, analytics will show a true image of spend at suppliers. Currently, in many organizations buyers or category managers need to manually consolidate the spend of the different supplier entities in the system, while in fact they are all the same company.

Of course, after consolidating the master data into a single data set, there is the risk of duplicates again. There are various ways to overcome this. First of all, having a central master data team governing the process helps. They would be responsible for making sure that no duplicates are created. In addition, they will ensure that any changes are in fact required and true. Secondly, it is possible to use global identification numbers to identify the suppliers and ensure no duplicates are created. For instance, a global beverage company demands that all its suppliers have

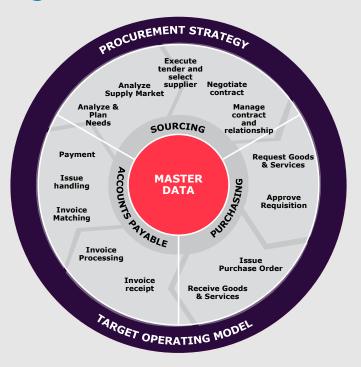


Figure 40: Capgemini Procurement Wheel: Master Data Management

a DUNS (Dun and Bradstreet) number. To prevent its suppliers from experiencing unexpected costs due to this demand, the beverage company covers this, because it helps them in keeping their supplier master data clean. Thirdly, increasingly more procurement solution providers offer their own network on which suppliers can maintain their master data. Usually a supplier can only register on that network if it doesn't already exist, so it must be a separate legal entity. By using the supplier details of the solution's network only, the likelihood of having duplicates becomes very slim as well.

Optional Master Data: Material and Service master data

Material and service master data is usually derived from the ERP back-end system. In organizations with multiple back-end systems there will always be a duplication of the master data across the systems, but even within single back-end environments this type of master data is usually maintained at plant level. The sourcing process will benefit from having single material and service master data, which makes running e-Auctions much easier for instance. One of the world's leading dairy companies executed a multi-year project moving all its plants to a single ERP instance and consolidating all its material master data into a single data set. Great benefits can be achieved by this, especially if the corresponding purchasing tool can support this with catalogues that show pricing depending on the requisitioner's country. However, fact is that many of the consolidation projects fail due to lack of buy-in or longevity of the organization. Therefore, such a project should only be undertaken if a company has the right mindset to implement such a change.

Research observations – Master Data Management and supporting technologies

Besides the mentioned master data elements, Bill of Material master data is also essential for the direct procurement process. In the discussion of the research results this will be discussed separate from the other master data elements. Nineteen of the solution providers (53%) indicated that some or all types of master data can be managed by their solution. The discussion below is based on the responses from these 19 solution providers.

Master Data Management

Of the 36 research participants, 15 (42%) have stated that it is possible to maintain Material Master Data in their solution. Four solutions have managing Material Master data on their roadmap and 17 solutions do not offer Material MDM functionalities. Regarding Service Master Data, 18 solutions offer this functionality and four have it on the roadmap. Seventeen of the 19 solutions can be used as the primary source for material or service master data. This means that there is no separate backend system required to store and manage this data. Through interfacing, it may even be possible to feed an existing back-end system with the information maintained in the procurement solution. The service and material master data are stored in the same database in 84% of the solutions.

If an organization prefers the traditional integration from back-end to procurement solution, 10 solutions offer the functionality to create a golden record for material and service master data that links to each ERP's individual master data record. As a result, it is possible to connect multiple ERP systems with their own master data records to the central procurement solution and maintain the supplier master data cleansing only at the central location. Although this might seem like the perfect solution and would not require a master data project, it does create a significant dependency on integration and interfaces. In addition, care needs to be taken that no adjustments can be made locally to the individual ERP records.

Several research participants offer features to automatically maintain the data quality in the MDM solutions. Figure 41 shows an overview of this.

A large part of the applicable solutions offer the possibility to enforce a pre-determined naming convention. Other solutions contain automated checking for duplicate entries based on material and service characteristics.

To create structure in maintaining the data, 53% of the solutions have a standard hierarchy and grouping structure of materials and services. For 37%, this is not standard in place and customization for structure and hierarchy is required. For most of the MDM solutions (63%), it is a standard feature to adjust these groupings, hierarchies and structures manually, but for 26% this is not possible. The rest of the solutions have this on the roadmap. Also, five solutions can track and trace the origin of materials in documents of first and second tier suppliers. In 11 solutions it is possible to link a material master item to an item in the supplier-managed catalog. For eight of these solutions this information can be automatically adjusted if the information in the catalog changes. In addition, it is possible to create local data subsets for material and services master data (like specifications and price) in 11 solutions. Fifty-two percent of the solutions can set values for planning purposes. This can be setting the minimum stock level, minimum order quantity, the maximum stock level or the current stock levels from the ERP system.

Bill of Material

The Bill of Material (BoM) is a list of all raw materials, subcomponents, parts or other applicable elements that are part of the end-product that needs to be produced. The buying organization uses the Bill of Material to secure that the right materials are purchased for the production process. Seven of the solutions offer functionality to manage the Bill of Material in their solution. For the respondents that offer BoM functionality, it is possible to adjust the BoM during supplier selection- and sourcing processes. In these solutions it is also possible to make a distinction between internally- and externally sourced products. Services BoM are part of the functionality of all applicable solutions. For five of the BoM solutions it is possible to create a local list of product-location specific information. The rest of the participants currently have this on the roadmap.

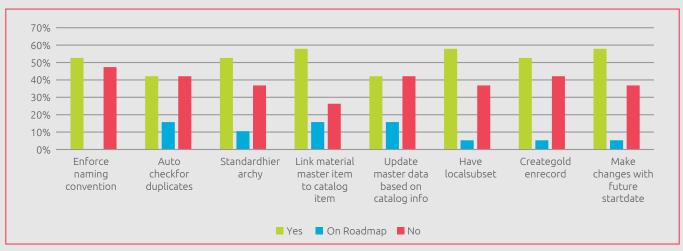


Figure 41: Functionality offered to maintain quality of master data

Integration

Within the master data area, integration often plays a key role, because data is usually retrieved from the back-end system or needs to be stored there as well. Also, in many implementations integration can be the bottleneck in the process. It is therefore very useful to not just ask the solution providers whether integration can be done, but to also ask whether it has already been done and if they have any references to consult. The research questions are focused on the broader integration that may be required when implementing a Source-to-Pay solution.

Although the majority of the solutions do not require any integration to a back-end solution to function, they can be used as standalone back-end integration is common. Only six solution providers are currently not interfaced with any ERP system. Figure 42 shows an overview of different ERP systems and the proportion of solution providers that are currently interfaced. Thirty-one solutions indicated that it is possible to interface with multiple ERP systems of a different kind. Also, with 31 solution providers, the client decides how often data is interfaced between the ERP and the purchasing solution.

Thirty-two solutions offer interfaces that run through clientselected middleware. In case the client does not have any middleware, there are 14 solutions that offer their own.

To support organizations and system integrators in setting up the interfaces, 20 solutions provide out-of-the box interface coding. This coding usually needs to be adjusted to accommodate the exact set-up and needs of the organizations, but it gives a clear head-start over starting from scratch.

Many elements, not just standard material master data, can be interfaced between the client's ERP solution to the purchasing solution. Figure 43 shows an overview of how often certain elements are currently interfaced. Figure 44 shows that the most used integration option is flat files (89%) and the least used custom code (66.7%).

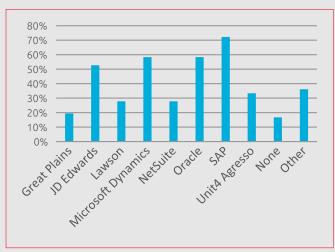


Figure 42: Overview of back-end systems integrated with

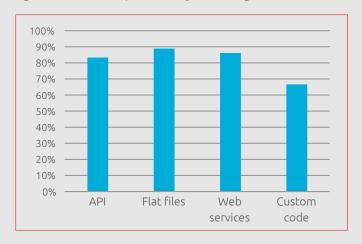


Figure 44: Integration options supported by solution providers

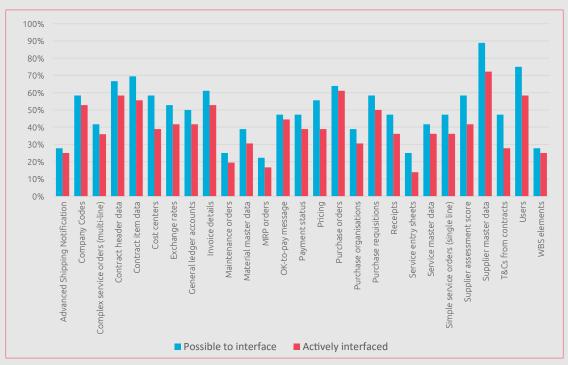


Figure 43: Elements most interfaced by solution providers

Other technical observations

Seventy percent of the solutions are based on an open IT architecture. As shown in figure 45, 19% of the solution providers have their solution available as a single-tenant platform, 33% as a multi-tenant platform, and 47% offer both options. Seventy-three percent of the solutions base their solution on a single database, and the others on two or more databases. In a large part of the platforms, end-users have access to customize their own elements. In 58% users can customize their own tables. For 70% of platforms the users can choose which elements to show on their homepage. Seventy-eight percent of the solutions are built on a single platform, whereas 22% of the solutions are built on multiple platforms.

19%

Single platform, whereas 22% of the solutions are built builtiple platforms.

22%

22%

3%

Multi tenant

Both possible

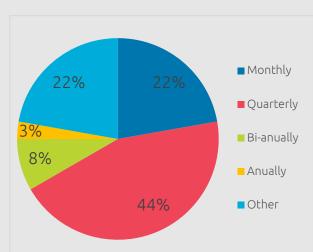
Figure 45: Single- vs multi-tenant availability of the solutions

33%

The trend of going mobile is still going on throughout the world. People are no longer expecting that websites or solutions are available solely on computer screens. Instead, everything should be easily available on mobile devices. Within procurement solutions, mobile applications can help in, for instance, quickly approving a purchase requisition or purchase order. Still, the percentage of solution providers that offer mobile applications for their solution is rather low, as can be seen in figure 46. With 19% of solutions offering purchasing in a mobile application, this is the most popular domain among solution providers. Most solution providers thus still have a long way to go to catch up with the mobile trend.



Figure 46: Mobile application availability



As opposed to on-premise solutions, cloud solutions offer the

added value of receiving regular updates on their software.

Figure 47 shows how often solution providers send out new

releases to their customers. In most cases (77%), the updates are automatically pushed to the customers and made available

to the users. In 55% of the solutions, the customers have the

opportunity to control when the updates become available, so

that it can be tested and users trained before made available.

Figure 47: Frequency of new releases pushed

When implementing a cloud solution, another very important aspect is security. Figure 48 shows some of the security measures that are taken by the solution providers. In general, all solution providers have very strict security policies in place to protect the data of their clients.

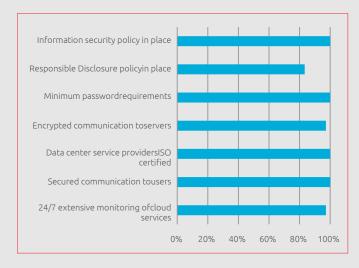


Figure 48: Some of the security measures taken by solutions



Implementation & Pricing



How we see Implementation

Once the solution provider that best meets the preferred future state of an organization's procurement department has been selected, implementation of the solution starts. Solution providers often claim that the implementation of the procurement solution can be done quickly and easily by following a standard approach, but it is often a greater hassle than portrayed. Every implementation can be roughly split into three parts:

1) Design, Configuration & Testing; 2) First implementation; and 3) Roll-out.

Design, Configuration & Testing

During the Design, Configuration & Testing phase the processes and policies are designed, implementation documents are prepared, and the system is configured and tested. Traditionally, on-premise solutions were developed using a waterfall-like approach, which was time consuming and errors often did not surface until the end when testing took place, leading to project delays. Nowadays, virtually all cloud solutions are developed using an agile-like approach, which allows for more rapid development and immediate testing of the developed parts. As a result, errors in configuration surface throughout the development phase and can be tackled swiftly and directly. Capgemini uses Design, Configuration and Testing (DCT) sprints to develop and test functionality blocks. The phase concludes with end-to-end and, if applicable, integration testing.

To successfully implement a cloud solution, an organization needs to embrace the fact that it cannot customize the solution as it could be done in the past. This should be reflected in the design principles that are drawn up at the start of the project. An example of a good principle is to design a global template in such a way that it is applicable to all countries. Only legal or financial requirements should be considered during implementation and allow for local 'customization' of the global template.

The time needed for this phase greatly depends on the scope of the project, availability of business resources, availability of up-to-date processes and the maturity of the organization. Conducting a procurement maturity assessment beforehand provides an indication of the amount of work that is expected to be realized the required future state. To support organizations, Capgemini provides ProcMA, an online procurement maturity assessment tool (see the separate textbox for more information).

РгосМА

Capgemini's online procurement maturity assessment tool. The self-assessment tool focuses on four elements:

- Organization & Positioning
- Process & Performance
- Roadmap & Strategy
- New Frontier(s)

It allows you to compare your company to market best practices and provides real-time results.

More info:

https://ProcMA.capgemini-consulting.com

First implementation

As with most things, the proof of the pudding is in the eating, therefore a First Implementation should be used to validate and finalize the implementation documents (e.g. training toolkit), system configuration and implementation approach. This phase is not called the pilot phase intentionally, because conducting a pilot suggests that a continuation of the project is questionable or that the project can be easily stopped. This should not be the case. If no major issues arise during the first implementation phase, the project should seamlessly flow into the roll-out phase. Therefore, we suggest that the first implementation should be a challenging location, which will help in conveying the change message to the rest of the organization during the roll-out.

Roll-out

The roll-out phase encompasses the remaining implementations and can be conducted in various ways, with the main choices often being a 'big bang' versus phased roll-out and centralled versus key user/local-led. Of course, a hybrid approach combining a central team with key users is a possibility as well. Table 7 compares the options and indicates when they may be applicable.

Central Team		Local Team	Hybrid Team
Big Bang	A big bang implementation requires the whole organization to adapt to the new way of working at the same time. Since a central team leads the project there may be relatively little support available to the endusers, potentially risking the system acceptance. This approach is mainly useful if the number of locations is small.	Local led implementations require either local representatives to be involved from the start or very detailed documentation that is handed over to the local teams. Big bang implementations executed by local teams are very hard to coordinate and in practice, we rarely encounter this approach.	A big bang implementation works best with a hybrid team. The hybrid team consists of a central team that coordinates all efforts and is second-line support, and a local or regional team that provides on-site support to endusers. As a result, end-users receive the proper attention and the overall objectives can be safeguarded more easily. This approach works well if the organization wants to rapidly change and implement the new way of working.
Phased	A phased approach using a central team works well, but does lead to a project stretched over quite a long period of time due to the limited number of central resources. This approach allows for a regional approach where for instance different shared service centers are implemented separately. A phased approach works well when it concerns a major change to the way of working, which the organization cannot cope with all at once or where insufficient resources are available.	Local led implementations require either local representatives to be involved from the start or very detailed documentation that is handed over to the local teams. This approach is often used by organization that develop a global system and template and then leave it up to the individual business units or countries to decide on and execute the implementation. As a result, part of the organization uses the global system while another part does not.	A phased approach with a hybrid team puts less pressure on the overall organization, allowing for a gradual transition to a new way of working. The hybrid team consists of a central team that coordinates all efforts and is second-line support, and a local or regional team that provides on-site support to end-users. This approach works best if change management is crucial and the organization is not fit for a big bang implementation.

Table 7: Implementation options

Appointing key users early in the project and involving them throughout increases the embedding of knowledge in the organization. Although key users can be used in any of the implementation approaches, it is an essential part of the hybrid solution model.

Regardless of the selected approach, it is important that organizations realize that in many cases the project is not just a system implementation project. Usually, the tool is not the only thing that changes, for instance, the way of working and the procurement organization change as well. Therefore, these projects should be approached as a digital procurement transformation project and hence as a business project.

How Capgemini is helping a French personal care company optimize its Sourcing process

Our client experienced a very scattered sourcing IT landscape. Many different applications were used to cover various parts of the sourcing process. Also, across regions and countries for the same activities different solution were used. Therefore, the client decided that it wanted to optimize the sourcing solution to create a digitized, agile and connected platform covering all stages of the sourcing cycle. This included supplier performance and risk management. After a thorough selection process and study phase, Ivalua was selected as the solution provider that best met the requirements and vision of the client.

To make sure that the global processes and configuration of Ivalua meet the expectations and needs of the sourcing community, various representatives were involved from the start. The involvement of the sourcing community gradually increased throughout the project, with the whole community being involved during roll-out. The initial participants became the Ivalua key users and are an important part of embedding the new way of working in the organization. Because the change to the sourcing community is significant, much attention was given to change management.

Due to the magnitude of users, a phased and regional approach was selected, resulting in the new functionality being released in two waves to the users. Roll-out took place per region, starting in the Americas and then via Europe to Asia.

Design took place using Accelerated Design Sessions, comparable to the DCT sprints explained in the previous section, which allowed for the configuration of the solution in a fast and agile way. Specific focus was given to ensure that the designed dashboards would be the starting point for all sourcing activities. For instance, a buyer's dashboard will show their open RfX events, projects and relevant spend overview. From the dashboard it is possible to drill into details or select a supplier to retrieve all information available, like past and ongoing engagements, participation in RfX events, performance and risk scores, spend and mandatory documentation.

Main benefits



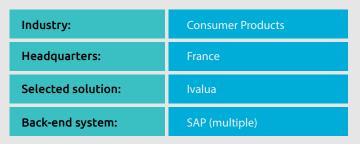
Figure 49: Main benefits of the client's sourcing project

The benefits are linked to four main topics, shown in figure 49.

Simplification: Using one solution instead of many. Having a single point of entry for and source of supplier data.

Harmonization: Harmonize the process across domains and zones. Standardize the documents used.

Compliance: Auto archiving of documents and up-to-date information and templates



Please note: This client story has been anonymized at the client's request.

Visibility: Enhanced automatic reporting, clear dashboards and 360 views on suppliers.

The project is still on-going, so firm benefit realizations cannot be shared at this point. However, the first roll-outs are completed, and initial results show that the expected benefits are indeed realized and experienced by the sourcing community.

Research Observations – Implementation & Pricing

Implementation

Properly implementing a cloud solution is a more challenging iob than many organizations realize at first. Implementing a procurement cloud solution is no exception to this. There are countless aspects that need to be considered when setting up the solution. Not least important are efforts needed to complete integration with other systems such as the ERP, finance solutions, and other procurement-related systems. However, not only the system-related aspects need to be taken into account. Implementing a new solution is often (part of) a large transformation project. Processes may need to be redefined, especially when current processes are not entirely in line with the selected cloud solution. Roles within the organization may change, and new policies may need to be set up to govern new functionalities within the new solution. Luckily, solution providers and external system integrators or consulting firms, such as Capgemini, are there to guide firms through this process

of change. As shown in figure 50, nearly three quarters of the solution providers offer the choice to their customers to have the implementation project managed combined Ьу а team of resources from the solution provider and the system integrator. Some solutions are even aiming to have more of the implementations done by system integrators, so that they themselves can focus on providing the

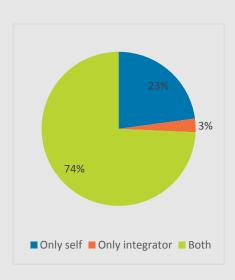


Figure 50: Implementation options

best software solution and providing trouble-shooting support if necessary. Seventy percent of the solution providers offer training and certification for external implementation consultants to ensure a high-quality implementation by a third-party system integrator. In addition, especially when considering very technical and solution-specific aspects, it is wise to include resources from the solution provider during the implementation. This is acknowledged by the solution providers: 85% say that their employees will be involved by default even if the implementation is led by a system integrator.

Although cloud solutions are always, to some extent, configured to match an organization's desires (e.g. by setting up approval flows or templates for the creation of RfXs, contracts or dashboards), many cloud solutions offer a standard set-up that can be worked with and tested from the beginning of the implementation project onwards. This allows the implementation team, in cooperation with the client's procurement resources, to identify how the organization wants to utilize the system. Fifty-eight percent of the solutions even offer industry-specific standard templates for the organization to use. Figure 51 shows

for which industries these standard templates are offered.

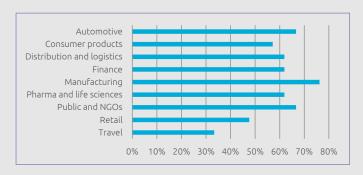


Figure 51: Industry-specific standard templates offered

Support

After implementation, regardless of how successful it was, there will always be questions. This can vary from simple questions such as support with creating different types of RfXs within the solution, to technical issues that may arise at any point in time. Solution providers therefore always offer some level of support. Figure 52 shows what general types of support are offered by the solution providers. In general, support offered after go-live includes basic training documents and technical support. Some solution providers however, also offer specific aid for working within the system (possibly at additional costs). For example, 53% of solution providers offer their clients support in creating RfX events. Also, 47% support their clients with creating internal catalogues or setting up connections for punch-out catalogues, which is a more administrator-like task.



Figure 52: Support offered by solution providers

Another interesting trend, which can be seen in many markets, is that even cloud solutions (which are by default 'standard' solutions and are not customized to reflect the exact wishes of the customer) are listening more and more to their clients. Ninety-four percent of the solution providers in this research offer the possibility for customers to influence the development of the solution through, for example, user fora, events, development partnerships, et cetera. Though it might differ per

provider how soon they will take these changes into account while developing the solution, it is always a good thing to have a stage for customer ideas.

Pricing

Most organizations will know by now, that license and implementation prices for cloud solutions can be very high. Besides that, prices can vary significantly between different solution providers. Especially when your organization is in an early stage of the selection process, it might be hard to get a proper indication of what the price of different solutions will be and whether it is possible to compare the received prices to each other at all. Therefore, it is useful to get an idea of what solution providers look at when determining the (license) price. The two mainly used approaches are module-based pricing, which is pricing depending on the modules used, and pay-per-use pricing, meaning pricing differs based on the use of the solution (e.g. number of POs through the system). As shown in figure 53, 42% of the modules use a combination of module-based- and pay-per-use pricing, 47% use either one, and 11% use another way of pricing. The pricing model is often related to the type of solution. Source-to-Contract solutions are often priced based on the modules selected, whereas Purchase-to-Pay solutions are more often priced based on the use of it, such as the number of users that can place orders, or the number of POs that go through the system.

Figure 54 shows in more detail what elements are used by solution providers to determine the (license) price of the solution. Considering these elements before contacting solution providers to provide a price indication helps in getting an as accurate price indication as possible and speeds up the process. The fact that different solution providers might use different elements within their pricing model adds to the difference in prices between solutions. Knowing what the solution providers base their pricing on, might therefore also help in understanding these differences, and can help organizations find the optimal solution for the optimal price.

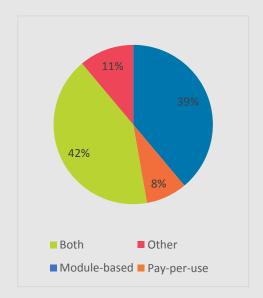


Figure 53: Pricing schemes

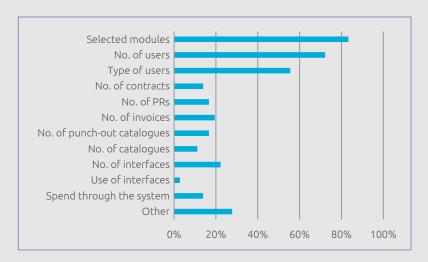


Figure 54: Elements for determining license prices



Conclusion: There is a procurement solution for every organization

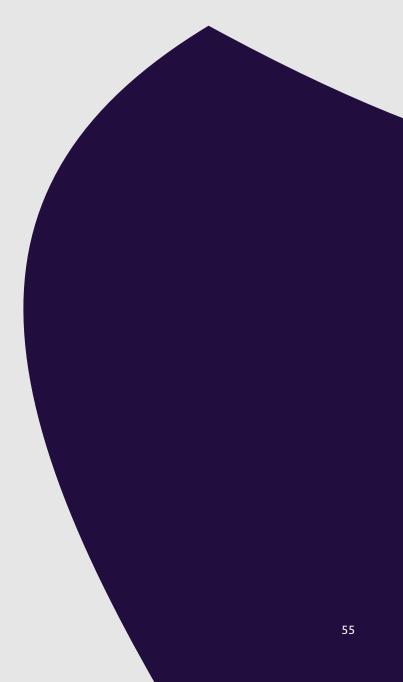
Capgemini's Digital Procurement Research 2018 has shown that there are many different procurement solution providers, offering a wide range of functionality. Therefore, it is not a simple exercise to determine which solution is best for your organization. An organization needs to ask itself the questions: what do I need to do my work properly now and what do I want to realize in the coming years that is not possible at this moment? The answers to these questions are the starting point for selecting the right solution provider.

The procurement market and its IT solutions will continue to evolve and improve over the coming years. It is expected that the Source-to-Pay processes will become more tightly integrated. Purchasing channels that are currently managed outside a solution, for example travel and expenses or regular reimbursement, will be included increasingly within these solutions. In addition, emerging technologies such as artificial intelligence will be used increasingly, for example to guide the users into the right purchasing channel. All these expected developments are really turning the procurement solutions into a single purchasing data source and increase the possibilities to influence people's buying behavior.

It can be expected that the majority of medium to large sized enterprises will move to a procurement process that is supported by adequate tools. According to Gartner², by 2025 over 50% of these companies will use a procure-to-pay cloud solution . Embracing the inevitably changing IT landscape will ensure that your organization keeps up with the competition. In some markets, embracing this change as soon as possible may even position you as a leader. But merely implementing a procurement tool will not change how procurement is perceived or what its position within the organization is. The procurement department should embrace the current opportunities and transform itself to be the organization's value-adding enabler by changing its processes, way of working and possibly people. This will completely change the perception of procurement and will move it closer to the core of the business.

²Gartner; Magic Quadrant for Procure-to-Pay Suites; 29 May 2018

Therefore, all claims that procurement as we know it today will cease to exist are true. However, this does not imply that there is no procurement anymore. The exact role that procurement will play depends on how the current procurement department is able to reinvent and transform itself. As Cappemini's Digital Procurement Research 2018 has shown, there are many solution providers offering great procurement IT solutions to facilitate and enable this transformation.



Solution provider summaries



Introduction to the solution provider summaries

The following section provides a summary for each of the participating solution providers. Each solution provider is highlighted on a half-page dashboard, outlining general company details and a summary of the research results. We provide the following information:

General company details

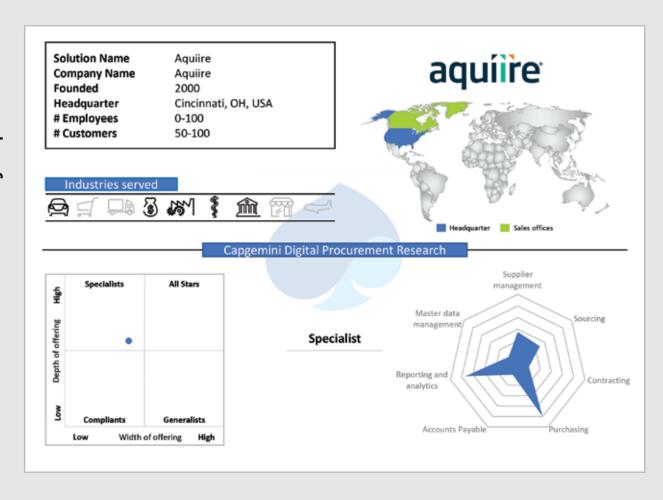
- Key information about the solution, and the company behind it
- A map outlining the location of the company's headquarter and regional sales offices
- An overview of the industries the company currently serves with this solution, indicated by the following icons:

Icons	Sectors
	Automotive
\Box	Consumer Products
	Distribution and Logistics
S	Finance
M.	Manufacturing
†	Pharma and Life Sciences
	Public
	Retail
\(\)	Travel

Key research results

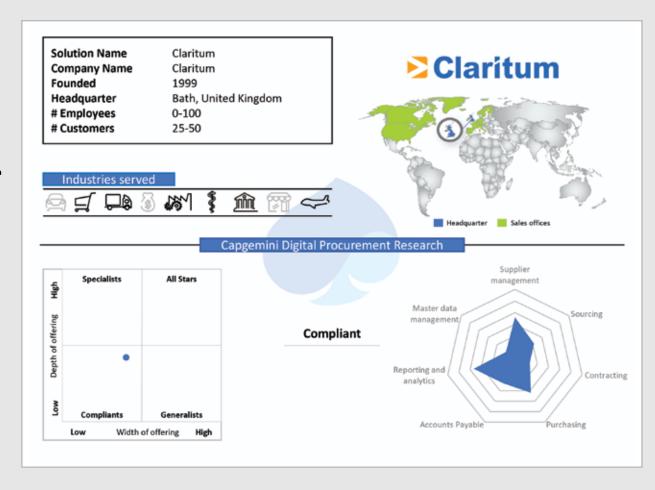
- The solution's position in the DPR 2018 Matrix, based on the depth and width of their offering
- A graph providing the overview of the solution's results in each of the categories defined in theresearch, relative to the maximum score for that category.
- The solutions have been scored on the following topics:
 - Supplier management
 - Sourcing
 - Contracting
 - Purchasing
 - Accounts payable
 - Reporting and analytics
 - Master data management

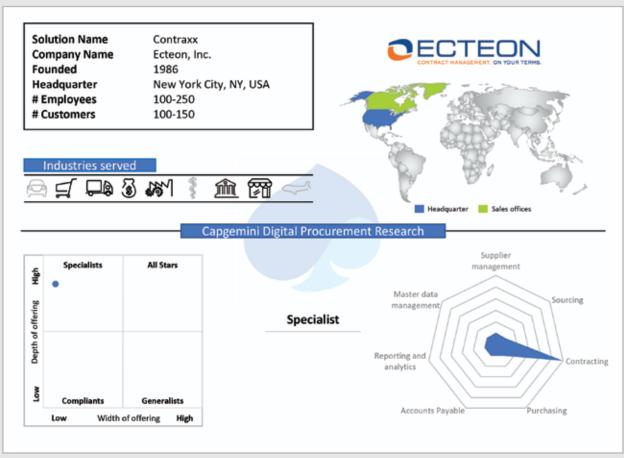


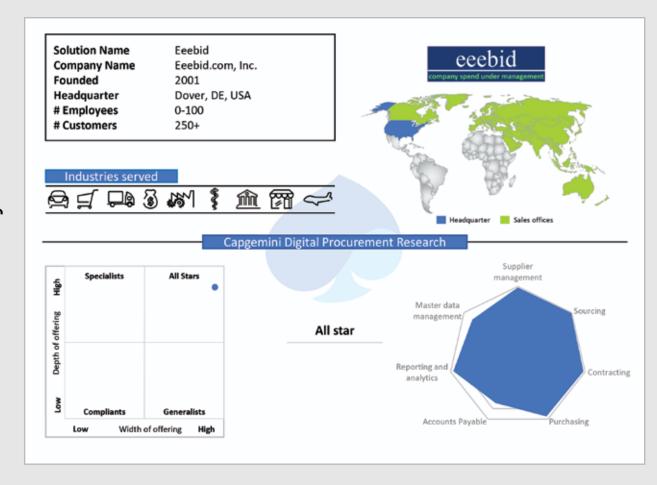


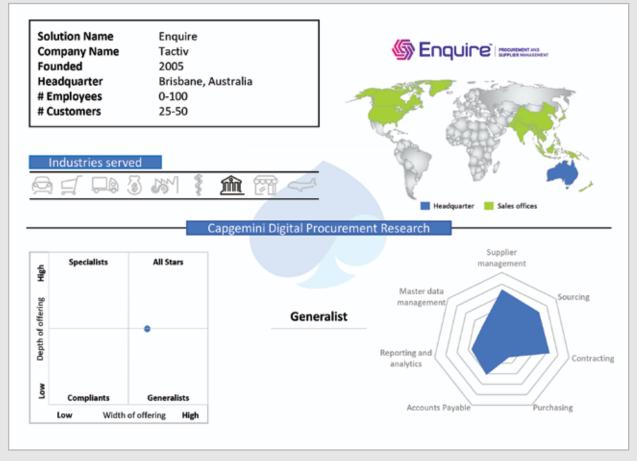




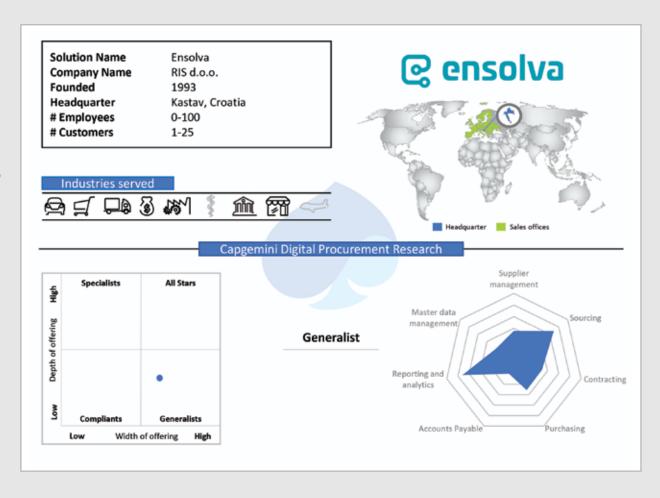


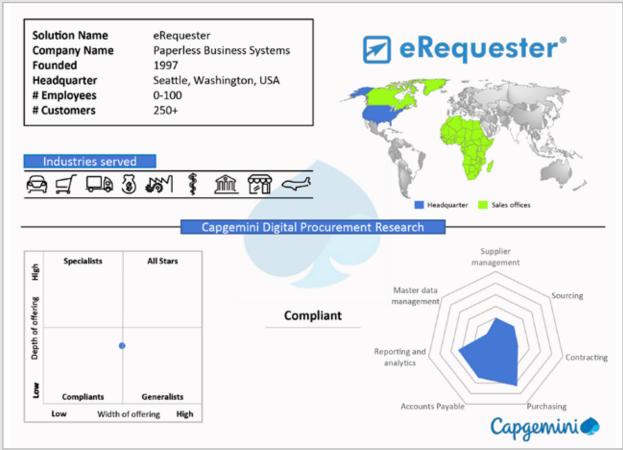


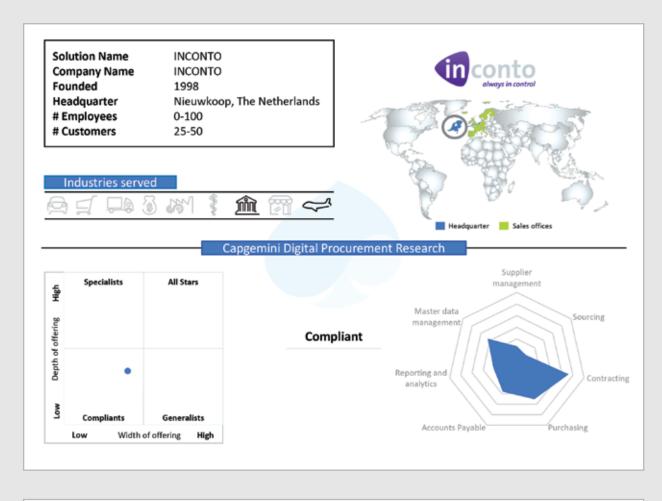


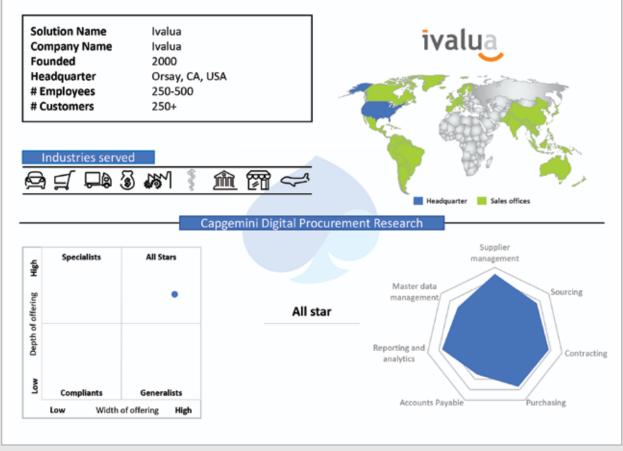


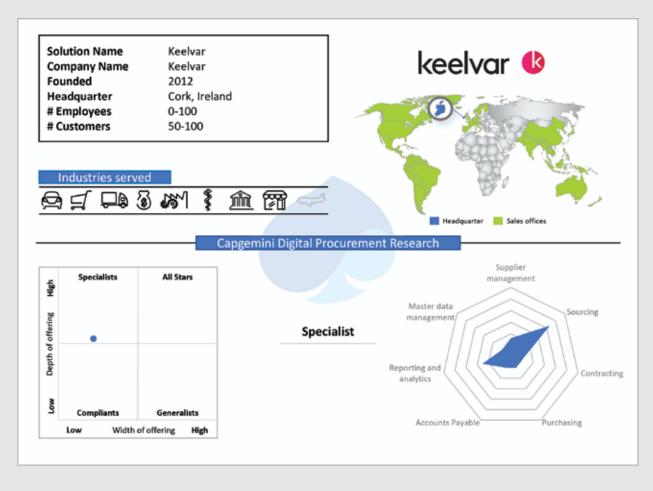


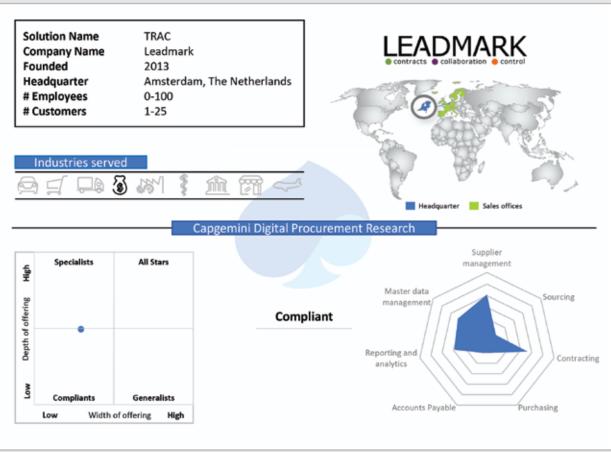


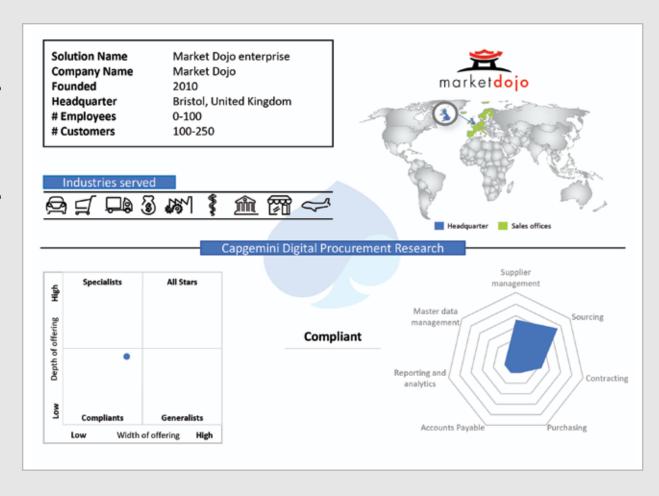


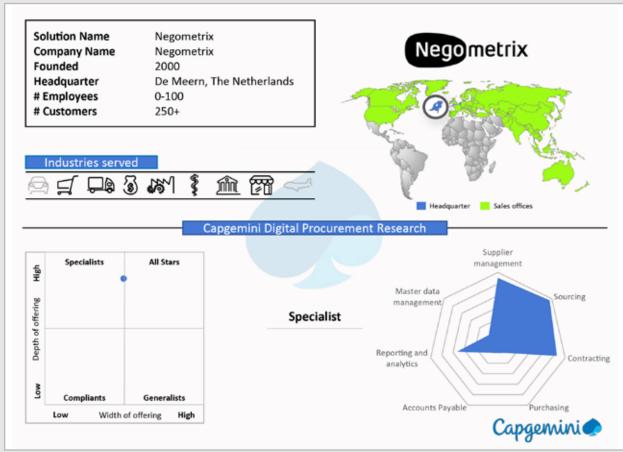




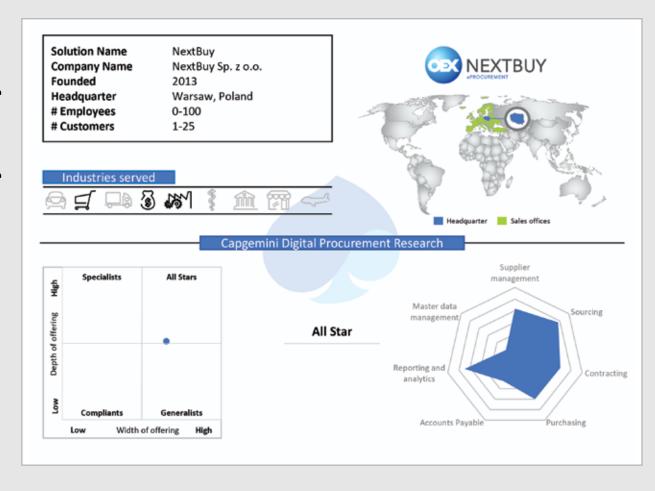


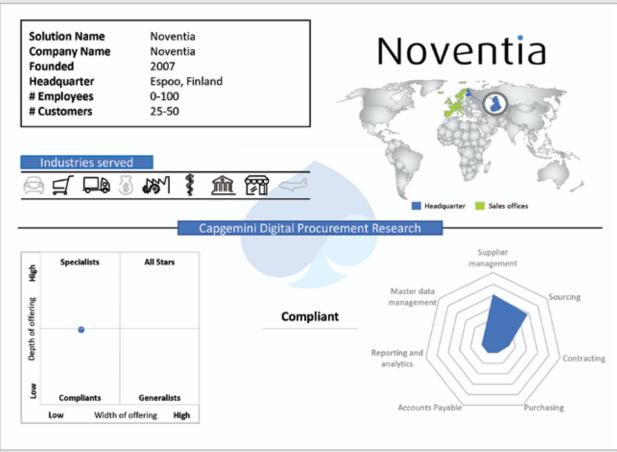




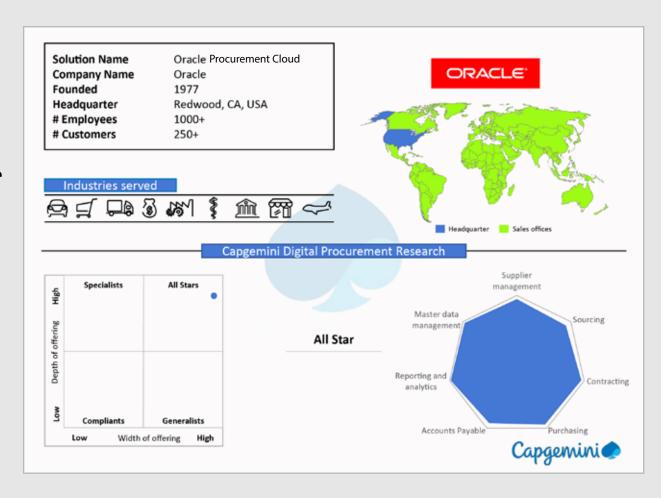


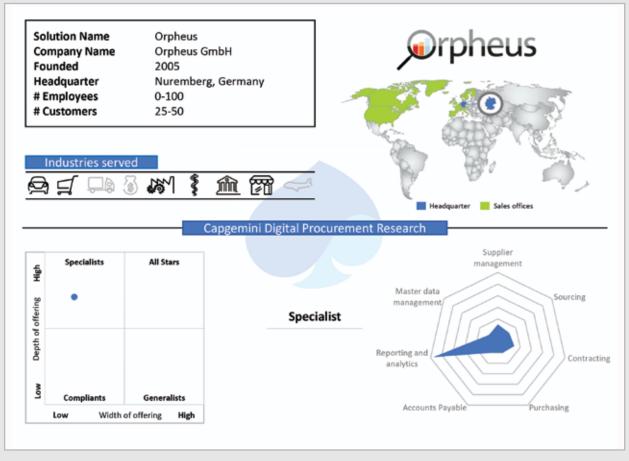


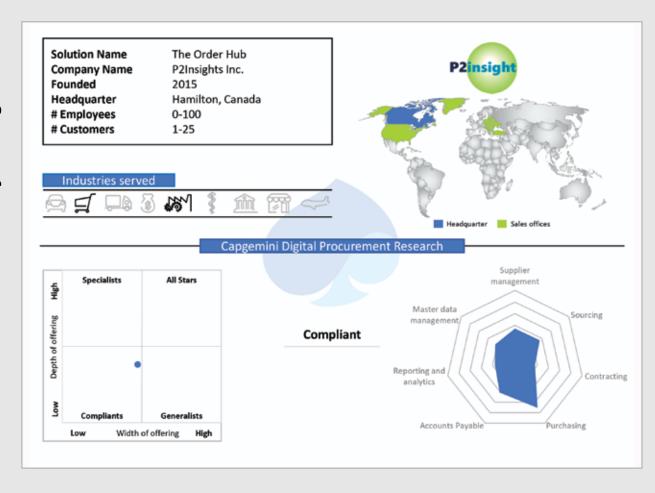


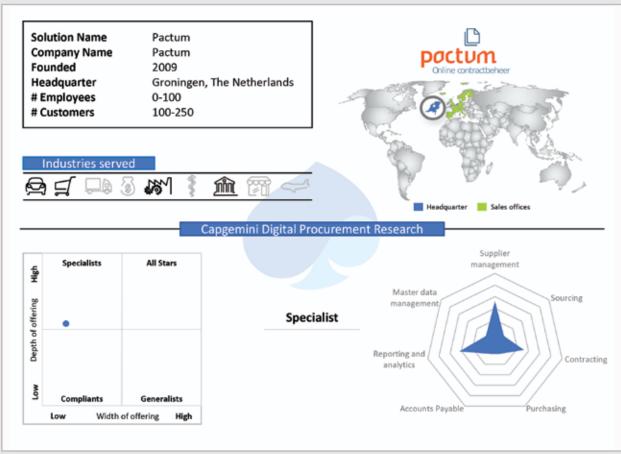




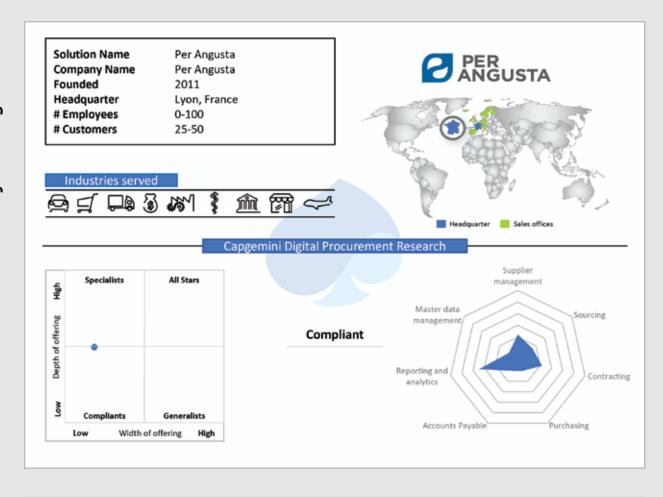


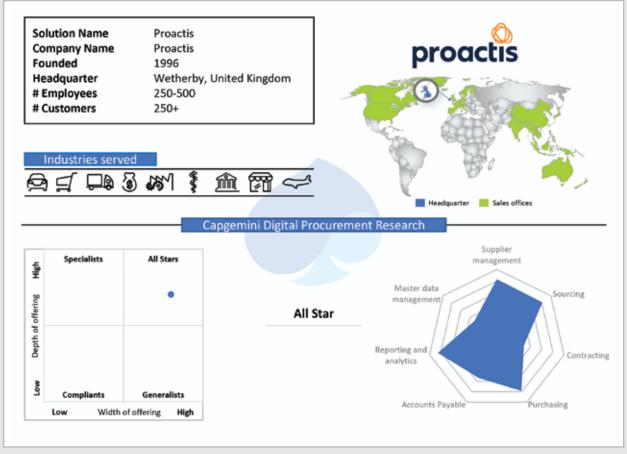


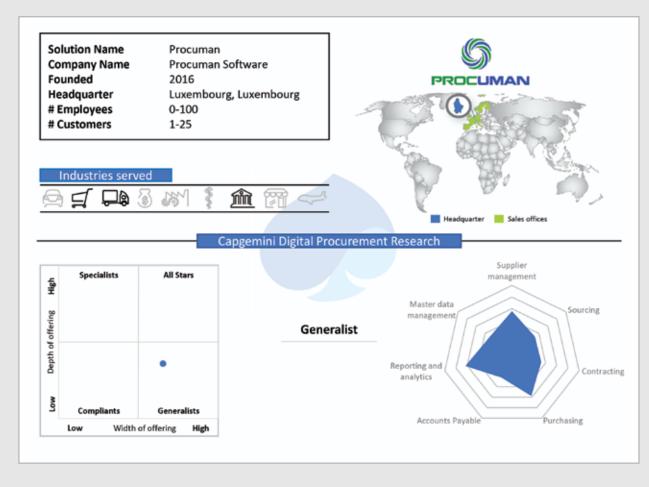


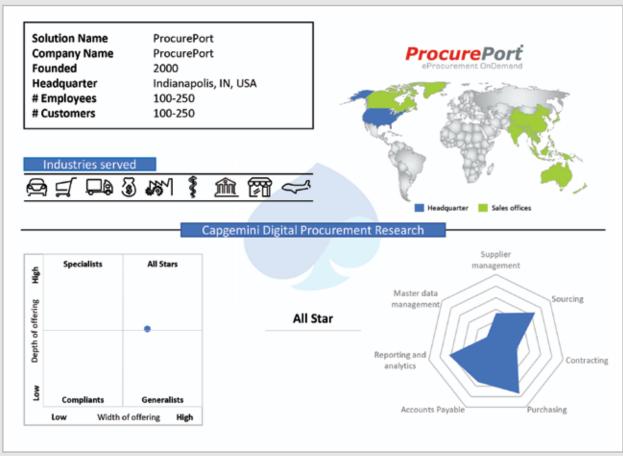




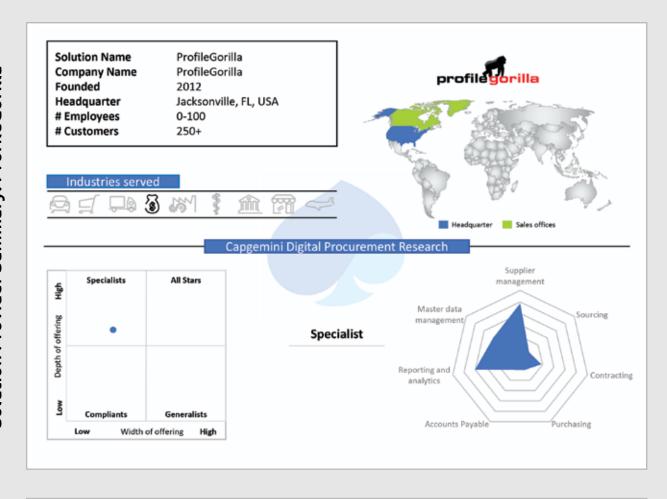


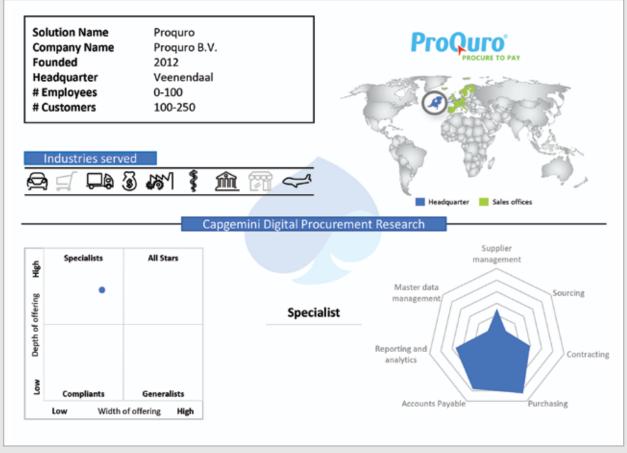


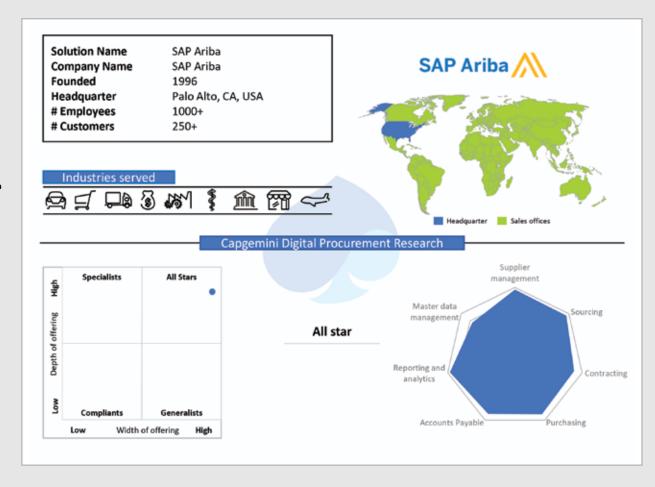


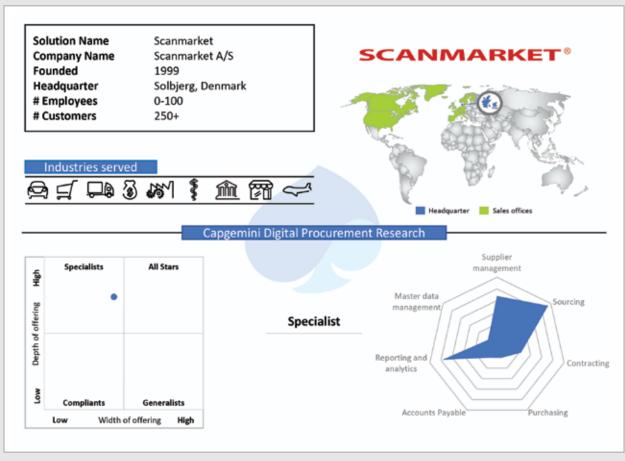




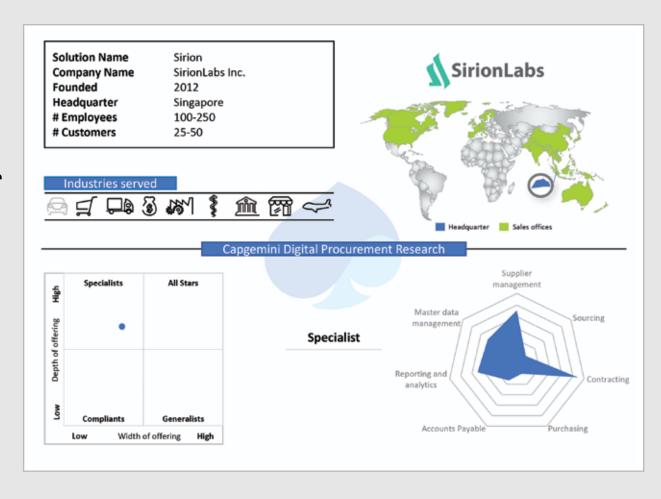


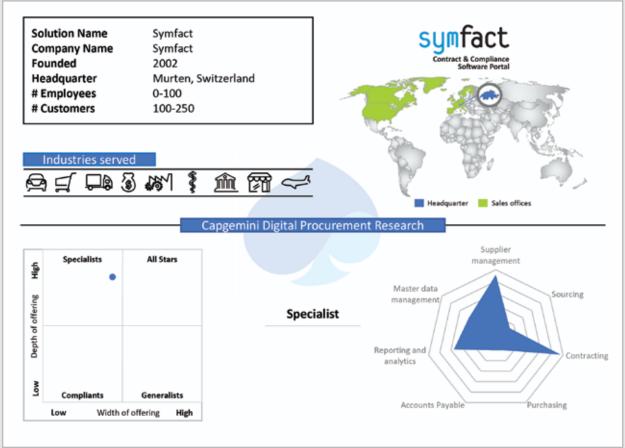




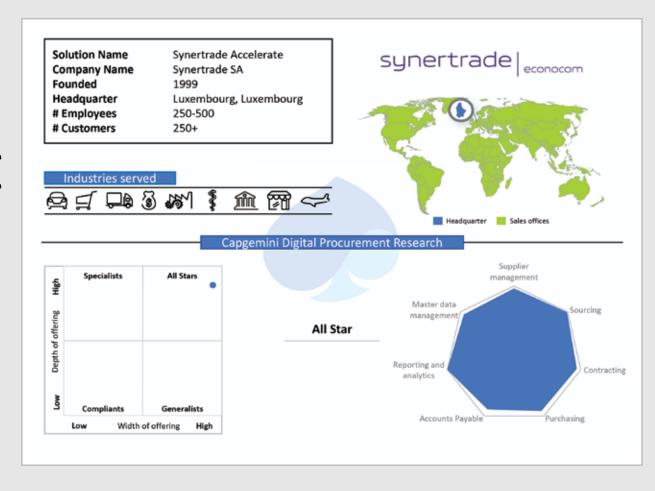


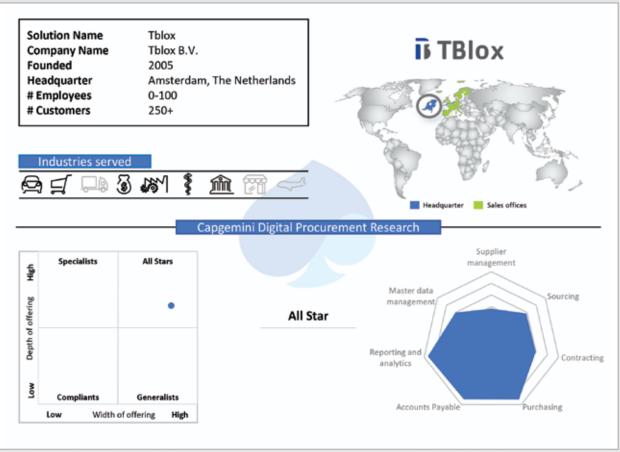


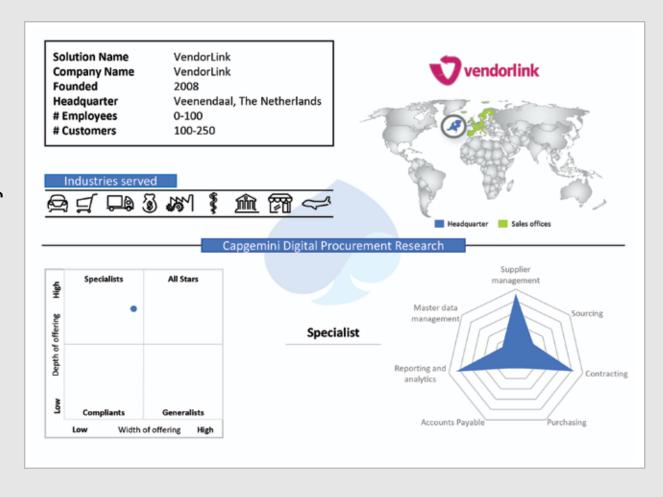


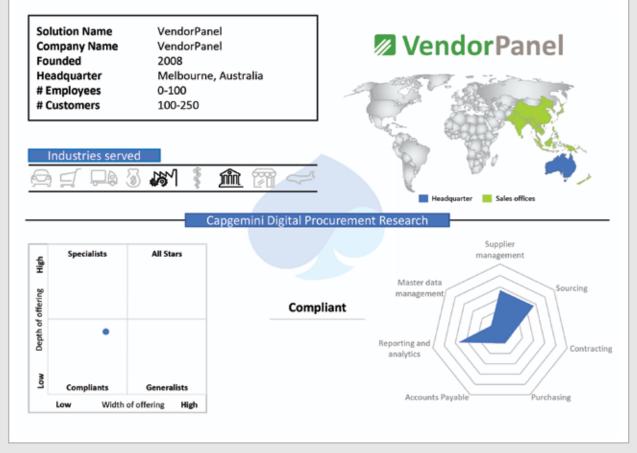




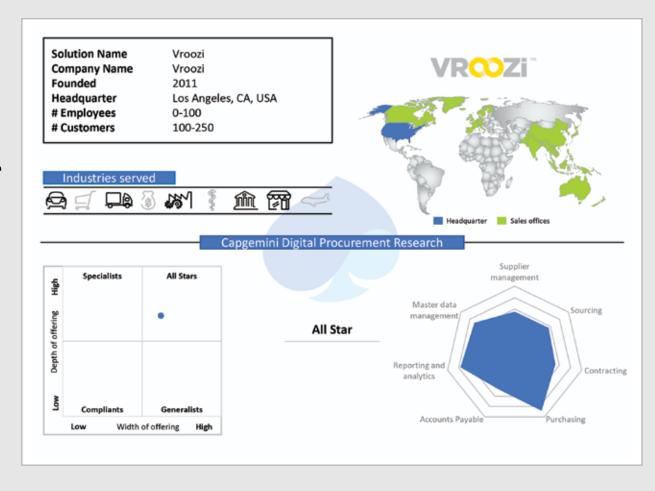


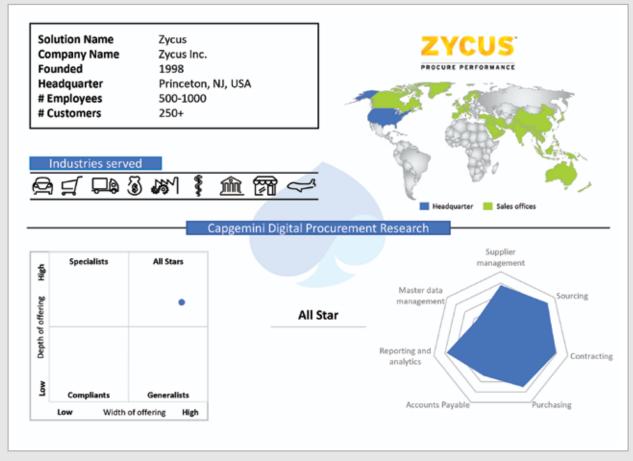














Thank you

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