

REINVENTING THE AUTOMOTIVE PURCHASING FUNCTION

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New commodities and suppliers require fresh capabilities that OEMs now lack, impeding their ability to meet product cost-down goals.

Always a hot seat, automotive purchasing today faces an increasing number of challenges. New technology suppliers are entering the industry, testing the dominance of automakers and incumbent vendors, and adding new skills, technologies, and resources to the mix. Some of these new players have limited exposure to the industry, making automotive OEMs only a small customer account with limited own expertise and negotiation power to effectively manage this new type of suppliers. In fact, some tech players could literally buy car OEMs “out of pocket” (if they wished to do so). Among industry incumbents, traditional value-chain players will continue to consolidate, likely ending with a limited number of companies for each commodity that will increase the remaining players’ power to boost pricing levels. Also, sudden or planned production stops of components already designed into the vehicle (systems) become increasingly common. For instance, if a supplier moves to the next generation of its product in the middle of the car manufacturer’s production cycle for a certain model. Meanwhile, trade wars and tariff barriers will heighten protectionism and associated costs, while structural shifts and new industry standards pose challenges for late-comers. The increasing demand for new raw materials like rare earth metals will continue to roil formerly established markets.

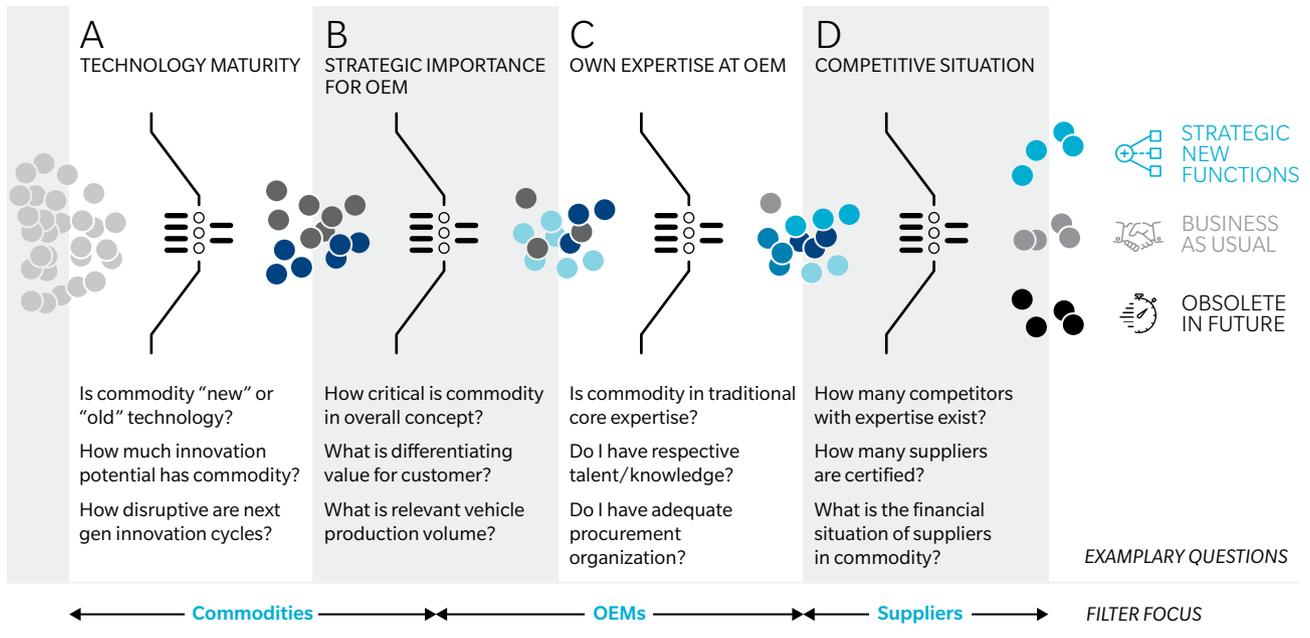
CLUSTERING COMMODITIES

To function effectively in this dynamic environment, OEM procurement organizations should consider the creation of distinct clusters in their purchased commodities based on four main criteria. (See Exhibit 1). The first focuses on **technology maturity**; determining if the commodity is new or a well-known technology, assessing the innovation potential and the degree of disruption the next generation in the innovation cycle will bring. The second involves the commodity’s **strategic importance for the OEM**; evaluating the criticality of the commodity in terms of the overall vehicle or system concept, as well as its differentiating potential for customers. Also, the automaker’s total volume of vehicles using this commodity plays a vital role in this dimension. Third is the **OEM’s internal expertise** with the commodity; addressing the link to the automakers core competencies and the availability of required talent with the knowledge to develop and/or produce the technology. Another part of the internal expertise evaluation involves the procurement organization itself and its specific capabilities for delivering performance in this commodity. Finally, the fourth category evaluates the **competitive situation**; measuring how many competitors exist and how resourceful they are both today and going forward. It also assesses the deals or partnerships already in place – for instance if a startup having a deal with a competitor.

Together, these four categories will serve automakers as procurement filters. Depending how commodities shake out, they will typically fall into three buckets: strategic new functions, which as the name implies, represent rather disruptive innovations; “business as usual” commodities; and finally, those that will become obsolete in the future.

EXHIBIT 1: COMMODITY CLUSTERING DECISION PROCESS

To address these challenges, procurement organizations in a first step have to cluster their purchased commodities along four criteria



Commodities are evaluated by measurable sub-criteria which in combined/weighted form provide unique parameter pattern

This pattern can be allocated into three overarching commodity clusters – each with lower and upper end characteristics

Source: Oliver Wyman analysis

The goals for each type of commodity will clearly differ. For future obsolescence, for example, automakers need to maximize their procurement performance while simultaneously preventing the suppliers from falling into financial distress. Critically, OEMs must take risk-mitigating steps to ensure they do not become the last player that uses the commodity. For "business as usual" situations, car manufacturers should focus on achieving product cost reductions that match the commodity's future importance as well as immediate savings, and on maintaining strong levels of competition among suppliers to minimize vendor-related risks. For commodities identified as "strategic new functions", automakers must establish broader partnership models to gain expertise and set industry standards. They also need to secure a leading position and competitive edge in innovation, followed by a cooperative focus on cutting costs. This is not easy to manage as the cluster is highly dynamic and includes a very heterogeneous set of suppliers. The companies differ not only in size, but also in business models, (often non-transparent) ambitions, technological capabilities, and task spectrum (for instance, high-tech sensors, software, and batteries as new future core competencies). Few one-size-fits-all-solutions will likely emerge in this category.

NEW SUPPLIERS DISRUPT THE CLASSICAL PROCUREMENT MODEL

Of the three commodity clusters, strategic new functions have the most disruptive profile. Comprised of a combination of disruptive tech giants, emerging players from advanced industries and multitudes of startup, it requires insightful management. Collectively, their

ways of working and strategic principles can make the classic procurement model completely ineffective. From a purchasing strategy perspective, for example, the new suppliers' motivations might range from securing capital as start-ups to setting industry standards as tech giants or, they might view automotive simply as a minor play. Instead of focusing solely on achieving immediate performance realization, OEMs need to shift their perspective toward incentives for innovation and collaboration.

The purchasing organization will require adjustments, too. New technologies are often in the early stages of development, partially having completely different (faster) innovation cycles, thus making the product overall less definite. Procurement organizations require institutionalized forms of cross-functional collaborations, new governance processes, and parties with specialized roles and responsibilities to keep up effectively with these disruptions. In addition, many purchasing processes themselves, such as the request for quote (RFQ) and request for information (RFI) processes and documents, will become obsolete while new partnerships and associated processes require optimization. In this new environment, automakers will find transacting business and negotiating prices only partially possible due to limited market power or the need to buy shares for commercialization.

The human resources related activities of the purchasing organization are another area that requires optimization. Existing procurement functions are typically not able to differentiate between good and bad offerings within these new commodities as they lack necessary skills in terms of the overall technology and market trend outlook. Consequently, automakers require new types of talent and extensive retraining of existing staffs to handle the technological challenges. Even the incentive systems for the procurement staff require alignment as the negotiated price and discounts for a product will not remain the key driver in many strategic commodities. The purchasing systems and tools that the procurement department uses also require upgrades. Automakers need new types of proprietary, artificial intelligence-based preventive risk management and partnership performance tools to use in concert with existing purchasing solutions. A holistic IT upgrade with standardized platforms and interfaces enabling rapid action beyond traditional borders becomes mandatory.

To excel in the strategic new function cluster, automakers need to deal with a new breed of suppliers. Assessing the supplier's capabilities, associated risks and the OEM's own relevant value proposition will become key assets within the next generation of automotive procurement. Startups, for example, seek fast product maturity, the industrialization of their solutions and long-term partners. Their strength is an agile and flexible working mode and specific solutions outside of the OEMs core competencies, but they lack scale, market power, customer access and often cash. OEMs can take advantage of these gaps during negotiations, promising start-ups capital and other resources like mentoring as well as mid-term planning security. However, automakers also need to be careful as delays, ineffective management, superior competitive products and even (partially) lost investments pose significant risks when dealing with start-ups.

Emerging players want strong top-line growth, entry to new markets and business domain diversification. Most have a strong technological edge and limited dependency on automotive business. When dealing with these companies, OEMs can use their vehicle integration capabilities and knowledge about end-customer preferences to reduce the risk of ending up with overpriced, technological sub-optimal products or even supply bottlenecks. Car

manufacturers need to define a clear roadmap regarding both, the emerging player solution's exclusivity to generate a long-term competitive edge, and superior risk sharing approaches for future developments.

Finally, disruptive giants aspire to gain market control at the customer interface and want to set industry standards, taking advantage of their rapid new business development capabilities and strong financial flexibility. While dealing with them, OEMs should highlight their manufacturing/mechanical engineering capabilities and end-customer insights, as disruptive giants may lack necessary hardware (industrialization) capabilities, brand image in the automotive markets and required customer contacts at scale. However, the threats of future dependency, lost control of user data, damage to their own image and even the prospect of becoming a pure hardware supplier are real.

USING AN EXTENDED TOOLBOX FOR STRATEGIC NEW FUNCTION CLUSTERS

OEMs need to optimize their performance in strategic new function commodities and learn to deal effectively with this emerging cohort of suppliers. They should implement solutions from an extended capability-building toolbox and seek new modes of collaboration. Tools might range from agile processes and organizations and new types of contracts, to joint digital platforms and significant co-development with suppliers – all tailored to the three supplier archetypes. (See Exhibit 2). The following examples offer a deeper sense of the new approaches available to the car manufacturers.

NEW PARTNERSHIP MODELS

As the integration of disruptive technologies accelerates with the exploration of new solutions for electric, self-driving vehicles and "internet-of-cars," bilateral and multi-partner agreements on technology platforms and open alliances become increasingly important for a company's long-term success. Consequently, to foster their own ambitions, car manufacturers need to embrace a diverse set of new collaboration opportunities not only, but especially with the new strategic function suppliers.

The specific design of the partnership models differs across the three main types of new function players. Relationships with start-ups should focus on supporting growth while securing and controlling access of the technology – ideally retaining the flexibility of the start-up if possible. The ones with emerging players should set the cornerstones for joint growth opportunities, but OEMs need to remain flexible and rapidly learn the partner's business needs and goals. With disruptive giants, automakers should pursue intensive collaborative business developments focusing on completely new types of businesses. While framing these partnerships, car makers need to revisit existing business models, and include revenue sharing and co-branding (for instance for infotainment solutions to have deeper scrutiny on the capital structure). Also, performance measurement in terms of revenue increase instead of pure cost decrease should be considered.

Overall, such networks of collaboration are already developing rapidly, and plentiful examples exist. For instance, an automaker that lacked its own access to internet-of-things (IoT) cloud capabilities joined with a disruptive giant to create a new automotive-focused cloud. Its goal

was to create new ongoing revenue streams from connected cars and mobility services. Other players fund start-ups to secure access to critical battery technologies or to foster their own data-driven business models. Also, the fact that today's tech-shows like the CES have progressively taken a similar impact on the automotive industry than the traditional auto shows illustrates this development. Today's automotive procurement organizations need to play a key role in forming and maintaining these new models of co-operation to maximize the overall company's performance.

EXHIBIT 2: TOOLBOX FOR ADDRESSING THE STRATEGIC NEW FUNCTION CLUSTER

Enhanced toolbox for capability building and new modes of collaboration with selected supplier archetype

SOLUTION ELEMENT		A START-UP	B EMERGING PLAYER	C DISRUPTIVE GIANT
MODE OF COLLABORATION	1 New partnership models	● Support growth and control access (e.g. financing, M&A, JV); partner with SU's in parallel	● Promote joint growth; stay flexible and learn partner's business, needs and goals fast	● Intensive collaborative business development (e.g. new type of businesses)
	2 Co-development with suppliers	● Industrialize jointly via test-and-learn approach for fast technology maturity; connect SUs	● Accelerate through complementary capabilities requiring a holistic supplier introduction	● Innovate together to set standards first cutting costs later; be attentive of giant's goals
	Joint digital knowledge (sharing) platforms	● Centralize knowledge from different vendors and foster joint learning; create (buyer) contact transparency in SU-scene	○ Create interactive knowledge infrastructure across teams; complement with analytics	● Establish definitive source of truth beyond traditional boundaries, but protect important IP and customer's data privacy
	New types of contracts	● Create short and agile start-up cooperation contracts – e.g. with flexible product specs	● Chose from many contract options (services to JV); agree early upon future PCD levers	● Share short- and long-term benefits; define own value proposition thoroughly
	Increased use of licencing models	● Use licencing for content aggregation from diverse vendors (e.g. royalty based)	○ Foster smart cross-licencing, but limit to most necessary	● Establish favourable cloud-based (credit) subscription models limiting cost to usage
	Strategic insourcing	● Acquire (share of) start-up or rapidly develop/ industrialize own solution to benefit from economies of scale	● Move technology control inhouse to reduce dependencies – e.g. via 50/50 JV with specialized partner	● Build own capabilities (e.g. features) to successively substitute external with (partially) internal solution
CAPABILITIES	3 New type of procurement organizations and talent	● Establish joint CoCs; develop start-up scouting, DD and market intelligence capabilities	● Foster co-location and link right departments; hire new talent able to evaluate options	● Create link to strategy/BD; option of autonomous, cross-functional project structures
	Agile procurement organizations and processes	● Joint workshops in agile teams; limit admin like data compliance; buyer as coach for other units	● Standardize new processes beyond contract fixation ("care-taker"); build new risk unit	● Integrate in customer-centric processes; create processes for leadership intelligence

■ Deep dive later in the document

RELEVANCE: ● Very high ● High ● Medium ○ Low

Source: Oliver Wyman analysis

CO-DEVELOPING WITH SUPPLIERS

Co-development efforts involving start-ups typically focus on joint industrialization via “test-and-learn” approaches for achieving rapid technology maturity. In one case, an automaker chose to co-develop new function offerings with a small number of stable core suppliers. It ultimately established a “software factory” where the partners could pursue the joint industrialization of software development with the support of technical experts focused on standard building blocks for easy re-use as well as front office staff. This approach allowed an agile definition of specifications and work package allocations. It enabled significant synergy gains compared with traditional approaches based on isolated perspectives of different development projects with large numbers of regularly changing suppliers.

OEMs and emerging players can accelerate their progress by taking advantage of a partner’s complementary capabilities. For an automaker, this typically requires a holistic supplier introduction across different units of the company. With disruptive giants, OEMs should seek out innovation partners to set industry standards quickly and afterwards jointly cut costs. This sequence is critical as the opportunity costs for late comers are high, so OEMs and giants need to pursue the joint goals to create a lasting “win-win” environment. The procurement organization’s job in this case is to facilitate such co-development efforts in close collaboration with other functions in the company.

STRATEGIC INSOURCING

In the last two decades, automakers across the globe have increasingly shifted value-add towards their supplier base – a dynamic likely to continue at a slower pace in more traditional vehicle systems. In contrast, only in selected cases have automotive OEMs performed insourcing activities in the past – and they did so mainly as a completely cost-driven decision. Going forward, this is likely to change as insourcing activities will become more frequent in the strategic new function cluster.

The motives for such decisions will expand, too, from the purely economical to the strategic, as the implications of sub-optimal technology positioning and ineffective supply relationships have an increasingly significant impact on a company’s long-term competitiveness. For example, one car manufacturer recently announced it would invest heavily to shift control of lithium-ion battery development and production inhouse via a 50/50 joint venture with a specialized strategic partner. The motive in this case exceeded the aim of controlling future technology costs, since it also sought to prevent the company from becoming too reliant on strong external suppliers. Other automakers have intensified their own efforts to develop comprehensive software solutions inhouse to benefit from “free” economies of scale once production volumes pick up and the amortization of initial investments took place. The purchasing organization needs to be an integral part of these decision-making processes – for instance, offering strong insights regarding the number and trustworthiness of suppliers and potential partners in the market for a given technology.

STAFFING A NEW TYPE OF PROCUREMENT ORGANIZATION

Many automakers recognize the need to reimagine the ways they interact with new function suppliers. They also understand why they should engage in procurement partnerships with other car manufacturers to bundle the purchasing volumes of components without

brand differentiation characteristics. Some have already begun to establish innovations in the own organizations like startup scouting offices and advanced market intelligence capabilities. Additionally, they have co-located with emerging players and created links to the right departments.

At the same time, OEMs are hiring new talent like IT, software and analytics specialists that can evaluate non-standard options. One OEM established a new centralized team in the strategic procurement department tasked to focus purely on preventive risk management. Its responsibilities included infrastructure and tool development, including a tailored event tracker and early warning system for specific high-risk commodities.

When dealing with disruptive giants, automakers often attempt to create strong strategic and business development links, and work through options for autonomous, cross-functional project structures. One automaker is running its first pilots for the full integration of procurement experts in a completely autonomous, cross-functional project structure that has a separate governance process and complete resource autonomy. It co-locates its procurement specialists with other functional experts in a competency center to develop highly innovative new vehicle models rapidly that encompass many disruptive trend technologies.

ACHIEVING PRODUCT COST-DOWN GOALS

To cut costs continuously, automakers need a versatile, custom-tailored solution driven by unique quantitative product cost-down target assessments for different commodity clusters putting the spotlight on pliable focus areas and action levers. In commodities in the “business as usual” cluster, companies can typically achieve a 3 to 5 percent cost down in ongoing model series and 8 to 9 percent cost reduction in new products by using tools like value engineering, increased modularization, product simplification and advanced negotiation tactics like game-theory approaches. Commodities in the future obsolescence cluster often have cost reduction potential in the 25 to 30 percent range across the complete ramp-down model. However, achieving these cuts require serious effort in variance reduction as well as redesigns and the use of substitute products. Reaching this target may require the comprehensive implementation of additive manufacturing, efforts to control any associated spare part business, and a production shift to low-cost countries like China.

In contrast, the product cost-down goals in the strategic new function cluster require a slight re-interpretation because they touch actual cost targets in a more indirect manner. Working with start-ups, the primary goal should be a 25 percent faster ROI and a 30 percent faster move from innovation to series production. To reach this target, automakers require effective supplier scouting, strong risk monitoring, comprehensive mentoring programs and significantly shortened procurement processes. For instance, start-ups typically don't have the capacity to work through 30-page legal contracts to secure supply awards. Consequently, the communication channels with start-ups should be wide open to foster joint learning processes.

The focal areas for commodities supplied by emerging players and disruptive giants should ensure the OEM's control-point positioning and the realization of first mover advantages. The development of market and technology intelligence within the core procurement team and

the use of mature preventive risk management infrastructure play vital roles, too. Automakers need to make the right decisions in the trade-offs between revenue and cost, as well as short-term benefit and long-term impact. As a result, successful companies can aim for 30 percent accelerated time-to-market, roughly 40 percent strategic shares and a risk minimization of up to 100 percent in terms of investment loss potential.

STEPPING INTO THE NEW WORLD OF AUTOMOTIVE PROCUREMENT

Going forward, procurement executives should follow a distinct action sequence to obtain the best possible results for individual commodities and the overall procurement organization.

1. **Define sourcing priorities.** Create an overarching procurement strategy in close collaboration with the company's overall strategy based on the company's business goals. That requires executives to determine the differentiators and control points in future vehicle concepts, including their impact on the purchasing function. They also need to understand the strategic degrees of freedom they have regarding make-or-buy decisions, global sourcing, and the desired degree of digitization.
2. **Conduct commodity tiering.** Evaluate each commodity for allocation into different commodity clusters. Executives should conduct quantitative and qualitative analyses using measurable sub-criteria to obtain unique patterns based on product-, supplier- and OEM-specific key performance indicators (KPIs). They should then allocate different commodities into clusters, highlighting specific key findings like upper- and lower-end characteristics.
3. **Develop target pictures for each commodity.** Define the procurement goals and identify any potential future drawbacks at the commodity level. Executives should set specific milestones for each commodity depending on its cluster and evaluated supplier base. They should calibrate goals with the (organizational) status-quo and use best practices on micro- and macro-levels to identify challenges and adjust the procurement model accordingly.
4. **Roll out solutions from the toolbox.** Determine the best solution by applying one or more of the tools to each commodity. Executives should develop specific action catalogs and priorities ranging from automation and immediate product cost-down (PCD) levers to new solution elements, and later combine the solutions on individual commodity levels to create a holistic plan for the entire organization.



Automaker procurement executives face the daunting task of integrating and effectively buying new classes of commodities that range from advanced connectivity solutions to electrified powertrains to autonomous driving technologies. Their old, tried-and-true approaches typically fail to deliver the most efficient or effective ways of dealing with these commodities, which is why more OEMs are seeking solutions like those in our next-generation purchasing toolbox.

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.

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