

DIGITAL PROCUREMENT

FROM MYTH, TO UNLEASHING THE FULL POTENTIAL

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INTRODUCTION

We are in the midst of a digital revolution. By 2030, an estimated 60 percent of the world's population will access the internet exclusively via mobile devices, with the number of such devices expected to reach more than six per person on average. Over 90 percent of all data now available was generated in the past two years, and this number is expected to double every two years.

Each day, large globalized corporations – many of them historically leaders and players in their markets – are confronted with new challenges: new competition, new business models, value migration, intermediation, and disintermediation. The relatively stable competitive environment of the 2000s is a thing of the past, and threats – some with irreversible consequences – loom from every side. Who can forget the emblematic examples of market leaders missing the digital transformation? Borders, once a US bookstore leader, driven into bankruptcy in 2011; Kodak, defunct in 2012; Blockbuster, the American videocassette rental leader, vanishing in 2014.

We are witnessing a new wave of digital disruption: The appearance of Uber has led to 30 percent to 40 percent decreases in taxi revenues in certain countries; the projected market capitalization of Airbnb is as much as the largest public hotel company worldwide (and almost twice the second). These are just two examples of a widely documented trend.

Adapting business models is a matter of survival for large corporations. There is no shortage of success stories: large banking companies going into online banking; the development of Industry 4.0; multichannel retail distribution; Uberization, and more.

Purchasing, specifically, is challenged to capitalize on these transformations, which represent the opportunity to cross the next frontier of cost optimization and achieve previously unheard-of cost savings. There moreover exist greater efficiencies to be gained in how the procurement function operates: Digitally enabled collaboration with internal stakeholders and suppliers, automated/robotized processes and activities, partnership with startups...

Eight major trends underly these profound transformations:



DIGITAL CLIENT RELATIONSHIP

E-commerce and online banking on the one hand, digital marketing and social networks on the other, are transforming cost structures and creating performance opportunities that must be captured by procurement.



NEW ECONOMIC MODELS

The advent of new models (Uberization, Sharing Economy, "As a Service", and Cloud) among suppliers offers attractive pockets of competitiveness, thanks to new economic rationales, but may also give rise to greater dependency and more complex negotiation situations, as well as data property and security issues.



DATA MANAGEMENT

The masses of data available inside and outside the organization, and machine-learning algorithms, can be used to maximize the amplitude of procurement leverage, but also represent regulatory challenges (GDPR).



BLOCKCHAIN

Blockchain may be used to secure sourcing and sourcing channels, contracts, and payments, as well as analyze market trends on a large scale.



ROBOTICS AND ARTIFICIAL INTELLIGENCE

The advent of robotics (RPA, collaborative robots, autonomous vehicles, etc.) will have a sustainable impact on the cost of work and is opening up new performance opportunities.



CONNECTED OBJECTS

The Internet of Things is bursting onto the scene in traditional industries and revolutionizing direct costs, maintenance purchases, and investment plans through digital asset management.



3D PRINTING

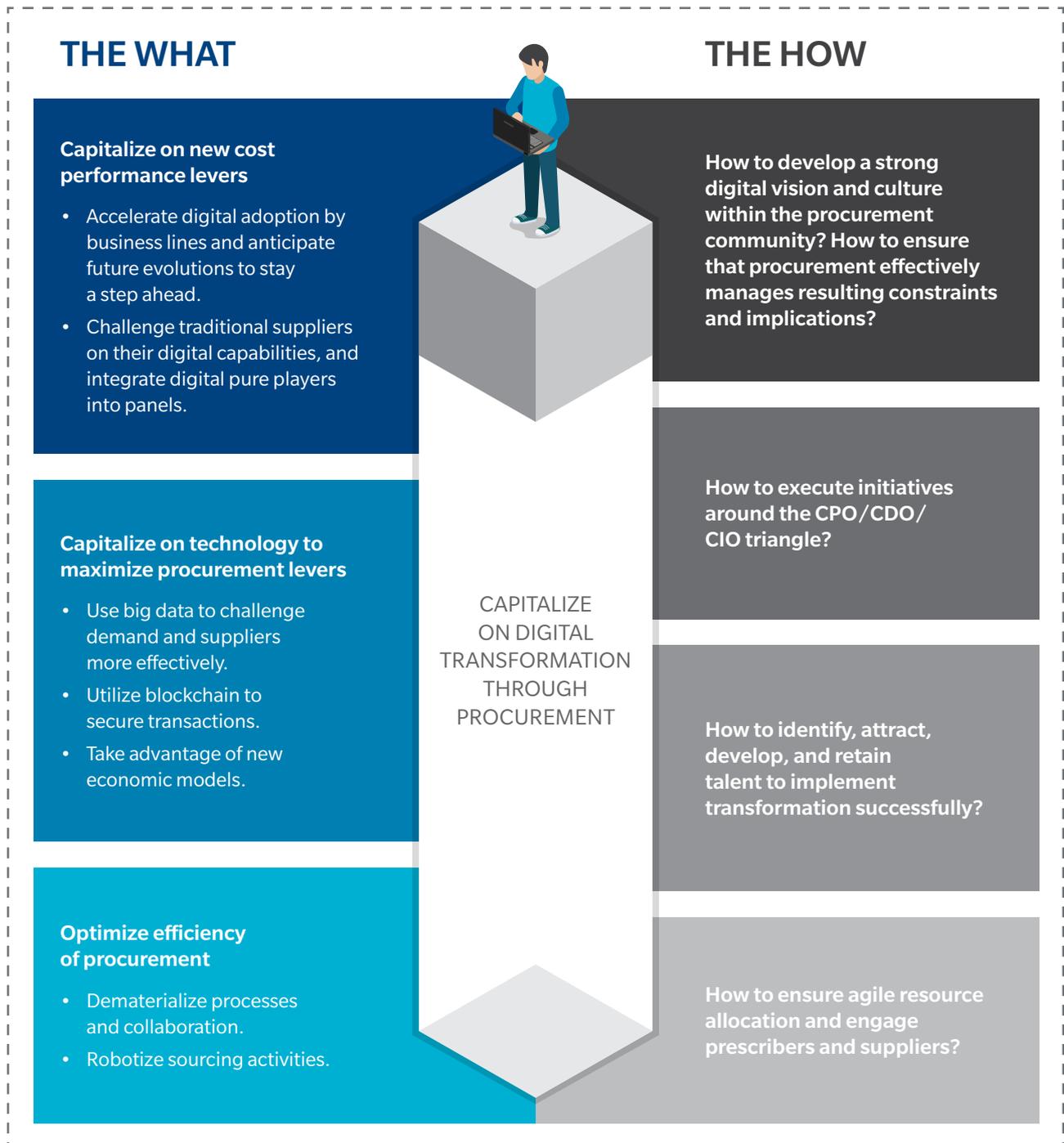
Production costs, sourcing channels, and procurement of small batch, spare parts, and prototypes will likely be completely reconfigured.



DRONES

Last mile logistics costs and preventative maintenance costs for hard-to-access infrastructures may henceforth be optimized.

These trends have a significant impact on the way companies operate. Given the new challenges and concepts, how should procurement be used to capitalize concretely on digital transformation and how should the procurement system be migrated?



01

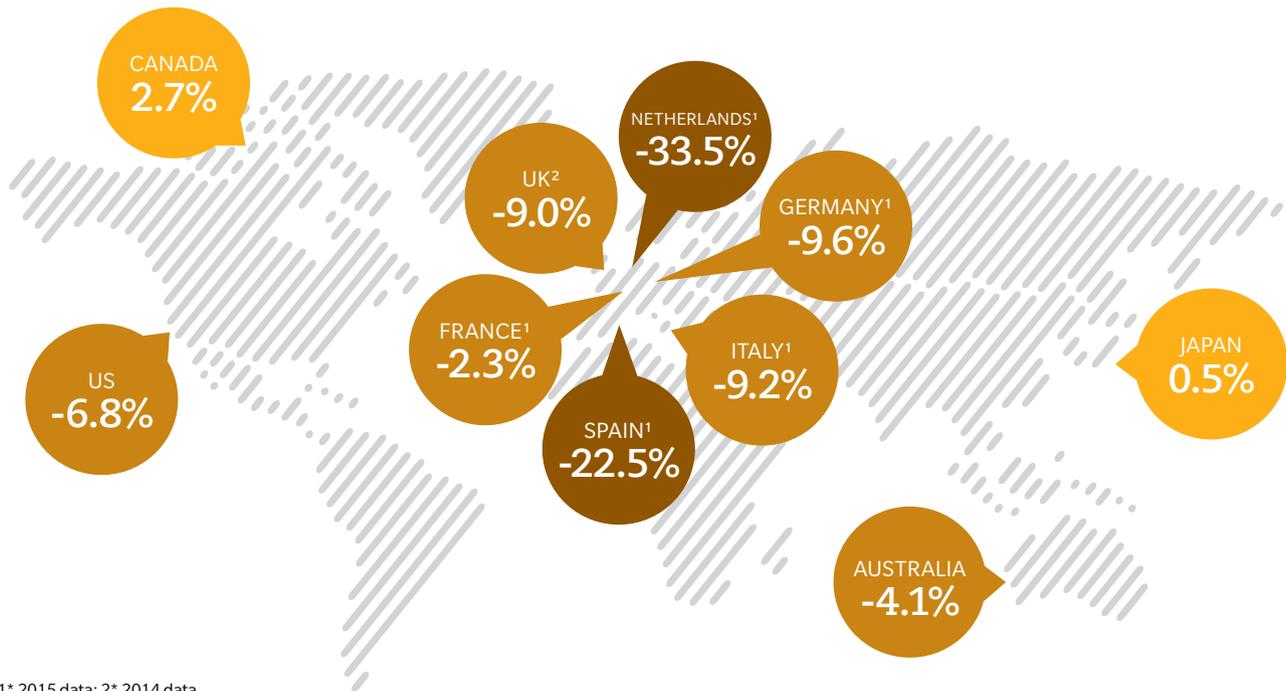
CAPITALIZE ON NEW COST PERFORMANCE LEVERS



Digital transformations driven by technological breakthroughs are opening up new performance perspectives for company business lines and external suppliers. To make the most of these disruptions, purchasing faces three main challenges:

- Help business lines integrate new opportunities into their operations and take full advantage of the resulting performance improvements.
- Challenge historical suppliers on their digital maturity and on their ability to deliver performance levels unattainable through traditional operating models.
- Integrate digital pure players into the company's supplier ecosystem.

EXHIBIT 1: THE NUMBER OF BANK BRANCHES IS DECLINING IN DEVELOPED COUNTRIES (2011–2016)



1* 2015 data; 2* 2014 data

Source: SNL, U.S. Census Bureau, ECB, Tradingeconomics, UBS

What steps can procurement take in supporting the digitization of businesses to maximize cost performance?

Procurement directors face a difficult equation: In high-performing organizations, many of the more obvious – and easy – savings opportunities have already been tackled. Yet the challenge to find greater performance levers and increase overall savings is never-ending. For most advanced companies, having mastered demand management levers, there is seemingly little improvement that can be made in the short term.

In an era of digital transformation, many more opportunities for savings exist. Indeed, we could provide an almost endless list, if needed. Briefly, here are some examples that we find particularly compelling.

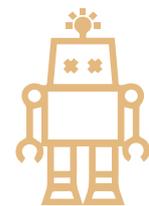
Digital client relationship

E-commerce, online banking, digital marketing, connected objects, robotics, artificial intelligence, 3D printing, and drones: The digital world and its host of innovative technologies offer businesses unprecedented opportunities to rethink their practices and operate with completely new cost structures that are more attractive than previous models.

Retail distributors and banks, for instance, are reducing their branch footprints in favor of e-commerce and online banking. Walmart, the American retail giant, closed 269 stores in 2016, including 154 in the United States; HSBC closed 321 branches in 2015 and 2016, 27 percent of its network.

Conversely, e-commerce pure players are getting into physical distribution. A striking

**ADVANCED
ROBOTICS
IN HOSPITALITY**
THE HENN-NA
HOTEL.
JAPAN 2016

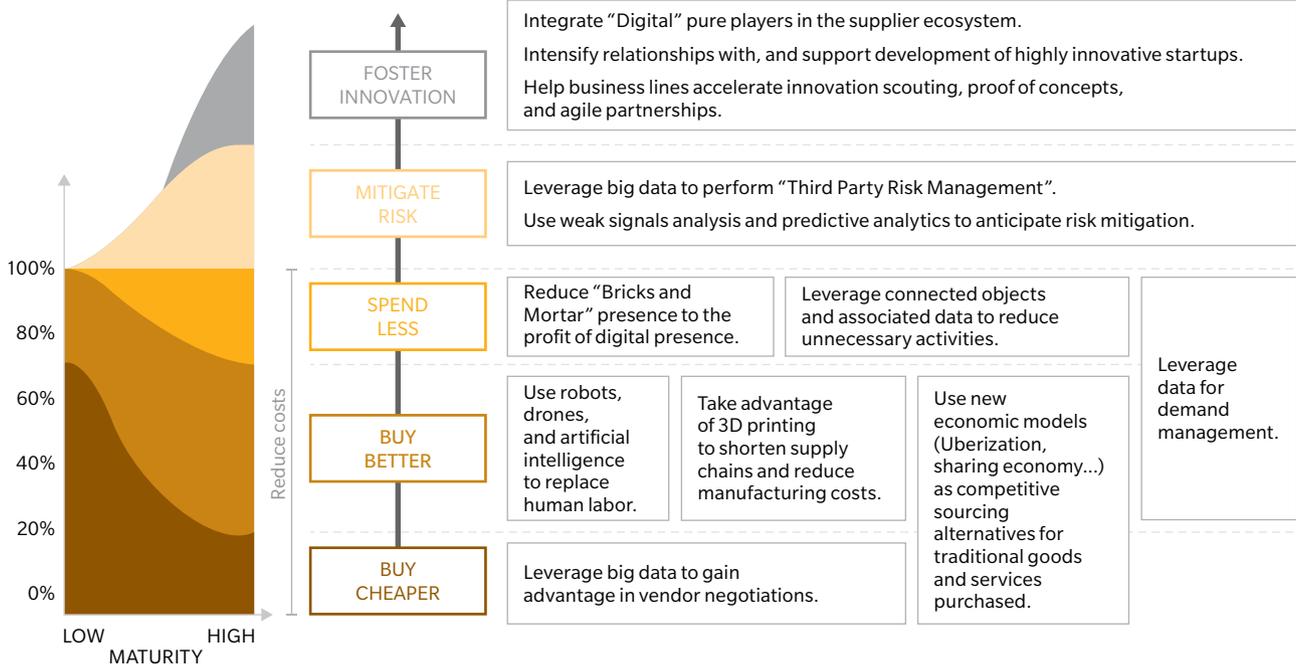


90%
of all tasks
and activities
robotized

EXHIBIT 2: NEXT FRONTIER OF PROCUREMENT PERFORMANCE THANKS TO DIGITAL

CROSSING THE NEXT FRONTIER OF PERFORMANCE...

...REQUIRES MAKING THE MOST OF ALL DIGITAL TRENDS



Source: Oliver Wyman analysis

example is Amazon's Amazon Go concept store, opened in Seattle in 2016, which foregoes cash registers and cashiers. Amazon Go is supported by an impressive combination of technologies that leverage mobility, the digital and social consumer ecosystem, connected objects, captors, radio-frequency identification (RFID), and big data with machine-learning algorithms.

Robots, drones, and artificial intelligence

Robots are replacing human labor, performing tasks once considered beyond their capabilities, including customer-facing functions. These trends are particularly prevalent in industry (collaborative robots) and logistics (AGV – "auto-guided vehicles", such as autonomous handling equipment), as well as shipping (self-driving trucks).

The use of robots is also moving forward in the service sector. For example, the Pepper robot developed jointly with startup Aldebaran, performs hospitality functions in European stations. Pepper can detect the presence of travelers in a station, welcome them, assist them in finding information about their journey, gather data concerning their satisfaction, and more. In the hotel sector, a striking example of robotics utilization is Japan's Henn-na Hotel, where 90 percent of personnel functions have been robotized.

Drones are revolutionizing the surveillance of infrastructures that are difficult or hazardous to access. An example of this is in the telecommunications and electrical industries where teams currently must be on site simply to make observations and, if they are necessary, transport resources by helicopter (a very costly proposition).



PREVENTATIVE MAINTENANCE AND INTERNET OF THINGS EXAMPLES OF INDUCED BENEFITS

\$71 million saved

on road network maintenance costs in Cambridge, Canada, after a predictive maintenance policy was established to inspect roads only when necessary.

\$1 million saved

by a construction equipment manufacturer in just two weeks using preventative maintenance to identify problems and take preventative measures before problems occurred (reducing downtime and repair costs).

36% fewer

service calls by customers of a water utility, following the establishment of a preventative maintenance policy and automated water meter reading.

Connected objects

The Internet of Things (IoT) offers numerous opportunities yet to be unexplored. For example, the growing capabilities of mechanical equipment to self-detect defects and send out relevant notifications allows maintenance resources to be mobilized on an as-needed basis. These resources can then be reallocated to higher-yield initiatives. Notably, BP, the oil and gas giant, has engaged with such technologies.

A great many applications have also been developed to save energy in commercial buildings (most notably by AT&T), as well as in industrial processes and infrastructures.

3D printing

In the fields of maintenance, engineering, and construction, 3D printing radically reduces the cost of prototyping (Ford), spare parts (Daimler, Airbus, and GE), and even raw materials (in many construction companies). Traditional logistical models may well be disrupted by the ability to manufacture products on demand and closer to usage sites, thereby reducing storage needs.

These examples are but a few of the seemingly infinite number of new opportunities to reduce costs and improve performance.

For procurement directors, the game is on: Performance improvement can be supported through a variety of novel means, and these must be harnessed.

Much of this is still at an experimental stage. And, certainly, challenges remain and questions need to be answered as we move forward into the era of digital transformation. For example, internal stakeholders in business lines may be unwilling to take on new risks that affect existing business. Buyers, unfamiliar with current innovations, may not be incentivized to scout out advances and build partnerships with innovative startups; they may fail to challenge historical suppliers as to their digital capabilities.

Procurement may also find adoption of new emerging technologies difficult, especially where their cost-effectiveness and overall positive influence has not been well established. Finally, new suppliers and providers may have scant track records and thus pose significant risks in partnerships.

How can procurement position itself as a key partner to business in fostering and accelerating digital transformation, and in capturing cost benefits?

To effectively support business lines in transforming for the digital age, procurement must be active on a number of fronts:

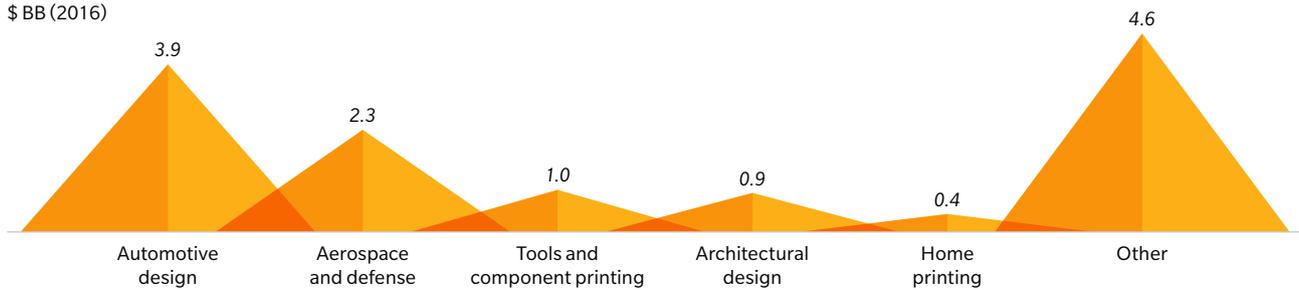
A LEADING FRENCH BANK CREATED A START-UP ACCELERATOR TO SUPPORT



300 start-ups in seven different villages

EXHIBIT 3: 3D PRINTING MARKET

\$ BB (2016)



Source: IDC's 3D Printing Spending Guide (2017)

CASE STUDY

A FULLY DIGITAL TEMP AGENCY: SHAKING THINGS UP IN A SLEEPY INDUSTRY

The young French startup QAPA, founded in 2011, has just raised a fresh funds of €11 M to accelerate the development of its fully digital temp agency.

The temp market in France has traditionally been dominated by three major players, which have captured about 60 percent of a market estimated at €25 billion. In this configuration, industry leaders are unlikely to initiate an innovative approach, disruptive to their market and enabling clients to optimize costs. Professional buyers know this: Margins are low and profitability is tied to volume, which strengthens the position of historical leaders relative to newcomers.

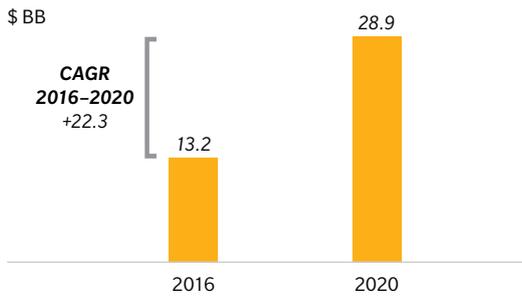
The arrival of QAPA in the industry with the promise of a “commission half that of traditional temp agencies¹” could reshuffle the deck and pave the way for fresh competition, tipping the competitive balance in favor of big clients.

This typical example shows that procurement must be able to identify newcomers (offering robustness, technical and economic relevance, and sustainability) who are likely to create new performance opportunities, support them in their development (co-development, proof of concept, participation in financing), and challenge historical players to shift their economic models. They must do this in order to capture some of the benefits of digitization from these suppliers, who will continue to represent a significant share of spending for the foreseeable future.¹

¹ Source: QAPA

- IDENTIFY AND COMMUNICATE A FULL RANGE OF NEW OPPORTUNITIES TO BUSINESS LINES by engaging in constant technological and market intelligence and closely collaborating with prescribers.
- QUANTIFY AND QUALIFY OPPORTUNITIES in terms of performance objectives, complexity of execution, risks, and supplier targeting.
- PROVIDE AGILE SUPPORT TO BUSINESS LINES BY ENABLING MULTIPLICATION OF PROOF OF CONCEPTS, and communicate successes to institutionalize the integration of new opportunities into technical purchasing strategies.
- CONFORM TO BUSINESS LINE PROJECTS: Many discussions are initiated directly by business lines with innovative digital suppliers, and procurement must avoid adding complexity to nascent processes. The objective should be to adopt the simplest, most flexible, and most agile processes conducive to innovation integration. Traditional processes should not be imposed on existing relationships. Procurement should also take the lead on some emblematic projects.
- IDENTIFY INNOVATIVE NEWCOMERS: Purchasing must monitor and, in some cases, even support the development of new firms to capture valuable innovations. The task is particularly complex, given the multitude of pure digital players and their rapid trajectories (toward success as well

EXHIBIT 4: RISING 3D PRINTING SPEND BY 2020



Source: IDC's 3D Printing Spending Guide (2017)

as failure). This complexity is only amplified for companies operating on a global scale. Some purchasing departments have established a "100 startups" watch list; others have set up arms for in-house capital funding and knowledge-sharing tools.

- **STREAMLINE PROCESSES FOR RELATIONS WITH PURE PLAYERS:** Here again, the objective is to establish simple, flexible, iterative processes specific to discovery environments. Companies must identify and target the objectives typical of this new kind of relationship, such as development funding, intellectual property, and payment terms. Simultaneously, they must avoid cumbersome RFI/RFP processes or risk driving innovative newcomers toward more agile competitors. All relationships with startups and any valuable idea they might develop should be aggregated and shared across the company to ensure the broadest access to innovation and foster intellectual cross-fertilization.
- **STIMULATE HISTORICAL SUPPLIERS:** Encourage suppliers to develop their digital capabilities and enhance their competitiveness. This is will be particularly challenging, as historical players rarely initiate digital transformations unless forced to do so by industry newcomers.

CASE STUDY

NEW DIGITAL PLAYERS CHALLENGES FOR BUYERS

Many services delivered by pure digital players depend on "As-a-Service" offerings with cloud-based infrastructure. This is particularly true for IT services and solutions, and will not fail to create new challenges for buyers:

New price models: Usage-based pricing is becoming commonplace, with a wide variety of corresponding metrics (such as by user, by transaction, by usage time, by data volume). The notion of total cost of ownership (TCO) is changing profoundly and may be much more complex to evaluate because it is directly dependent on usage demand, something that is often difficult to predict. Moreover, the risks of "shadow procurement" are rising as prescribers can buy new on-demand services outside of all control.

Data property and protection: Company data is stored and managed by third parties outside the organization. In this context, the question of data ownership becomes central. In many supplier business models, this factor is part of the equation, because it creates value. Buyers must thus be careful to ensure that data remains their property at all times. If a form of ownership is conceded to service suppliers, buyers must make sure that this is specifically taken into account in the economic equation, and that the supplier operates according to the best security and ethical standards with regard to the sensitivity of the entrusted data.

Supplier dependency: The use of cloud-based services makes migration processes more complex, because infrastructures are leveraged by the supplier and not by the client. This situation demands tighter integration with third parties, and in the process, reinforces supplier dependency, which was already great in some domains (such as IT). For buyers, bargaining power and dynamics are becoming more complex, levers and arguments are changing, and exposure to price hikes is greater than in situations where all solutions are supported by company-owned and-operated infrastructures.

KEY TAKEAWAYS

- Digital trends are enabling major transformations in operating cost structures.
- There are tremendous opportunities for mature procurement organizations to cross the next frontier of performance generation and value creation.
- This requires engaging closely with internal stakeholders in business lines, quickly with innovative new vendors, and strongly with historical suppliers.

02

USE BIG DATA AND ANALYTICS TO MAXIMIZE THE PROCUREMENT LEVER



All of the digital transformations generate a high value by-product: data.

Quantity of data rises exponentially, including new forms of data, as well as granularity and complexity.

This creates unprecedented opportunities to pull new insights for procurement and maximize the impact of optimization levers , but also new challenges to be able to fully leverage it.

What type of data?

To extend its mastery of data, above and beyond its traditional playing field, procurement can focus on exploring three dimensions:

- **DEEPEN THE FUNDAMENTAL DATA** of the procurement/finance cube. This could mean, for example, integrating detailed supplier invoicing into ERP to preserve a fine level of granularity on the type and quantity of purchased goods and services, hence adding new dimensions to spend analysis.
- **EXTRACT AND LEVERAGE COST DATA BY WORK UNIT/CONSUMPTION UNIT** (such as HR, Finance, Supply Chain, Manufacturing, Sales, and Marketing). Such an approach would help break down information silos and identify real demand/consumption patterns: cost by employee, cost per square foot, and cost per process, per distribution channel, or per customer.
- **ENRICH DATA WITH EXTERNAL SOURCES**, from suppliers (such as integration of supplier inventory), customers (identification of cost-generating customer profiles), or third parties (raw material prices and supplier certifications).

Why?

Understand consumption patterns.

Big data integration and analysis provide a degree of visibility and transparency factually supporting observations only partially demonstrable in the past. Buyers making use of them will be in a strong position at the negotiation table with suppliers and will be equipped to address internal demand challenges. Over time, big data will also shed new light on procurement strategy development.

An analytical approach to challenge and track demand

was adopted by one of the largest European banks when it established a dedicated procurement analytics team

CASE STUDY

RETAIL DISTRIBUTION CASE

Buyers traditionally spend considerable time gathering the information needed for their negotiations (including consulting reports and documentation).

The most innovative analytical approaches help automate the recovery and synthesis of this information, so that buyers can devote their time to higher-value tasks, such as procurement strategies and negotiation tactics.

Basic data traditionally used by buyers (historical prices and volumes) is enriched by analyzing sales data (drawn from cash register transactions), consumer data (from loyalty accounts), data on margins, product quality/non-quality (returns/after-sale service), and behavioral data on e-commerce site users. Findings can then be used to generate powerful fact-based negotiation arguments for all categories of products and buyers.

This approach may also be further reinforced by adding richer external data (panelists, competitor prices, and raw materials prices).

In some cases, automation has even been used to generate automatic negotiation arguments — particularly relevant for small and medium suppliers, to which buyers cannot afford to devote as much time as to first-tier suppliers.

in charge of creating a whole series of consumption metrics based on a cross-comparison of spend with targeted cost drivers: number of employees, revenues, number of transactions, and square meters of floor space.

These indicators are then measured and communicated regularly and can be used to orient remedial measures jointly with business lines. Procurement thus possesses a factual KPI base to track and challenge demand, which then can provide a means to automate the production of these KPIs.

Maximize the negotiation lever.

A core historical activity of procurement —



**TESCO, A
MULTINATIONAL
GROCERY
AND RETAILER,**

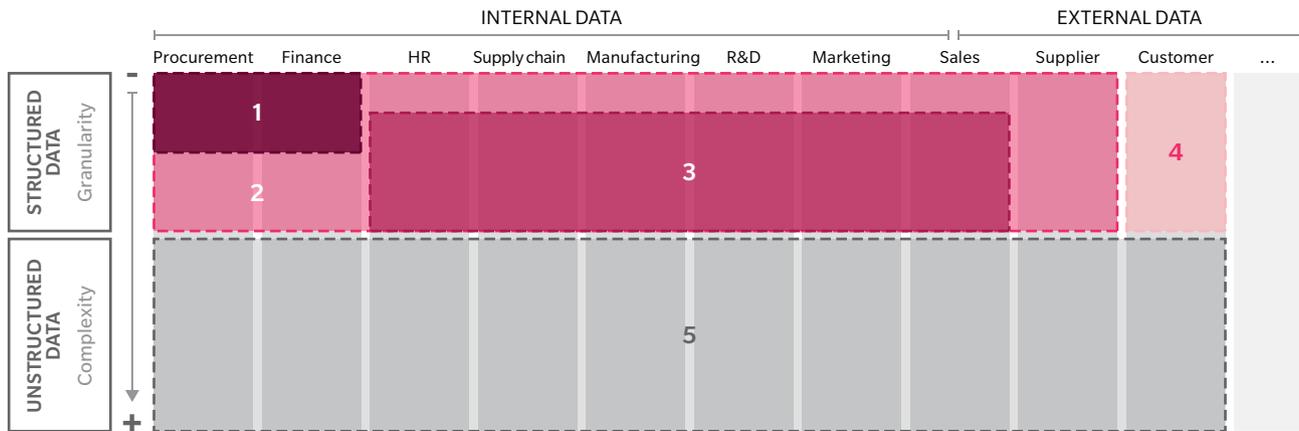


used big data to cut its annual refrigeration cooling costs by

20%

EXHIBIT 5: PROCUREMENT AND BIG DATA: WHERE TO STAKE A POSITION?

INFORMATION SILOS AND DATA TYPES



- 1. Traditional procurement information fishnet: structured data from finance ERP and procurement systems
- 2. Integration of detailed supplier data and basic internal data from other functions
- 3. Integration of detailed structured internal data from other functions/businesses
- 4. Integration of customer data and third-party data (market studies, suppliers' external databases, commodity prices, etc.)
- 5. Integration of data from unstructured sources: raw text, images, sound, video, etc.

Source: Oliver Wyman

MRO CATEGORY KPI EXAMPLE

1. Average MRO spend per production line vs. value of production output (%).
2. Compliance percentage vs. negotiated contract prices and catalogues.
3. Percentage of original equipment spare vs. first mount brand, vs. 3rd party spares.
4. Spare parts inventory level vs. value of output.
5. Value of spare parts inventory.
6. Overall Equipment Effectiveness (OEE) vs. Maintenance costs.

CASE STUDY

KEY PRINCIPLES OF THE EUROPEAN GDPR

- **Extraterritorial application:** The regulation will apply to companies established outside the EU, which process data concerning the activities of EU organizations.
- **Explicit and positive consent:** Companies and other bodies must give citizens more control over their private data. This also applies within the framework of subcontracting relationships.
- **Right to oblivion:** Those concerned have the right to oblige data processing managers to delete their personal data at the earliest opportunity.
- **Right to portability:** Those concerned have the right to receive personal data provided to data processing managers in a structured format commonly utilized and legible by machine.
- **Profiling:** Any person has the right not to be subject to a decision founded exclusively on automated processing.
- **Security by default:** Organizations must take into account obligations concerning protection of personal data starting from product design.
- **Notification in case of leaks:** In the event of a serious data breach, companies and other bodies are required to notify national protection authorities as soon as possible.
- **More important sanctions:** Regulations give regulators the power to impose financial sanctions representing up to 4 percent of global company revenues or €20 million in the event of non-compliance.

supplier negotiations — is undergoing new developments catalyzed by leveraging big data. Examples abound in retail distribution, as well as telecommunications.

For procurement, the challenge is considerable:

- DEVELOP AND MAINTAIN SPECIALIZED ANALYTICAL CAPABILITIES, possessed by a small number of individuals, generally found outside procurement.
- MOVE FROM THE AGGREGATION OF DATA REQUIRED MERELY TO LEVERAGE LARGE MASSES OF DATA, to the development of advanced machine learning/deep learning analytical models in order to uncover insights inaccessible using standard analyses (relations/correlations), and also make reliable predictions.
- REINFORCE THE ABILITY TO INTEGRATE WITH OTHER COMPANY FUNCTIONS TO ACCESS DATA, and involve the IT department in complex data integration projects and in developing advanced analytical solutions.
- MANAGE REGULATORY IMPLICATIONS OF DATA MANAGEMENT, SUCH AS THE EUROPEAN GDPR (General Data Protection Regulation) directive, which will come into effect in May 2018 and should help create a harmonized framework from the multiple national laws currently in effect.
- FINALLY, THE HISTORICAL ACTIVITIES AND PRACTICES OF BUYERS WILL BE TRANSFORMED. Procurement must once again act as a true change agent, but this time focused on itself.

KEY TAKEAWAYS

- Volume, granularity, and types of data are growing exponentially inside and outside the company.
- It can be effectively leveraged to amplify cost reduction levers through vendor negotiations and demand management.
- There are significant challenges : Technical (IT), skills (data science), organizational (silos), and regulatory (GDPR).

CASE STUDIES

LARGE INTEGRATED BANK: MANAGING SUPPLIER RISK

Managing procurement risks is a major objective of procurement in the banking sector, specifically within the framework of new central bank directives. The stakes are twofold: improve visibility on the risk level of all suppliers and move from static to dynamic management of procurement risk. For instance, one large banking concern completes its traditional risk-tracking scorecards (analysis of financial health, rate of dependency, and corporate social responsibility (CSR) assessment by EcoVadis) with an analysis of weak risk signals for its key suppliers. Big data resources are used to analyze all the information produced by diverse sources such as the Financial Times, Twitter, LinkedIn, and specialized networks in the supplier industry. By leveraging key words, the model identifies weak signals corresponding to potential risks and thus makes them easier to anticipate. Proof-of-concept results were conclusive, and the system is now being implemented across several procurement categories. Finally, this system can be reversed and used to anticipate weak signals linked to innovation (using “positive” key words).

TELECOMMUNICATIONS CARRIER CASE

In telecommunications, big data initiatives helped a European procurement consortium (IT, Network, Terminals) employ advanced negotiation practices.

Granular spend data (category, sub-category) were made available centrally—whereas they had previously been scattered and held by each carrier locally—and crossed with market data to track and measure market share with the large manufacturers in the consortium member portfolio, including details on the level of quality/level of service of each supplier.

Price data obtained at the end of each negotiation were shared in order to constitute a European benchmark enabling each member to measure and improve its negotiating performance rapidly.

Detailed cost structure data on set-top boxes were aggregated on the European level to develop a configurator for designing equipment for the best objective cost.

03

USE BLOCKCHAIN TO SECURE THE SUPPLY CHAIN



Blockchain is not confined to financial services. With the continual waves of digital transformation and the exponential rise of data utilization, security and transparency have become core concerns for all companies. Blockchain technology creates new opportunities that procurement departments should seize to improve the traceability and the security of product sourcing and supply chains.

Blockchain structures data in a way that makes it possible to create and share a digital journal in which all forms of transactions are recorded

What is Blockchain?

Although Blockchain technology, which emerged in 2008, was initially used in financial services such as BitCoin, it can now be used to serve procurement as well.

Blockchain structures data in a way that makes it possible to create and share a digital journal in which all forms of transactions are recorded. This technology relies on cryptography to enable all users to add new information in a secure manner, with no need for a “central” authority.

A specific characteristic of this type of information storage is that data in the blockchain cannot be altered after being recorded.

What are the supply-chain applications?

As a whole, the technology guarantees both data authenticity and integrity.

Applied to procurement and supply chain, blockchain can be used to introduce hitherto unattainable transparency in sourcing and distribution channels. Currently, such information will be partial, unverified, unauthenticated, and most importantly, held

by each of the numerous players in the supply chain. Data quality thus degrades with every transaction, and the end user has but a tiny pixel of the full picture on the purchased product.

Blockchain can be used not only to track product origin and manufacturer, but also all of the components and raw materials that compose it, as well as all of the intermediaries who have handled, transformed, and transported it, thus breaking down the informational silos of traditional supply chains. Some large corporations have begun to test this technology in their own supply chain:

- IN THE US, WALMART AND IBM ARE WORKING JOINTLY to develop a blockchain system to trace pork from producer to consumer. Blockchain technology is used to inalterably record every step in the meat’s journey. For the retail distributor, the ability to collect all this information (right down to details such as storage and shipping temperatures) from farmer to store shelf creates a major competitive advantage in terms of product quality, food safety, and consumer confidence.
- THE MINING GIANT, BHP BILITON, IS TESTING THIS TECHNOLOGY to track the movements of rock-drilled shafts and fluid samples. Blockchain technology allows all involved parties to share sample location data in real time, gathered from suppliers on every continent.

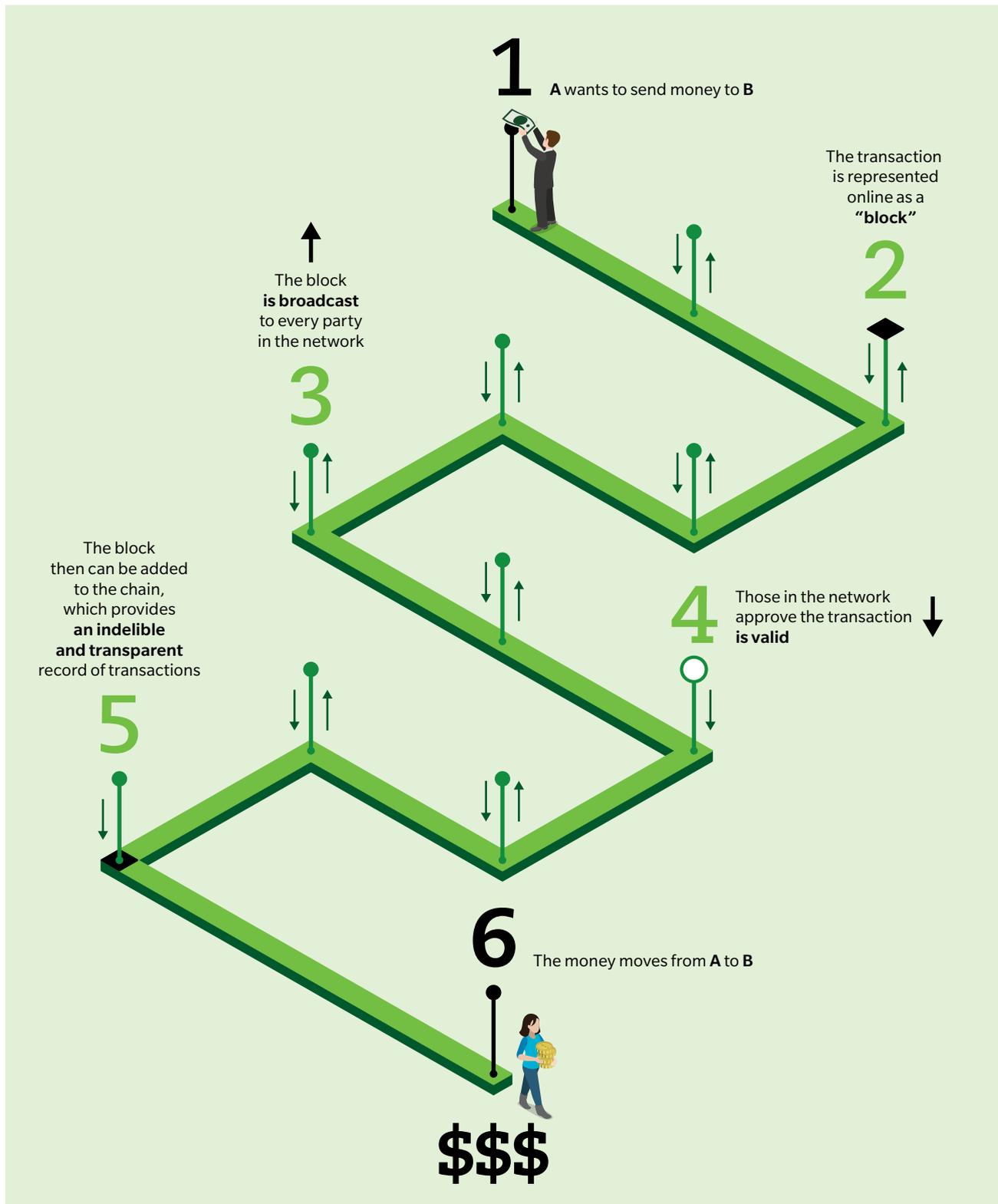
WALMART IS
ONE OF IBM’S



400

clients
currently
testing the
application
of blockchain
technology
on the supply
chain

EXHIBIT 6: HOW A BLOCKCHAIN WORKS?



Source: World Economic Forum, Financial Times

CASE STUDIES

PROVENANCE

A London-based startup founded in 2013, Provenance proposes solutions based on blockchain technology to trace the origin of products (such as food and manufactured products).

In 2016, a conclusive test was conducted on the Indonesian tuna supply chain (among the most opaque in the world, and containing great risks of human slavery practices among suppliers) integrating blockchain into preexisting audit systems.

During the pilot phase, fishermen simply sent an SMS to identify each catch, enabling the identification of the person who made the catch, the fishing location, and the characteristics of the catch.

Using an RFID tag or a QR code, this information can follow the product through every step of the supply chain. All new information (that is, transformation) is then added to the blockchain.

Integration into existing auditing systems enables integration with company data, creating end-to-end information with no need for complex interfaces among the different steps of the chain.

BLOCKVERIFY

Founded in 2015 and also based in London, BlockVerify uses blockchain technology to track counterfeit products and spot fraud.

In particular, BlockVerify has developed applications for the pharmaceutical industry, luxury products, diamonds, and electronics.

Its objective is to identify counterfeit products, products diverted from their initial destination, stolen merchandise, and fraudulent transactions.

Each product is labeled with a virtual “BlockVerify” tag recorded indelibly in the blockchain.

Where does blockchain technology stand? What will the impact be on data?

Although blockchain technology has been proven to work for financial transactions, which rely solely on the exchange of information, its use is less advanced for material transactions. However, maturation has accelerated since 2016.

IBM, for instance, has established a test platform for companies to try the service and assess the advantages to be gained from blockchain. Blockchain is also available in the cloud as well as on private servers, specifically IBM blockchain-certified LinuxONE servers.

IBM also originated the joint initiative with Walmart, which has moreover announced the creation of the Food Safety Collaboration Center in Beijing, and is working jointly with Tsinghua University to improve the tracking of food products intended for Chinese consumers. If Walmart decides to adopt blockchain to track food supplies on a global level, this could become the largest-scale deployment ever observed for this technology.

The collateral impacts on data are also huge, because blockchain-type databases can contain much more information than retail distributors currently possess, the door is open to the next generation of data analytics.

KEY TAKEAWAYS

- The blockchain technology is expanding from the financial services world to the supply chain.
- It offers an unprecedented opportunity to secure supply chains and gain end-to-end transparency of physical flows, and will support the enhancement of analytics.
- Technology/Business partnerships with both startups and major technology players (e.g. IBM) are essential to succeed.

04

CAPITALIZE ON NEW SOURCING



Above and beyond their impact on operating models, digital transformations are affecting how supplier markets are structured and how transactions are conducted between buyers and sellers. The development of intermediation platforms, the sharing economy, and programmatic media procurement are three major examples of these new models and the new sourcing options they generate.

Uber-everything

Digital transformations (connectivity, mobility, and geo-tracking) have accelerated the emergence of intermediation platforms between consumers (buyers) and offerings that were previously fragmented, not particularly transparent, and variable in quality. In the mass market, Uber and Airbnb are clear examples.

These new supply-and-demand aggregation models now constitute real sourcing alternatives for procurement in a wide variety of domains. Uber and Airbnb are now also offering competitive alternatives to taxis and hotels for business trips and travel through their dedicated “for business” offerings.

Such opportunities are proliferating in every domain. In insurance, a player like Urgent.ly, which puts insured drivers in contact with towing companies offering roadside assistance services, gives users access to the entire offering and a qualitative evaluation of all players with just a click. Users can be connected with suppliers almost instantaneously, profoundly challenging historical sourcing models (such as direct contracts with panels of tow trucks).

In intellectual services, a platform like Colibee.com puts freelance consultants in contact with large clients, challenging part of the business model of some DSC, based essentially on farming independents out to work on the client site (agencies).

In logistics, Deliver.ee puts retail distributors in contact with shipping operators to ensure last-mile logistics, thus simplifying subcontractor relations that were hitherto complex in a fragmented, non-transparent market of variable quality.

EXHIBIT 7: AMERICA'S LEADING ON-DEMAND ROADSIDE ASSISTANCE SERVICE

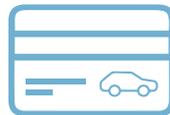
URGENT.LY

- ✓ No membership fees
- ✓ No annual dues
- ✓ No hidden fees



Source: urgent.ly

▲
RENTAL
CAR COMPANY
AVIS BUDGET
GROUP
ACQUIRED
ZIPCAR



a car sharing
company, for
\$491
million

For procurement, the question is how to integrate these new intermediaries, structure the relationship, gain bargaining power, and capture the potential benefits of these new sourcing opportunities.

The sharing economy/ Gig economy

Another growing dimension correlated directly with the emergence of intermediation platforms is what has been baptized as the “sharing economy.” As previously mentioned, platforms are bringing transparency and simplicity to networks in industries with highly fragmented offerings. But these platforms also enable the available offering to grow and develop. In situations where professionals used to address other professionals, now non-professionals can propose their available time, capabilities, or assets to the market at an extremely low marginal cost.

This is true of platforms like Drivy and BlaBlaCar, for example.

These two examples from everyday life reveal something about the market: the reason this new model can compete directly with other

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Decrease headaches.
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Manage your equipment at the office, at the jobsite, or on the go with our integrated web and mobile platforms



Maximize ROI

Increase utilization of owned and rented equipment so that every expenditure is worth the investment



Modernize management

Upgrade your whiteboard, and let modern asset management technology make work easier

Source: Yardclub.com

types of services at an extremely competitive cost is that its underlying economic rationale is completely different.

Examples abound in the B2B world, with startups like YardClub.com, which allows construction companies to rent construction equipment from other companies in the industry. Conversely, this system helps maximize the utilization of assets and reduce TCO.

Also of note is recently founded Bird-Office.com, an extremely flexible, dematerialized platform offering office space and conference rooms for rent from other companies, and by the same token, allowing these companies to rationalize real estate costs by renting out unused space in their facilities.

Finally, another very recent startup, Mobiliwork.com, has developed an even more disruptive platform: the site helps companies

lend employees to other companies within a secure legal framework and thus adapt personnel costs to business fluctuations, while allowing employees to develop their capabilities.

For procurement, these new economic models herald the emergence of new sources, new types of partners, and new ways to obtain services. Conversely, such platforms, which represent the potential suppliers of tomorrow, could also enable companies to monetize underutilized or idle assets, generating complementary revenue. It's up to procurement to shed light on all of these potential applications.

65%
of B2B marketers currently buy or sell advertising programmatically, as compared to 54% in 2016



Programmatic buying

When it comes to procurement media space, digital transformations have driven the advent of programmatic buying. These veritable online exchanges have transformed a previously long, unresponsive, and complex procurement process into an almost instant transaction based on the analysis of a complex combination of data, machine-learning algorithms, and practically instantaneous contacts between buyers and sellers.

The most effective approaches allow for quasi-individual recognition of consumers, regardless of the communication channel and contact model (such as website, mobile app, Facebook, and email) to ensure that each interaction generates data for the next one.

For procurement, integrating new technologies and new practices of this type disrupts

capability models (what data to integrate, how to configure algorithms, and how to negotiate), prescriber relationship models (impact of cost algorithm specifications, how to integrate this type of procurement into traditional TV/Radio advertising, and acceptance to rely on automated decision making), and supplier relations (intermediation).

E-commerce B2B: the “low value spot buy” revolution

In 2015, Amazon launched Amazon Business, an online marketplace dedicated to companies, offering a catalogue of products specifically adapted to B2B needs, estimated at several hundred million SKUs.

The potential benefits of this new offering are tremendous and may literally transform how procurement manages (or fails to manage) its class C procurement.

These benefits exist both for large companies that have already deployed industrialized e-procurement systems/outsourced “low value spot buy” type procurement, and for midsized companies with difficulties managing this type of procurement.

For large corporations, an approach such as Amazon Business can be used to create a fully integrated platform to manage both the act of procurement (negotiation/contract) and the supply. Buyers thus save the time and resources required to outsource/industrialize sourcing, as with e-commerce systems, and specifically all that is required to manage corresponding catalogs.

The benefit is even greater for midsized clients, who have fewer resources and whose procurement organizations are typically less developed.

Features that can generate the greatest benefits include:

1. Liberate time previously devoted by buyers/non-buyers/procurement specialists to find products/suppliers and negotiate prices.
2. Consolidate supplier panels to benefit from volume discounts.
3. Integrate contractually-negotiated prices.
4. Integrate means of payment such as procurement cards.
5. Manage user profiles and complex approval workflows.
6. Track and measure demand with embedded analytics.
7. Benefit from free delivery tracking and 48-hour delivery.
8. Benefit from complete product information.

Moreover, it is possible to integrate Amazon Business into Coupa/Ariba procurement models at companies that are already equipped.

KEY TAKEAWAYS

- New economic models have disrupted traditional business models and create new sourcing opportunities for all types of goods and services purchased.
- Digitally enabled intermediation platforms (uber-like) have created unprecedented access to supplier markets that were particularly fragmented and opaque.
- Large e-commerce players such as Amazon are entering in the space of B2B bringing tremendous tail end spend rationalization.

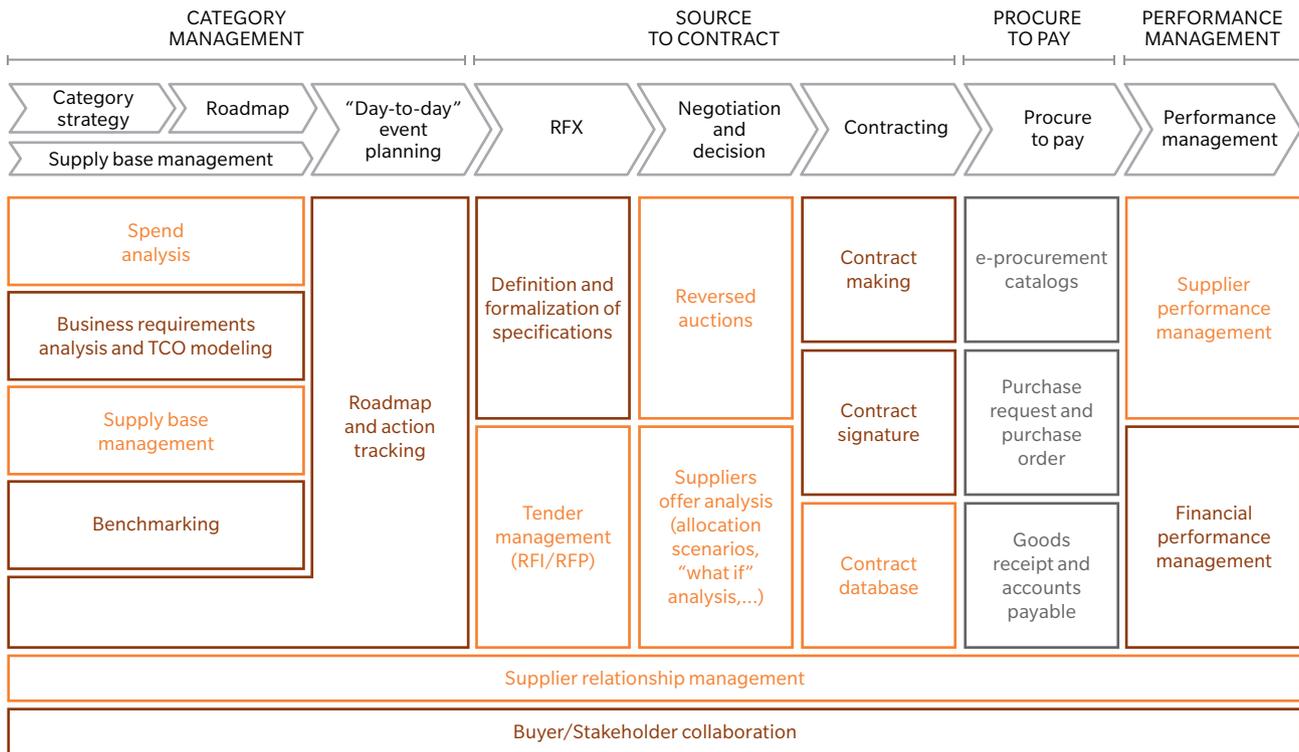
05

DIGITIZE PROCUREMENT PROCESSES AND COLLABORATION



Digital transformations also apply to procurement processes. The idea is to dematerialize all source-to-pay activities and processes, and all resulting interfaces with in-house stakeholders and suppliers. The potential gains in efficiency are massive and would liberate resources to be reallocated to higher-value tasks. The digitization of procurement processes also enables the generation of new data, which can be used in turn to perform more detailed analyses of procurement practices, consumption models, and supplier transactions.

EXHIBIT 9: SOURCE-TO-PAY PROCESS AND ACTIVITIES



- Traditionally digitized in ERP programs offering basic features
- ▣ Digitized through specific modules/applications
- ▣ Little digitization to date. High efficiency and effectiveness potential

Source: Oliver Wyman

What activities are concerned? What is the target objective?

With this in mind, digitization of procurement processes and tasks must aim for a twofold objective:

Efficiency: Optimize the time spent on each task, specifically in a context of growing pressure on procurement costs and personnel, to ensure the attainment of the best possible result at the lowest possible cost, and to focus the efforts of buyers, whose time is an expensive resource, on higher-value tasks.

Effectiveness: Maximize the impact of data analysis tasks by improving their precision and exhaustiveness; maximize the impact of collaboration by multiplying points of

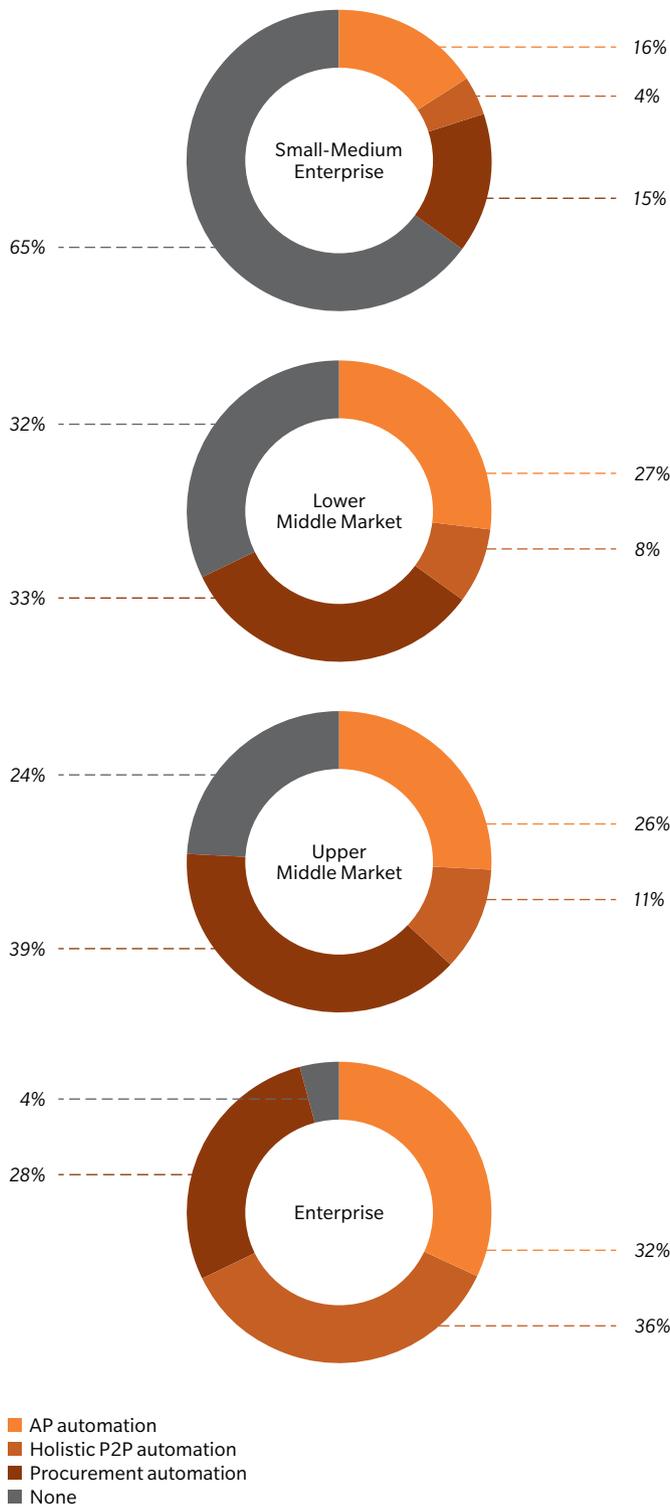
contact inside and outside the organization, in order to work on prescriptive optimization levers and maximize the level of control over consumption (volume driver) by ensuring the reliability of transactional systems.

State-of-the-art and new technologies

When it comes to IT deployment and allocated resources, procurement has long been a "poor cousin" compared to finance, sales, supply chain, and manufacturing, which is fairly paradoxical given the stakes involved. There are many reasons for this: procurement objectives are less well covered by transactional IT systems (such as SAP)

EXHIBIT 10: P2P SOFTWARE ADOPTION RATE (US)

PER REVENUE SEGMENT



Source: Paystream Advisors Q4 2016

and procurement matured later than other functions. Only the transactional activities of procurement have traditionally been covered by ERP projects.

We have thus gradually seen the development of specialized application suites and modules focused on procurement tasks. This was true, for instance, for Ariba, Emptoris, Zycus, and Bravosolutions, to name just a few.

Meeting a real need, these kinds of offerings have proliferated, albeit with a few limitations:

- **IT INVESTMENTS BY PROCUREMENT REMAIN LIMITED:** Very often, the prize has gone to a few modules (spend analysis, RFX, and e-procurement), but rarely to complete suites covering all activities.
- **THE LEVEL OF ADOPTION WITHIN THE COMPANY REMAINS VARIABLE,** notably due to difficult changes in management and the debatable ergonomics of the proposed tools versus traditional buyer tools.
- **TECHNICALLY SPEAKING, DEPLOYMENT REMAINS EXPENSIVE AND COMPLEX,** specifically when it comes to integration with the existing information ecosystem, and the results are sometimes disappointing (degraded information, features that don't really work).
- **IN THE END, FEW MARKET PLAYERS HAVE MANAGED TO BUILD REAL CREDIBILITY,** thus limiting the choices of procurement, as well as sector competitiveness.



Find a way to deploy systems with ergonomics comparable to what buyers experience in their personal lives

However, the end of the 2000s saw a new generation of players taking position in the solutions landscape (such as Coupa and Salesforce), specifically by meeting the big challenges posed by the old-generation systems: functional end-to-end coverage, sophisticated ergonomics (mobile applications, web interfaces, and intuitiveness), and simplified deployment (cloud solutions).

So what do we do now? And how?

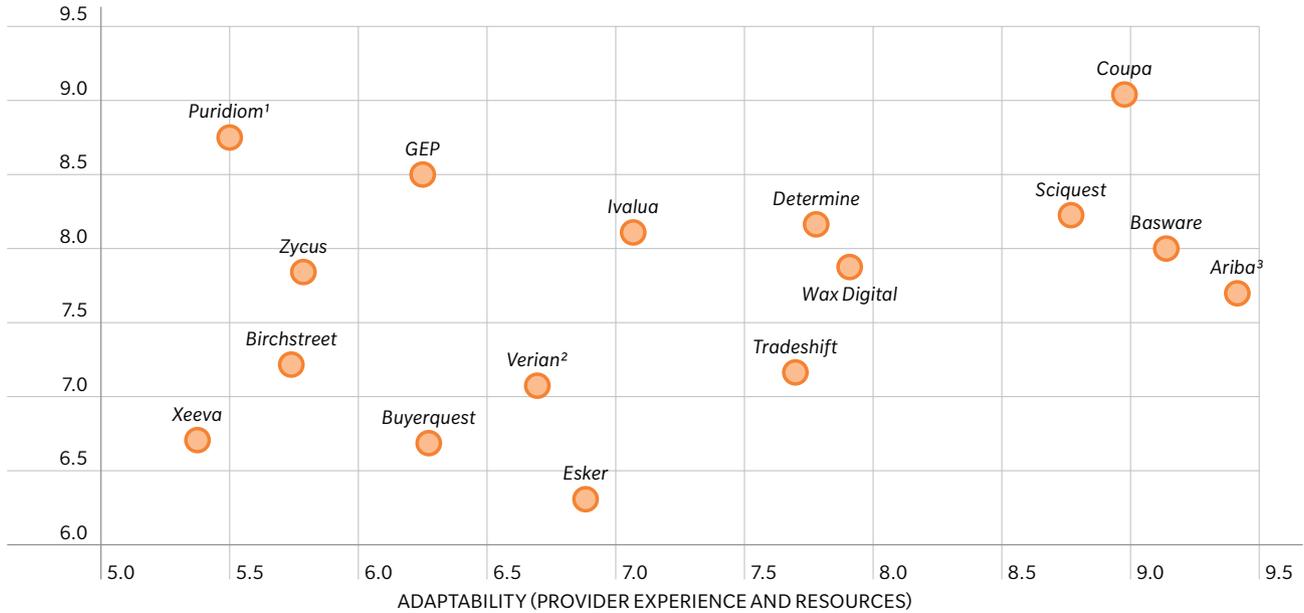
Increased pressure on procurement to produce results, combined with cost and workforce constraints, make it more critical than ever to adopt tools and systems, which alone can cut through efficiency and effectiveness boundaries.

The following priorities must be addressed:

- **ANALYTICS:** As we have seen previously, not only do analytics represent a major portion of the time devoted by procurement professionals, but also determine the quality and results of procurement strategies, negotiations and consumption management. Above and beyond solutions, the point is to mobilize the data of an entire organization by breaking down informational silos.
- **NEXT-GENERATION E-PROCUREMENT:** This critical system building block makes sure that companies capitalize fully on the savings generated in upstream phases, specifically with the algorithms found in the very latest solutions, which can be used to orient consumption behaviors. Users are henceforth completely familiar with such systems, which have now become part of everyday life for their private procurement activities (Amazon and other e-commerce sites). A key objective is hence to find a way to deploy systems with ergonomics comparable to what buyers experience in their personal lives, and maximize adoption with mobile applications on tablets and smartphones.
- **PAPERLESS:** Although it may seem obvious in 2017, few companies have managed to achieve a 100 percent paperless organization, although companies that have gone down this path have made significant progress and inroads. The paperless organization is a big change, but the positive implications are numerous. Fully dematerialized processes, with a particular focus on contracts (including electronic signature) and supplier invoicing, are a main objective in terms of organization. In this regard, one major lever is the creation of ecosystems, supported by API technologies.
- **VIRTUAL COLLABORATION:** Video conferencing by PC/mobile/tablet, screen sharing, and synchronized online collaboration with unique documents are

EXHIBIT 11: LANDSCAPE OF LEADING PROCUREMENT SOLUTIONS PROVIDERS

PROFICIENCY (SOLUTION FUNCTIONALITY AND INNOVATIVE FOCUS)



1* Puridom was acquired by BravoSolution during our review

2* Verian was acquired by Basware during our review

3* Ariba did not provide updated info. Plane positioning is based on publicly available sources

Source: Paystream Advisors Q4 2016

EXHIBIT 12: PANORAMA OF MOST INFLUENTIAL PROCUREMENT STARTUPS

	TRADESHIFT	KINNEK	TAMR	SIRION LABS	PROCURIFY	SCOUT	CONNXUS	CONTRAQER
Business description	Cloud based platform that helps companies to improve invoicing, workflow and supplier financing processes	B2B platform businesses that simplifies discovering, transacting, communicating, and interacting with suppliers; for small businesses	Platform that combines ML and data science with collective human insight Provides advanced procurement analytics	Supplier management platform, covering contract, performance, relationship, risk, and consumption management	Cloud-based procurement management solution that enables enterprises to manage their procurement spending	Cloud-based sourcing platform that automates the enterprise buying process for buyers and suppliers	Online service that connects businesses with companies seeking to expand and diversify their supplier base	SaaS procurement management system that automates the procurement process from RFQ generation to delivery
Founded year	2009	2011	2012	2012	2011	2012	2010	2012
Total funding¹	\$182 M	\$46 M	\$41.2 M	\$16.8 M	\$12.7 M	\$11.75 M	\$10.75 M	\$4 M
Last round	2017	2015	2016	2016	2016	2016	2016	2016
Investors	VC, Tech companies	VC, Business Angels	VC, Tech company, Business Angels	VC, Business Angels	VC, Business Angels	VC, Business Angels	VC, Business Angels	VC, Business Angels
Category	Marketplace, sourcing	Sourcing	Analytics	Supplier management	Spend management	Sourcing	Sourcing	Sourcing
Location	San Francisco, USA	New York, USA	Boston, USA	California, USA	Vancouver, Canada	San Francisco, USA	Ohio, USA	Virginia, USA

1* Total equity funding + debt financing

Source: CrunchBase, Capital IQ, Oliver Wyman analysis

Technological advances, combined with the explosion of mobility, data, and cloud solutions, make these approaches more relevant than ever

practices that can be institutionalized at low cost and implemented rapidly with tangible benefits.

- REVERSE CRM: Sharing/Uploading of information collected on suppliers by all points of contact, whether in procurement or in the business lines, for SRM purposes, or to support supplier innovation capabilities.

There are three potential approaches to achieve this:

- INSTALL INTEGRATED/PACKAGED SOLUTIONS BY THE MOST INNOVATIVE SOFTWARE PUBLISHERS on the market, with a minimum of customization and integration. This was the choice made, for example, by an European leader in specialty chemicals, which implemented Salesforce for all procurement tasks.
- DEVELOP CUSTOMIZED BEST-OF-BREED SOLUTIONS, using a basic software publisher solution which is then massively customized. This may be a good idea, for instance, when some processes are already optimized and implementing a standard solution would degrade performance. A major integrated bank decided to go this route, specifically for buying intellectual IT services.
- ALLIANCE WITH INNOVATIVE STARTUPS: Develop mobile front ends focused on creating a consistent user experience, regardless of the functional building blocks used at the back end, to ensure maximal adoption and best-in-class ergonomics, accelerating processes and collaboration.

We are now witnessing the emergence of a significant number of startups beginning

▲
The use of e-procurement can double the number of purchase orders processed per procurement FTE



to target procurement activities, principally sourcing, but also analytics and transactional buying in the form of marketplaces.

Technological advances, combined with the explosion of mobility, data, and cloud solutions, make these approaches more relevant than ever, as they address the two great remaining challenges: complexity of integration and the user experience.

We can expect the industry to move toward consolidation in the coming years in favor of a few dominant solutions, as well as move toward adjacent markets. Such was the case with Tradeshift (adopted by Air France), a firm initially positioned on downstream procurement processes, but which gradually moved up the chain to sourcing tasks and supplier relationship management.

KEY TAKEAWAYS

- Digitization of procurement processes and collaboration has been a long standing story, however with slow ramp-up of adoption overall.
- Technical integration of solutions and user adoption were the two major historical pain points, especially for incumbent solution providers.
- Most recently, next generation vendors (e.g. COUPA) or innovative start-ups have successfully addressed these challenges by providing instant “as a service” solutions with a compelling user experience.
- Procurement leaders must integrate next generation solutions to successfully drive process efficiency and increased compliance, demand management, and analytics.

06

ROBOTIZE SOURCING TASKS



The advent of robotics and artificial intelligence presents major opportunities to process both complex and repetitive transactional tasks in a more efficient and cost-effective manner. The media is filled with examples of the dawn of these disruptive technologies, and a growing share of jobs will soon be affected by robotization.

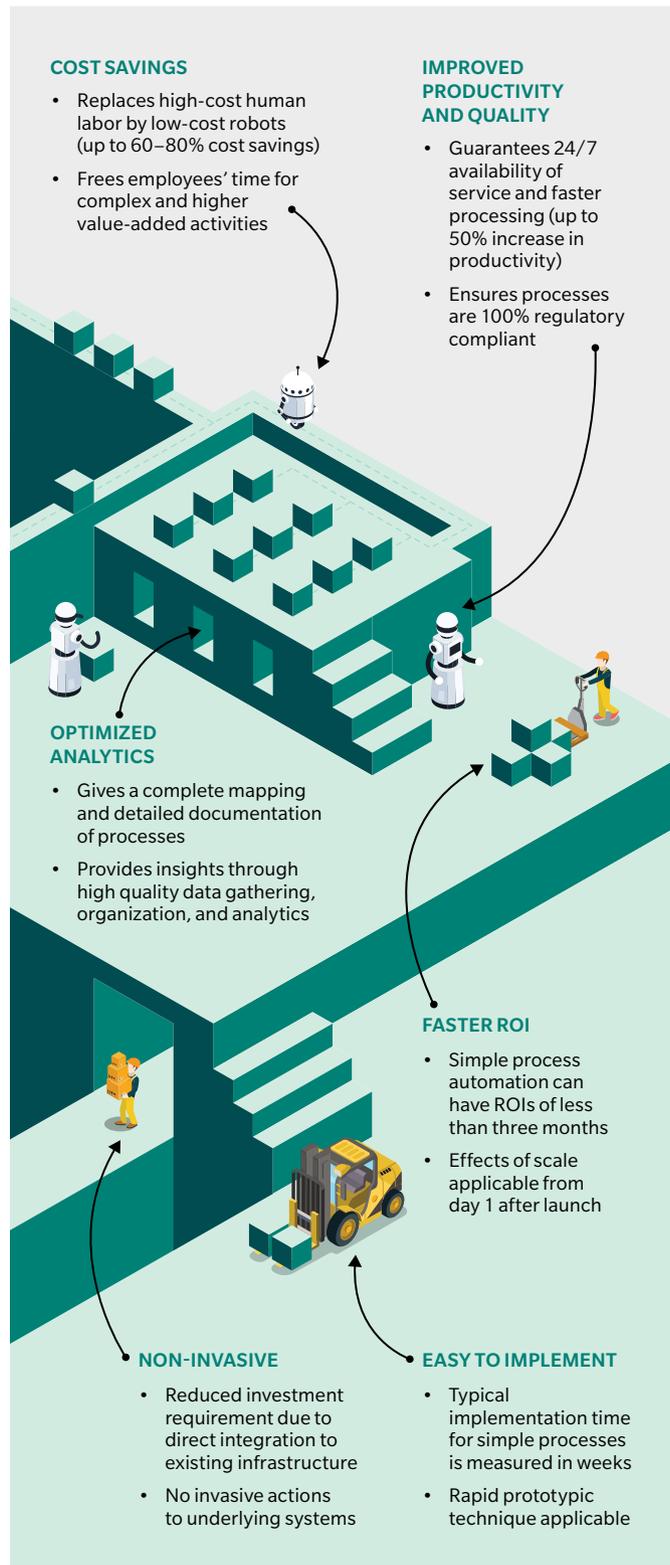
EXHIBIT 13: BENEFITS OF RPA

In a recent survey, 100 shared services managers predicted their firms would adopt RPA (robotics process automation) as early as 2018. Only 27 percent of the managers interviewed currently make use of these technologies, though 67 percent reported plans for implementation within 12 months, while 35 percent were actively looking into it and 38 percent were interested. Finally, and most importantly, 45 percent of managers whose firms have already employed RPA reported reduced costs.

The next generation of robots, expected to arrive in the next three to five years, will take process automation to the next level. The transformation to “cognitive automation”, as it is known, is being catalyzed by developments in artificial intelligence combined with available big data.

Concerning purchasing function activities, RPA will enable the following:

- **INDUSTRIALIZED DATA ANALYSIS:** Understanding consumption prescription patterns; producing analyses; classifying expenditures and benchmarks; and preparing vendor negotiations.
- **SUPPORTED DECISION MAKING:** Proposing alternatives to expressed user needs; managing inventory and supplies; performing supplier evaluations; tracking and measuring purchasing risks; and identifying new markets.
- **AUTOMATED REPETITIVE TASKS REQUIRING COGNITION:** Preparing contracts; tracking and collecting rebate information using invoice analysis; and conducting RFI/RFPs.



Source: Redwood Software, Spendmatters.com. 2016

EXHIBIT 14: ROBOTICS PROCESS AUTOMATION TYPES AND APPLICATIONS

Simple, repetitive tasks

Complex, multi-system



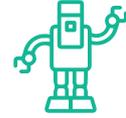
Task Bots



Meta Bots



IQ Bots



Artificial Intelligence (AI)

	Task Bots	Meta Bots	IQ Bots	Artificial Intelligence (AI)
Description	<ul style="list-style-type: none"> Replicate complex process actions Perform actions taken by humans at presentation layer of any desktop-based application Capable of executing multi-step processes 	<ul style="list-style-type: none"> Leverage API-level integrations to create system-to-system automations Share automations with Task bots When combined with Task bots, Meta bots are ideal for multi-skill processes 	<ul style="list-style-type: none"> Learn and adapt over time Become independent but with fewer errors Leverage unstructured data Capable of making decisions based on accumulated learning and experience 	<ul style="list-style-type: none"> Combines smart data and smart algorithms Decision making based on machine learning and synthesis of large datasets
Best for	<ul style="list-style-type: none"> Repetitive, rules-based tasks relying on structured data 	<ul style="list-style-type: none"> Complex, scalable processes 	<ul style="list-style-type: none"> Managing through fuzzy rules and processing unstructured data 	<ul style="list-style-type: none"> Language interaction, processing and dealing with high amounts of unstructured data
Examples	<ul style="list-style-type: none"> New supplier registration Change of points of contacts Inventory Structured storage of documentation 	<ul style="list-style-type: none"> Contracts execution follow-up Flaws detections Basic reporting generation 	<ul style="list-style-type: none"> PO generation Payments screening Customer charge-backs Demand forecast generation Auctions 	<ul style="list-style-type: none"> Fraud investigations Customer complaints Advanced financial risk management of ongoing contracts

Source: Oliver Wyman

What are the benefits and challenges for procurement organizations?

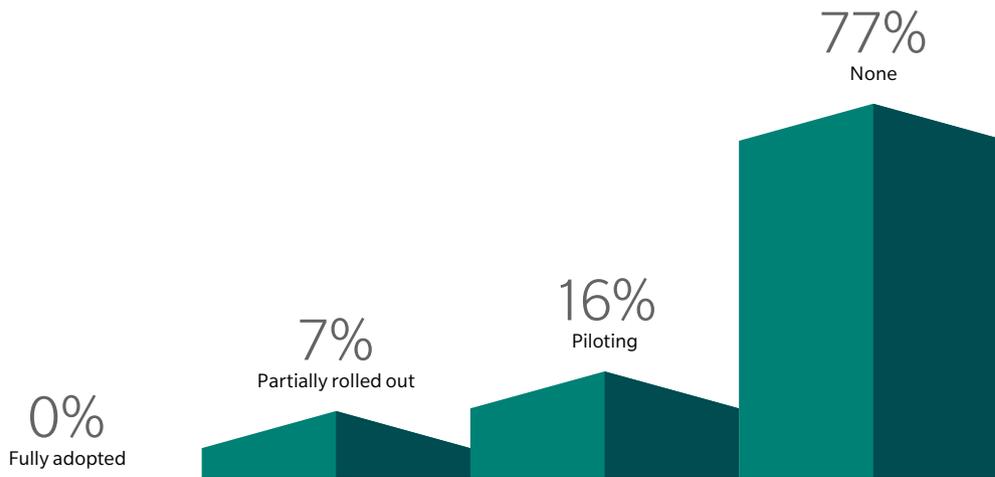
In the short term, RPA could be useful as a retrofit solution for legacy processes or processes that have been inadequately digitized. It could easily and cost-effectively automate tasks previously performed by human labor through screen scraping, web scraping, and report mining.

Surprisingly, to generate savings on a meaningful scale, companies will want to robotize their small-scale processes.

Processes consuming substantial resources have already been automated to a great degree, and the savings impact of further automation would be only marginal.

Therein lies the challenge. Taskbots used to retrofit legacy processes would require substantial configuration, adaptation, and maintenance, given that they operate on the front-end. They are extremely sensitive to changes in front-end layouts and in interactions with other applications. This is particularly true in the context of the wide number of small processes that might be equipped with RPA.

EXHIBIT 15: RPA ADOPTION IN PURCHASE-TO-PAY



Source: Hackett, 2016

Savings generated should therefore be progressively reinvested in structural digitization and process automation, with the long view in sight. The end goal here ought to be developing fully digital processes.

In addition, the experiences of companies that have made use of RPA featured challenges specifically related to organizational change: resistance from employees; concerns about compliance and security; overly complex technology rollouts; mismatches with vendors, even with the technology itself; managing squeamish stakeholders; and a general lack of vision and strategy.

In the medium term, understanding technologies, solutions suppliers, and economic models is critical. What are the relevant technologies? Should companies develop proprietary solutions or acquire them off-the-shelf? Who are the best potential partners? What is the best business model: on-demand robotics with payment per transaction, per project, or per managed euro? How can data sensitivity be respected? How can companies limit their dependency on the publishers of technologies and solutions?

Work will move, both in terms of roles and geographical location. Purchasing professionals regularly spend a major share of their time on repetitive low value-added tasks. The use of robots could free up considerable time that can be reallocated to more value-added tasks. Here the relevant questions are: Will companies' available capabilities support this reallocation of professionals towards more complex and higher-value work? What will be the resulting impact on labor relations?

Taskbots used to retrofit legacy processes would require substantial configuration, adaptation, and maintenance, given that they operate on the front-end

In the medium term (five years out), when artificial-intelligence technologies and machine-learning algorithms reach greater maturity, the talent management and organizational implications will be more significant

Geographically, the opportunities presented by role relocation are immense. Moving from a labor cost-based model (full-time employees) to a CAPEX cost-based model (robots) profoundly redefines all current on-shoring and offshoring practices. A considerable proportion of global business service organizations, which have used resource location as a savings lever, will have to reconsider their settlement patterns.

Supplier relations will be turned upside down. Who, for instance, would negotiate with a robot buyer? Likewise, would there be robot-sellers? The same concerns hold inside companies, where the reactions of prescribers and users to robot buyers may be mixed.

Novel capabilities will be needed. To implement and maintain robot-buyers, purchasing organizations will have to combine the best talent in the digital fields (such as data scientists, designers, and developers), process optimization, and category management, in order to manage technical teams.

AMAZON
HAS INCREASED
ITS BOTFORCE
BY FOURFOLD
OVER THE PAST
TWO YEARS



1 out of every 7
employees is
now a robot

What has been concretely accomplished at this stage? What should procurement leaders do?

Despite the great media hype and the attractive business opportunities it presents, robot deployment remains highly experimental at this stage.

In the short term, the benefits will be productivity gains from automating processes that are repetitive but still require a great number of manual tasks. This will allow resources to be reallocated to higher-value activities.

Thus, sourcing robotization must be aligned with the trajectory already charted by purchasing organizations, focusing resources and capabilities to place purchasing in an advisory position to business lines.

In the medium term (five years out), when artificial-intelligence technologies and machine-learning algorithms reach greater maturity, the talent management and organizational implications will be more significant, and pose serious questions concerning the expertise needed to capitalize fully on human-robot collaborations.

Procurement leaders must work along the following lines to define an approach that ensures timely, smooth, and effective deployment of RPA technologies:

- **GOALS:** What can be achieved through robotics?
- **POLICIES AND STANDARDS:** What should robots be allowed to do, and not do?
- **PROCESSES:** What processes are appropriate for robotization? What processes are better candidates for outsourcing (via APIs) or end-to-end digitization.
- **ROLES AND RESPONSIBILITIES:** Who will be accountable for outcomes achieved through robotization? How will assessing accountability be different from the current business process owner role?
- **DATA AND TECHNOLOGY:** How can deployment mode, data, and technology be reconfigured to accommodate robotization on a large scale?
- **RISK AND QUALITY CONTROL:** What controls/security are needed to monitor and provide oversight over robots and robotic processes, and how will failures be handled?
- **GOVERNANCE:** What governance mechanisms are necessary to monitor investments in robotics?

CASE STUDY

THE VODAFONE PROCUREMENT COMPANY

The Vodafone Procurement Company centrally manages around €20 billion of spend every year for Vodafone businesses and partners in more than 26 countries. Its 300-plus category managers will soon be using cognitive computing to support virtually every aspect of the procurement and supply chain management process. The aim is to create the “category managers of the future,” to turbo-charge decision making and to open up new business opportunities through the practice of “self-disruption.”

The experimental deployment of two robots, for example, has helped Vodafone speed up the request-for-quote process. Vodafone’s CPO says: “You would send in quotations to us, then we [would] seek a formal quotation; it’s quite a manual process with people typing in things and converting free text orders. So we worked with software robotics guys to build a robot that could process these. That task used to take 20-plus minutes to do, and of course a team member’s time. It now takes just six minutes and it’s always correct.”

The company used technologies from SirionLabs and Docusign to automate, smooth, and accelerate every stage of the procurement workflow. These tools do not just make processes faster, easier, and more visible, they also free up staff to focus on building relationships and delivering strategic goals, rather than chasing paperwork.

To support its journey, Vodafone created a new dedicated team tasked with driving the transformation towards a digitally driven procurement organization called Cognitive Procurement & Digital Sourcing.

KEY TAKEAWAYS

- Robotics Process Automation is a promising emergent technology, but use cases in procurement are still extremely limited, and still in the experimental stage.
- In the short term, RPA can provide cost benefits and efficiencies as retrofitted solutions on legacy processes and inadequately digitized processes, and be reinvested in proper process redesign, automation, and digitization.
- In the long term, this will enable a large reshuffling of human resources.
- Procurement organizations should adopt a clear framework when looking into RPA opportunities.

07

DESIGN A DIGITAL PROCUREMENT TRANSFORMATION PLAN



The challenge is on: digital transformations are yielding tremendous performance opportunities. Procurement organizations must begin their journey without delay. From culture to IT systems, through to governance and supplier relationships, the time to act is now.

A holistic approach to transformation

To capitalize fully on current and future digital transformations, the entire procurement system must be changed. Six key dimensions must be accounted for when defining target models:

Develop a digital vision and culture

in procurement: A digital culture must permeate the entire organization before it can be integrated into procurement activities, including procurement strategy development, redefinition of needs with prescribers, and negotiations. That means the digital culture must concern every player, every day, and then find its natural applications in procurement strategy. Procurement leaders and managers must promote digital awareness, and line managers must adopt new prisms as they perform their day-to-day tasks in order to manage new constraints and implications.

Articulate the actions of the CPO/CDO/CIO triangle:

To be fully aligned with the company's digital strategy over time, the procurement director must articulate his transformation plan with the CDO and CIO. This requires establishing and/or evolving procurement governance mechanisms (category committees, zone committees, procurement management committees), which must henceforth integrate digital and IT representatives to ensure optimal detection of upstream opportunities, consistent technology choices, and full alignment with business lines.

Develop new capabilities: Developing advanced analytical approaches, managing change at the core of business lines and relations with pure digital suppliers, rethinking traditional negotiation and contract-related capabilities, mastering new business models, grasping supplier market shifts: the capabilities

demanding by the new digital age are far beyond the traditional understanding of procurement. The buyer of 2020 will be very different from the buyer of today. Ambitious training plans will therefore be necessary to support current employees, and targeted external recruiting will be necessary to meet the growing need for experts in the new profession of "data scientist."

Rethink supplier relationship

management: Historical suppliers must be systematically and almost constantly challenged on their ability to integrate digital innovations that can improve their competitiveness and offer new outlets for performance. The supplier relationship must also be adapted to integrate pure digital players by adopting simple, flexible, and agile processes. Assisting developing startups through joint innovation, co-financing, and experimentation must also be taken on – otherwise companies risk watching innovators leave them for the competition.

Bring in big data: Big data must be leveraged with dedicated tools to anticipate risks, by detecting weak signals and supporting suppliers proactively in risk migration plans.

Design and implement a systems and data integration roadmap:

The IT blueprint for procurement must be clearly defined with the CIO and investments prioritized to ensure that procurement does not remain the "poor cousin" of digital tools and systems. The director of procurement also needs to identify key integrators and technological partners and bring them into designing the blueprint. Finally, intensive change management must be conducted with procurement players and stakeholders in other functions and/or business lines.



84%

of procurement organizations believe that digital transformation will fundamentally change the way their services are delivered over the next three to five years



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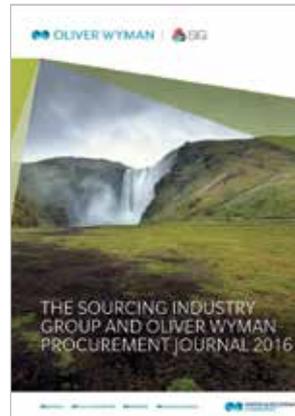
OPEN INNOVATION

Open Innovation is becoming a growing necessity for CPOs in tackling current Procurement challenges and in better meeting CEOs' expectations of tomorrow.



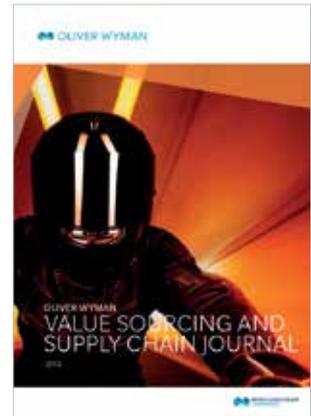
INCUMBENTS IN THE DIGITAL WORLD

How incumbent organizations can ultimately win in a marketplace transformed by digital disruptors.



THE SOURCING INDUSTRY GROUP AND OLIVER WYMAN PROCUREMENT JOURNAL 2016

This journal represents our latest thinking and experiences shared during our joint Chief Procurement Officer Roundtables throughout the year.



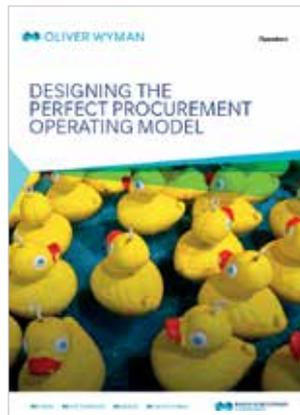
VALUE SOURCING AND SUPPLY CHAIN JOURNAL

This compendium represents our latest thinking and experiences on how companies can address Procurement challenges to become best-in-class.



A NEW PARADIGM FOR COMPETITION: CLOCK SPEED

Digital disruptors have been a force in business for a decade or more, but their collective impact is now reaching an inflection point.



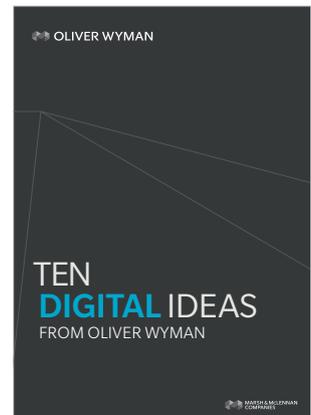
DESIGNING THE PERFECT PROCUREMENT OPERATING MODEL

How to balance internal and external pressures and the evolution necessary for procurement organizations to reach a sophisticated equilibrium.



STRATEGIC COLLABORATION IN PROCUREMENT

In order to stay ahead of the game today and prepare for the challenges of tomorrow, organizations must engage in strategic collaboration around Procurement.



TEN DIGITAL IDEAS

Ten Digital Ideas from Oliver Wyman explores how leaders in industries ranging across financial services, manufacturing, transportation, healthcare, retail, energy, and logistics are capitalizing on digital innovations.

Oliver Wyman is a global leader in management consulting that combines deep industry knowledge with specialized expertise in strategy, operations, risk management, and organization transformation.

Oliver Wyman's global Operations Practice specializes in end-to-end operations transformation capabilities to address costs, risks, efficiency, and effectiveness. Our global team offers a comprehensive and expert set of functional capabilities and high-impact solutions to address the key issues faced by Chief Operating Officers and Chief Procurement Officers across industries.

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