Syncing Procurement Digitalization Roadmaps with NextGen Procurement Skills

A Whitepaper by akirolabs & C3

Digitalization, amplified by COVID-19, is disrupting the procurement profession

The digitalization hype has been going on for years and is far from slowing down – and rightly so. Digitalization is already having an unprecedented impact on the way we work and how business around the world is done. The ongoing COVID-19 pandemic has been a catalyst of disruption of traditional business and work models. Even sceptics of remote work have been forced to switch to work from home mode during times of lock downs and strict health and safety regulations. In fact, a recent entertaining post trending on LinkedIn said "C19 instead of the CEO or CTO have led the digital transformation of my company". So, it has become apparent that businesses need to be digitalized to become more resilient and efficient. Procurement is no exception. In fact, procurement as the business function with the most interfaces to other functions or companies and a vast number of stakeholders (e.g., suppliers, internal business partners, sales and operations) might actually be one of the biggest beneficiaries of digitalization since new tools help to manage data and intersections of procurement which have become unmanageable for individuals as well as procurement teams.

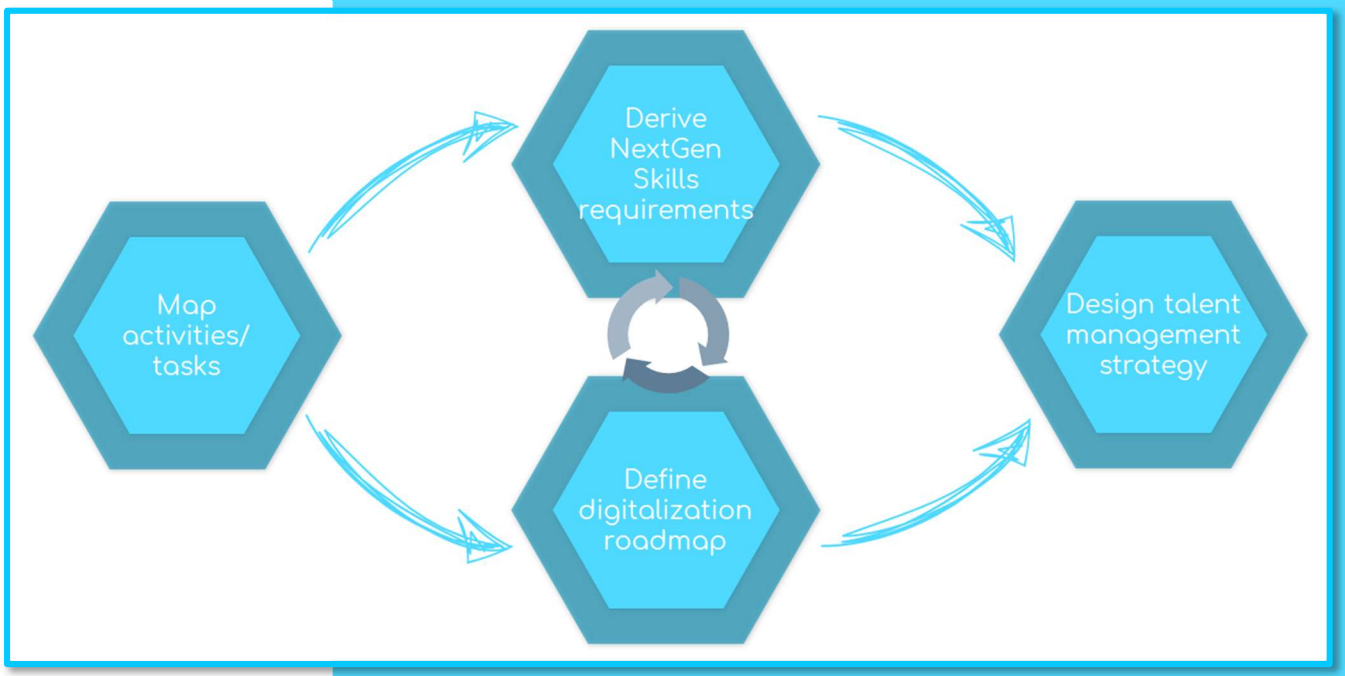
The effect on the way we work in the new normal poses challenges but also creates opportunities for people working in procurement and HR. It is clear that procurement's duties will change dramatically and so will the skills requirements. Research studies as well as mass media outlets have raised fear among the global workforce that their current job will be fully automated, making them obsolete. But this is a highly dramatized and misunderstood scenario, as merely some tasks within a job, rather than a whole job, if any, is usually automated. Other research and anecdotal evidence suggest the opposite, that there is a shortage of a skilled procurement workforce. Technology will not make people obsolete but only reshape jobs and activities constantly, requiring procurement managers to be flexible, to adapt and acquire new skills all the time.

To these ends, Cognitive Corporate Consulting (C3) has developed the COGNITIVE LENS (CL) as a comprehensive methodology from cognitive science. Its purpose is to understand the procurement core business model of activities and related skills, by revealing which activities should remain long-term with the procurement managers and the required skills for each of those activities. The COGNITIVE LENS points at how to release cognitive energy and time in order to be ready for the remaining high-value activities. The following section summarizes findings from two core industries, Telco and

Automotive, on NextGen(eration) Procurement Skills and how digital tools will reshape ways of working in procurement.

Understanding procurement job transformation and NextGen Skills requirements with the COGNITIVE LENS

The COGNITIVE LENS is a scientific method and transformational exercise with a proven track-record of practical applicability. It aims to structure the challenge of job transformation and provide a framework on how to identify automatable tasks, select the suitable technology and tailor HR strategies to ensure procurement managers are being equipped with "NextGen Skills". First, it maps tasks on the axis "complexity" from simple to complex and on "need for collaboration" from solitary to collaborative. As a second step, skills to fulfill these tasks are mapped to them. Also, a company is enabled to derive the digitalization plan, that is which tasks can be automated or augmented by digital tools. Deriving NextGen Skills requirements and develop the digitalization roadmap are interrelated activities that should be developed simultaneously. Finally, the talent management strategy can be designed based on the outcome of the previous steps.



COGNITIVE LENS application process

COGNITIVE LENS in action

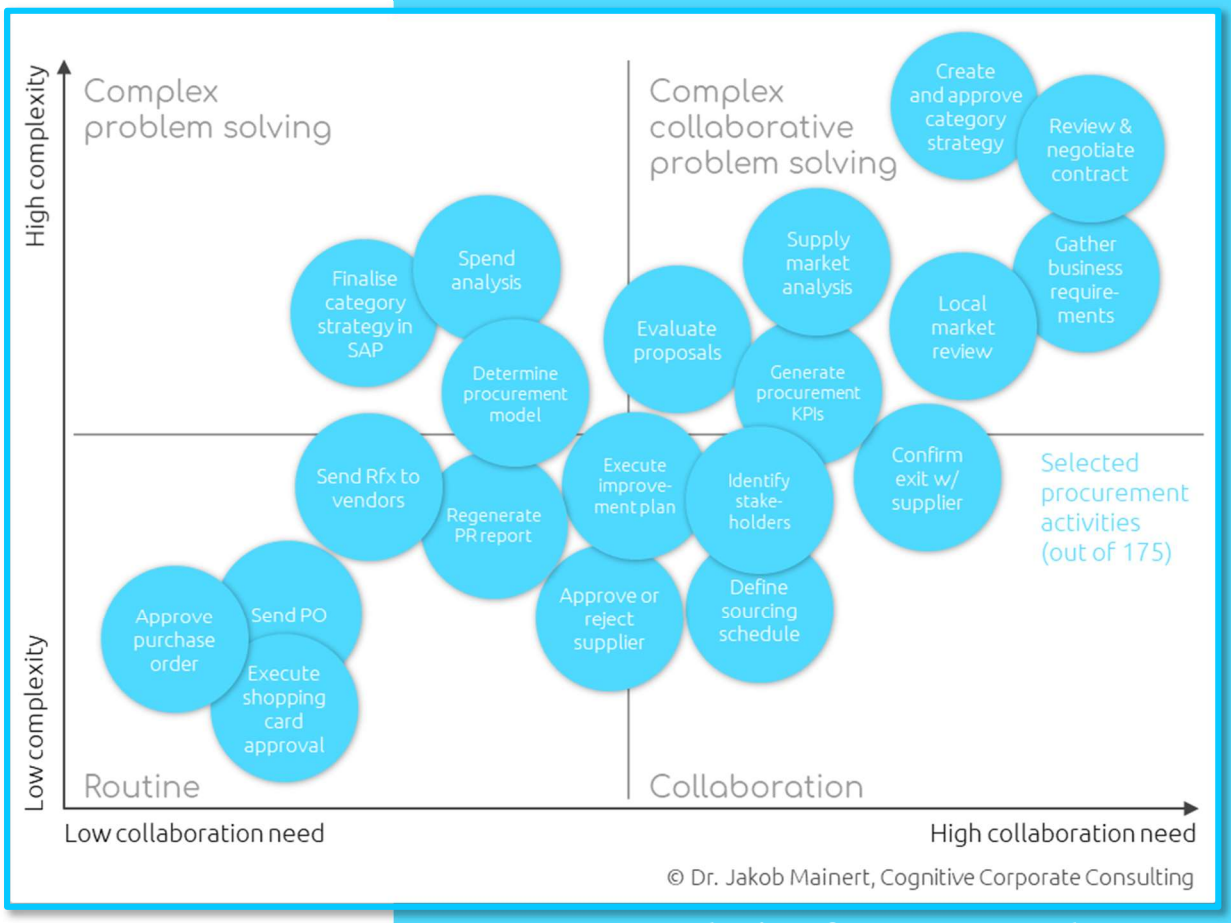
Based on 87 interviews with category managers from a large Telco provider and a Tier-1 Automotive supplier, a list of 175 procurement tasks was developed and rated in terms of degree of complexity and need for collaboration.

The table below features the top 10, bottom 10, and average values on a scale of 1 (low) to 4 (high), ranked by complexity first and collaboration second.

Top & Bottom Rank	Task	Complexity	Collaboration	Total FTE work hours (%)
1	Review and Negotiate Contract	3,5	3,7	9,0
2	Create and Approve Strategy	3,5	3,5	5,3
3	Gather Business Requirements	2,9	3,6	3,9
4	Finalize RFx Negotiations	2,9	3,4	5,3
5	Receive & Evaluate Proposals	2,9	3,4	3,5
6	High Level Analysis of Supply Market	2,9	2,9	2,2
7	Analyze Spend and Supply Market	2,9	2,6	3,0
8	Execute Contract	2,7	3,1	1,0
9	Establish TCO Drivers	2,7	2,9	1,5
10	Define Performance Measurements	2,6	2,9	0,7
...	**Average**	**1,8**	**2,3**	
166	Determine Type of Return Process	1,0	1,6	<0,1
	Process Return to Supplier Purchase Order	1,0	1,6	<0,1
168	Create Return against Original Purchase Order	1,0	1,4	<0,1
	Create Goods Issue	1,0	1,4	<0,1
170	Return Goods	1,0	1,3	<0,1
	Swap Goods	1,0	1,3	<0,1
172	Create Return to Supplier Purchase Order	1,0	1,0	<0,1
	Determine if Goods Are Receipted	1,0	1,0	<0,1
	Determine Return Requirements	1,0	1,0	<0,1

Task related to strategic procurement were rated as highly complex and collaborative. Creating and approving category strategies, designing business requirements or reviewing local markets were among them. Typical operational tasks from the procure-to-pay (P2P) process were among the simple ones: Determining reversal scenarios, returning requirements for receipt of goods or simply sending a PO to suppliers. The average of collaboration is 27% higher (2.3 vs 1.8) than for complexity, suggesting that procurement really is a team exercise. Not surprisingly, significantly more time was spent on complex and collaborative tasks than on routine operational ones. However, the companies studied were of very high procurement maturity, having automated most of the P2P process already. Less mature organizations often spend significant more time on low-value-add operational tasks.

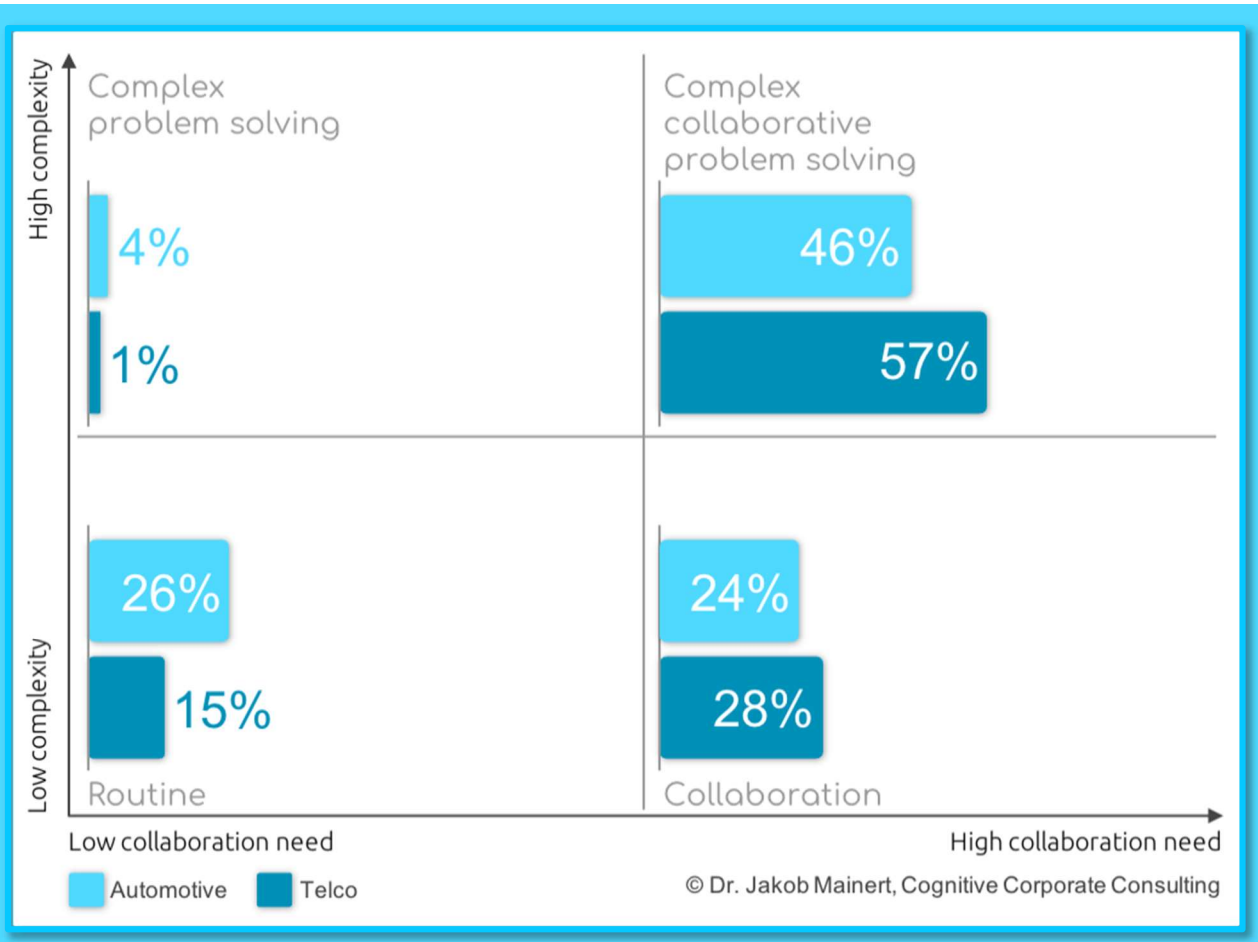
For a more visual overview, the figure below maps a selection of tasks in the 2x2 CL. Summarizing the underlying specifics of the four quadrants they can be labeled *Routine*, *Collaboration*, *Complex problem-solving* and *Complex collaborative problem-solving*. In the future, the highest value contribution of procurement professionals will lie in the upper right quadrant, utilizing advantages of the human brain over technology, such as creativity, pattern detection, deriving implications from unstructured information or making balanced decisions under uncertainty. At the same time, repetitive and simple tasks (routine) are primed to be automated and taken over as much as possible by technology.



COGNITIVE LENS: selection of procurement tasks
Based on interviews with 87 category managers

Case studies from the Telco and Automotive industry

The CL was deployed in two studies with large companies from the Telco and Automotive industry in the past three years. The goal was to investigate the as-is time consumption of procurement managers for procurement tasks and, more importantly, identify room for improvement by identifying potential for automation or augmentation. A comparison between both companies is depicted in the chart below. In Telco, 15% of the (global) category managers' time is currently consumed by routine tasks. Surprisingly, in Automotive a quarter (26%) of work hours is spent on routine tasks, unveiling tremendous potential for optimization. Automotive companies should focus all efforts to move time spent to the "upper right" quadrant by automating routine tasks and using innovative tools for augmenting the complex-collaborative problem-solving tasks, forming human-AI teams. Although the Telco company is further down this road, the goal should still be to reduce time spent on routine tasks from 15% to single digits. Differences become also apparent in the complex collaborative problem-solving quadrant. In Telco, 57% of time are already spent on complex collaborative tasks, exactly where the human brain and skill set are most valuable. With 46%, Automotive is on the right track, but still has room to shift more working hours to tasks in the upper right quadrant.

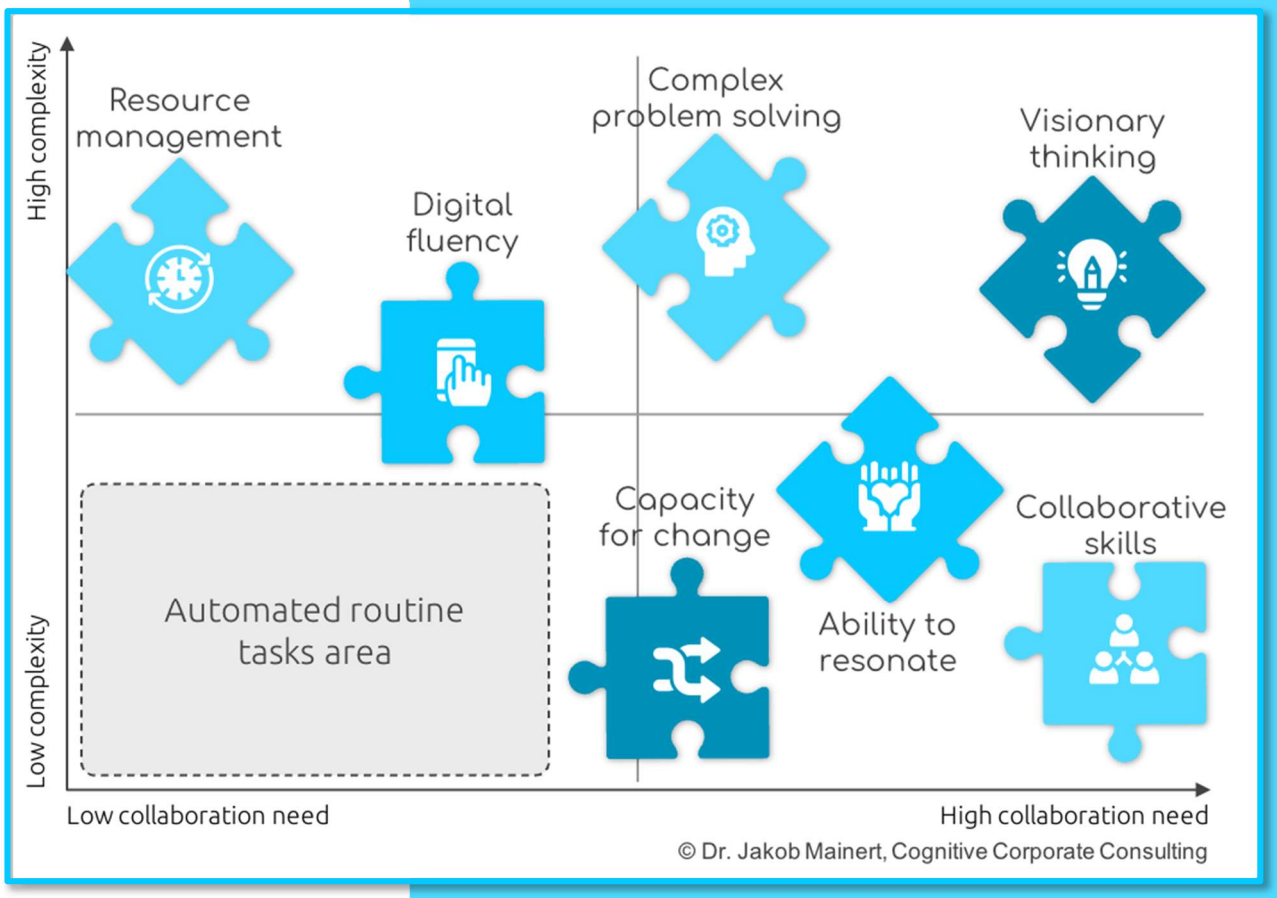


Working time spent per CL quadrant in Telco & Automotive
% FTE hours; n=75 Telco, n= 12 Automotive

Mapping NextGen Procurement Skills into the COGNITIVE LENS

Next up in the application of the CL is the mapping of NextGen Procurement Skills to the related tasks, or more simply, into the four quadrants that are used to cluster the tasks based on their underlying characteristics (collaboration & complexity).

The figure below shows the allocation of seven meta-skills within the CL in correspondence with a substantial research body of the OECD, other international educational research organizations, and companies like Cisco and Microsoft. The meta-skills can be further broken down into hundreds of skills and sub-skills – however, in the context of providing a holistic overview that is applicable to various industries, the focus below is on the meta-skill level. Meta-skills are like a puzzle which pieces fit together and all need to be available for high performance. It is noteworthy, that the meta-skill location within the CL is skewed to the top and right – that is because the routine tasks in the bottom left are prone to automation, reducing the need for human skills covering those tasks to a minimum.



Seven NextGen meta-skills mapped in the COGNITIVE LENS

Collaborative Skills

are a mix of an engaging personality and capacity in dealing with people. Agreeableness and friendliness best describe the personality, while leadership, communication, and team abilities describe the required skills. Procurement professionals must work together with many people of different personalities and professional, educational, and cultural backgrounds. Add globally distributed teams using virtual collaboration tools and you quickly realize how crucial this meta-skill is.

Complex Problem Solving (CPS)

relates to both the acquisition and the application of new knowledge in situations that must be actively explored to find and apply a solution. Especially procurement professionals face complex problems every day when they try to balance supply and demand or manage a vast number of stakeholders. This skill requirement will increase steeply in the VUCA (Volatility, uncertainty, complexity and ambiguity) world we are in.

Digital Fluency

is a foundational aspect of productivity, which enables employees to perform more effectively using digital tools, including solving problems using software, communicating effectively via digital channels or collecting, analyzing and interpreting data. Procurement is the function with the most interfaces to external and internal stakeholders (people) and systems (data). Hence, it is of paramount importance to be digitally fluent in this environment.

Visionary Thinking

Procurement professionals need to take actions, being proactive, create output from scratch or shape things based on limited information at hand. For example, if worldwide lockdowns and the setout of flights disrupt the material flow from one day to another, they have to take action to avoid the imminent shortages, but at the same time already develop longtime mitigation plans, e.g., creating second source suppliers within a local supply network.

Capacity for Change

Procurement professionals need to embrace change, be open, curious, and willing to do things differently than they have been done in the past. As business environments, models, markets, and technologies change at unprecedented pace, people need to adapt all the time and the need for adaption will increase exponentially in the future.

Ability to Resonate

The ability to resonate is a declared goal of the OECD for lifelong learning. Resonance comprises focus, mindfulness, a wealth of time, caring for relationships, long-term thinking, decision-strength, backbone, resilience, and self-control. This is a core business and actual human competency, and procurement is no exception.

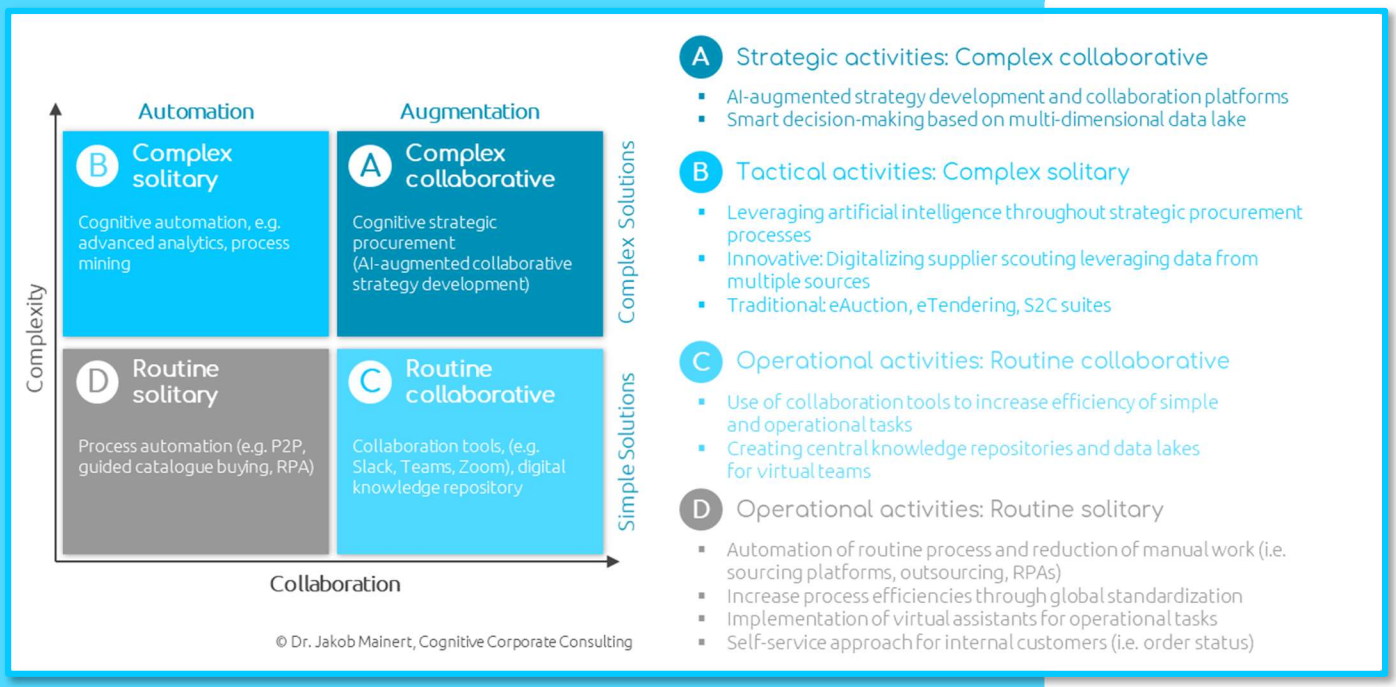
Resource Management

Resource management describes the ability to manage operational "to dos", but also more complex managerial activities such as budget planning and supply chain strategy within the available resources and in collaboration with external and internal sources. Most important are target setting, frugality, pragmatism, and flexibility, as well as

the abilities to delegate, collect and care for supply and market data.

Digital segmentation: automating and augmenting Procurement

Hand in hand with NextGen Skills requirement identification, the CL informs digitalization roadmaps about automation of simple tasks and augmentation of more complex ones. The digital segmentation approach is depicted in the next figure. Tasks that are of low complexity and can be solved by an individual or very small groups are more likely and suitable for simple automation (D). Those are usually tasks related to operational procurement. Robotic-process automation or integrated P2P solutions come to mind. Simple tasks that require a team effort can be labeled as "routine collaborative". Virtual assistants supporting guided buying are an example where technology augments the human activity, working hand in hand (C). With rising complexity but still rather low need for collaboration, more sophisticated tools are required to automate the task. An AI that learns from large data sets or by user-interaction falls into this category (B), related mostly to tactical procurement. Examples include intelligent spend analytics tools, that cleanse data automatically or spend bots that detect maverick buying or other anomalies. Lastly, highly complex and collaborative tasks require sophisticated solutions that augment the tasks or processes for the procurement professional – however, the human is still driving those activities as they require human intelligence and NextGen Skills for deriving insights or discovering patterns in the underlying information. The majority of the procurement manager's time should be spent on such tasks since they are the ones with the greatest value-add for the company (A). Those are strategic activities such as developing category strategies in collaboration with various stakeholders based on all relevant information from within and outside of the company.



Digital segmentation with the COGNITIVE LENS

A key strength of the digital segmentation approach is the ability to derive a synced digitalization strategy for all four areas. First, routine tasks (D & C) that only add minor value at high labor cost should be automated as soon as possible. Simultaneously, as managers' capacity is freed-up for value-adding tasks they must be equipped with the best tools to shift their work to more complex and complex collaborative tasks (B & A), e.g. AI-spend analytics, AI-scout-to-source tools and augmented strategic procurement collaboration platforms. Pilots can be used to start the augmentation selectively with the most impactful tasks. Simultaneously, the procurement personnel is being upskilled and new colleagues are being onboarded to account for the job transformation.

Besides, investments in digitalization is also one of the most effective approaches to attract ambitious and high-skilled talents, supporting the talent acquisition efforts.

Designing and executing a NextGen skills-centric talent strategy

As a last step of the transformation journey, procurement leaders should re-design their talent strategy closely together with their HR colleagues. As soon as the previous three steps are completed, decisions have been made what tasks will be automated and which will be augmented by digital tools, reskilling of existing employees and recruitment of new employees can be planned. Five steps should be taken into account when designing a NextGen skills-centric talent strategy.

Define key trainable and non-trainable skills

A handy approach for decision-making is to divide the skills requirements in trainable and non-trainable. Development programs should focus on the trainable skills, while remaining skill gaps can be tackled by recruiting new employees with missing, non-trainable skills. According to the OECD (2012) the described seven meta-skills Visionary Thinking, Capacity for Change, Digital Fluency, Ability to Resonate, Complex Problem Solving, Resource Management, and Collaboration skills are trainable, despite the fact that especially Visionary Thinking, Capacity for Change, Ability to Resonate and Complex Problem Solving traditionally belong to the category of innate capabilities that are much more difficult to develop compared to "hard skills" and thus often treated as non-trainable in practice.

Measure trainable skills with Speed Tests

Once the trainable NextGen Procurement Skills are identified, a heat map that summarizes skill levels and gaps can reveal the need for training and development. Such a heat map builds on Self and Speed Tests of NextGen Skills. Speed Tests mean "thin slices" of behavior that work just as good or even better than prolonged observations of what, for example, represents Complex Problem Solving at work. With Speed Tests, observations of less than two minutes are indicative of longer behavioral streams that usually make meta-skills assessments so cumbersome and unpractical. The box on the next page features two examples for Speed Tests.

Speed Tests ask: What would you do? What would be the best course of action to take?

Speed Tests tap into underlying skills in fast and frugal ways, for example via situational judgements. A Situational Judgment Test (SJT) is a special case of a Speed Test. SJTs present situational cues (i.e., "prompts") that prompt certain skilled or desired behaviors, ONLY if you are capable of the underlying skill (e.g., NextGen Skills).

Prompts are actions or statements that activate underlying skills, for example "empathic concern" of empathy or "storytelling" of visionary thinking, if these underlying skills are well developed in the participant.

Real life SJT example: Yellow Traffic Lights

You are driving at night on an empty street toward yellow traffic lights. What do you you?

a) I speed up and still make it, before the light turns red

b) I break and wait for the next green light

Explanation: SJTs have no right or wrong answer. Instead, answers point at underlying skills, habits, or traits that – depending on the context – can be more or less appropriate. In the example given, Yellow traffic lights prompt risk taking vs. risk avoiding behavior (i.e., speeding up is risk taking). Yellow traffic lights inevitably activate an underlying tendency to take or avoid risk. –Translate this principle of prompts to "empathic concern" or "visionary thinking" and you can assess NextGen Skill. We simply derive prompts that activate the selected and desired NextGen Skill. If the underlying NextGen Skill is developed in the person, she will consistently react to the prompts. In this case, she can role model the desired behavior of sought-after NextGen Skills for others in her team, e.g., visionary thinking, empathic concern, complex problem solving and many others.

Procurement Speed Test example: Storytelling

Your Unicorn Merger is at risk: You wish to acquire a promising start up to leverage your procurement unit, but after a positively developed strategy, identified targets, exchanged information, and discovered synergies, the negotiation became unfavorable, because your acquisition offer is too low. What do you say at your Merger and Acquisition committee to secure your underfinanced potential unicorn that you seek to acquire? Potential internal sponsors are in the audience.

a) You show them, how the acquisition enhances the supply chain profession and demonstrate the economic long-term value
b) You sell needs and the business model to them
c) You argue with the favorable market forecast, a solid business plan, and other factors that outweigh the seemingly high price, competing biddings for other startups and missing securities
d) You focus on a personable story and give memorable numbers (e.g., growth curve and current and expected market share). You state what they would miss out, if the acquisition fails in order to trigger their loss aversion

The answer reflecting storytelling skills best is d), followed by c), a), and b).

Explanation: None of the answers is wrong. -But d) is most effective, as it employs best practice of storytelling (make it personable, give memorable numbers, and trigger loss aversion). c) Directly addresses the weaknesses (price, competition, security) and counteracts. a) is important, but not to all sponsors, e.g., those outside the procurement unit. b) Would be a warm-up of what has already for long been on the table: the business model and needs.

Design tailored learning journeys for trainable skills

Once the skill levels are measured and those NextGen Procurement Skills in need of improvement are identified, development initiatives can be tailored. Above and beyond, outside training agencies with specialized coaches should be leveraged as much as using innovative education tools like enrolling for nano-degrees at big online universities such as Udacity, Coursera etc., or use a new breed of educational startups (see additional information on last page) in order to bring the right people from all locations together most efficiently and train them fast.

Use skill-job-matching tools to recruit your perfect match

In recent years, the recruitment and head-hunting market has seen as much disruptions as other industries, offering tremendous potential to scout and find best-fit talents quickly and inexpensively. Besides classic channels like job search websites or LinkedIn, there are more and more startups offering "tinder for jobs"-kind of services that match a company's job requirements and applicant's CVs in an instant. Using the new offerings can speed-up your talent acquisition process to find talents with the skill set to quickly close your emerging skill-gaps due to shift of ways of working.

Apply lean startup principles – build, measure, learn

In the fast-paced world there is no time to waste on waterfall project planning, especially in a dynamic environment and under uncertainty. Hence, all initiatives for development and recruitment should be build fast, success should be measured immediately, and conclusions must be derived from the measured data. If an initiative has the desired impact, it can be preserved and extended, if not you should pivot, that is change something and start the build-measure-learn cycle over. Even in large corporations that sometimes feel to maneuver as inert as an oil-tanker, speedboat initiatives applied by startups can be leveraged on subsets of work, as for example HR initiatives for procurement.

Conclusion

Activity mapping, NextGen Skill requirement definition, digitalization strategy and talent management strategies are complex exercises. For that reason, it is of great importance to apply proven frameworks in the right order. This whitepaper leverages the COGNITVE LENS, decades of procurement (consulting) experience across countless projects, and close to a hundred interviews with procurement managers. Our aim was to provide a framework with actionable recommendations. If you would like to learn more on these topics, feel free to reach out to us anytime.

Join us on this pioneering journey towards the future of procurement

Detlef Schultz	+49 1724444454	detlef@akirolabs.com
Michael Pleuger	+49 16095745450	michael@akirolabs.com
Tim Ergenzinger	+49 1743008057	tim@akirolabs.com
Dr. Christoph Flöthmann*	+49 1743087448	christoph@akirolabs.com

www.akirolabs.com

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www.mainert.lu

Dr. Jakob Mainert*	+49 1634366686	jakob@mainert.lu

*corresponding authors