



Upskilling for “Purchasing 4.0”

How European Automotive OEMs Master the Future of Purchasing with the Right Skill Set

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1 Introduction: Trends in the Automotive Industry

The automotive industry is facing an era of disruptive change. The industry is likely to experience more changes in the next decade than in the last 20 years.¹ Intense competition and structural changes characterize the industry. Companies have to transform their core business. The four automotive megatrends mobility, autonomous driving, digitization, and electrification will continue to have a major impact on the automotive industry in the upcoming years with an impact on all company functions. The following Automotive trend radar illustrates in detail how different industry trends are influencing the automotive industry in the short and long term (Fig. 1).

Facing those changes, the European automotive industry has to take appropriate measures to defend its global technological leadership. A high focus is put on flexibility as well as on innovation as rapid progress in, for example, autonomous driving, big data analytics, and the Internet of things are creating new opportunities for innovative services, products and therefore business models. Today’s cars already resemble rolling computers on four wheels with their connected services

¹See Miller (2017).

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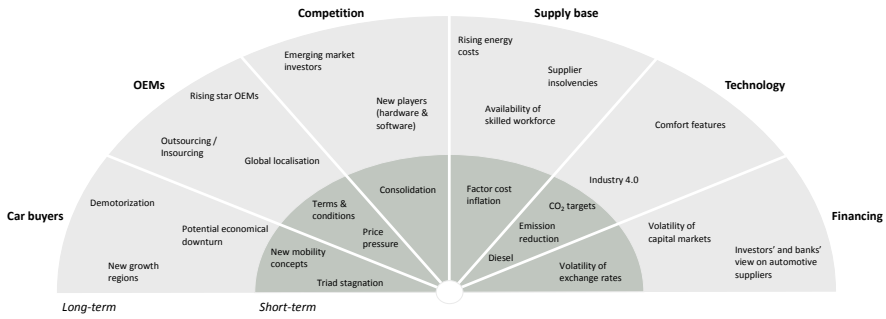


Fig. 1 Automotive industry trend radar (authors' own figure, based on Lazard/Roland Berger: Global Automotive Supplier Study 2018)

and driving assistants. Original equipment manufacturers (OEMs) have to transform themselves from “hardware” manufacturers into connected mobility solutions providers. As a consequence, present requirements for the workforce change. This article offers an overview and description of the top skills for purchasers of automotive OEMs facing the challenges as described. It is based on many discussions and expert interviews with HR experts as well as purchasing executives of leading automotive companies. This article was designed to answer the most crucial questions: What are overall trends which characterize the purchasing function 4.0? Which skills therefore do purchasers need in order to be successful in the presence and future? How does the qualification profile of a “well-rounded purchaser 4.0” look like to face the challenges of the increasing complexity of the industry? Which special requirements do purchasers need in China as important sourcing location for European OEMs?

2 Overall Trends: How Does Purchasing 4.0 Look Like?

There are five overall trends in terms of key challenges that automotive OEMs need to currently address. They directly or indirectly affect the purchasing function:

- Increasing complexity and cost pressure:** The overall complexity of the automotive industry has reached a historic peak. The worldwide increase in regulations with respect to environmental and safety standards such as in China and Europe will raise costs and at the same time increase complexity. Additionally, “the growing number of derivatives serving different vehicle segments and markets based on a single platform also raises complexity. At the same time, OEMs have to develop alternative powertrain technologies in order to lower emission” (McKinsey 2013, p. 9). This will require significant investment from all OEMs. Given all these different pressures in combination with a flat net price

development, it is more difficult for OEMs to differentiate themselves with new features while extracting economic value from these forces.

- *Digital demands*: Consumers worldwide ask for more connectivity and connected mobility services and ease of use. Customers more and more want to combine mobility with communication and entertainment. This is an opportunity for OEMs, but only if they can figure out how to earn money from this consumer desire.
- *Shifting industry landscape*: As OEMs have to develop alternative powertrain technologies, suppliers will likely provide more of the value-added content per car so that more innovation is shifted toward the suppliers. In addition, different stakeholder groups expect from OEMs to ensure that their suppliers’ production footprints—especially in emerging markets—match future market demands as well as their own production plans. All OEMs have to deal with emerging Chinese competitors entering new segments and markets and which have become serious players.
- *“Diverse sources of unpredictability*: The number of regions witnessing significant changes in their political landscape, rise in terrorism, social tensions, and interstate conflicts reflect a current worldwide instability. Having established a footprint across most major markets” (EY 2017), European OEMs are now being challenged by local volatilities, including stability of trade relations, access to raw materials, foreign exchange, and financial markets with an impact on the OEMs profitability.
- *Strategic partnerships*: As a consequence of the trends mentioned above, building up strategic and sustainable partnerships with external partners will play an increasing role for OEMs. “Coopetition”—a partnership based on cooperation with a competitor—becomes more and more common. The latest partnership between the BMW Group and Daimler on connected mobility services and autonomous driving is a recent example for this. Daimler and BMW are teaming up to develop autonomous driving technology to cut costs and set an industry standard that aims to shape future regulation for self-driving cars.

So what are the concrete consequences for the purchasing function of European automotive OEMs? Which transformation has taken place and how is the new role of purchasing defined?

3 The Transformed Role of Purchasing: Upskilling the Workforce

The purchasing function needs to source products and services which provide optimum customer value using the best possible cost structures. In order to achieve this, the purchasing function needs to gain access to supplier innovations, leverage company-wide synergies, and ensure an effective and efficient as well as secured supply chain. The purchasing function contributes to a high degree to an OEM’s

product quality and overall profitability. Below we have listed statements concerning the new role of the purchasing function which have been given recurrently in many of our conversations with purchasing executives. They describe the profound transformation process which is currently taking place:

- The *complexity* of the purchasing role is increasing and therefore a higher level of overall qualification is needed. Today's purchasers need skills that transcend functional mastery; they additionally need comprehensive social and functional skills across the whole value chain.
- Managing the *relationship with strategic partners and suppliers* becomes a more explicit dimension of a purchaser's job description. Fulfilling short-term as well as long-term objectives is a crucial balance act in the negotiating process and requires a high level of intuition, empathy, and long-term strategic thinking.
- Purchasers must be able to cope with *growing market volatility* and political and economic instabilities increase. Therefore, purchasers must be able to take decisions in an ambiguous and fast-changing environment and must be well informed about current determining factors such as geopolitics which influence the supply chain.
- The structure of the *supplier portfolio becomes more dynamic and diverse*. This affects the direct environment of the purchasing function as well as the whole global supply chain. Also, a higher focus is placed on sustainability issues. Hence, more interdisciplinary and intercultural skills are needed in a purchasing team.
- As more and more *innovations* are bought from suppliers, the purchasing function has to transform from pure "purchasing" to "managing partnerships." Purchasers must, therefore, better understand the suppliers' perspective and requirements in order to be able to develop integrative solutions for both sides. Innovative suppliers are seen as strategic partners which have an impact on the negotiating process and strategy.
- More and more *processes and procedures are digitalized* and artificial intelligence (AI) will more and more be able to fulfill selected purchasing tasks. Hence, administrative functions will decrease, and purchasers can more concentrate on strategic jobs such as joint product development with suppliers, identifying new supply markets, and synergy potentials. A purchaser will more and more act as an "ambassador" of a company which requires soft-skills like representing, convincing, conflict solving, and relationship building.
- Increased transparency of *relevant data and information* facilitates a fully automated information flow in the process chain. In order to make use of the huge potential, purchasers need more skills in data analytics.

These developments and the transformed role of purchasing make it necessary for OEMs to invest in "upskilling" of their purchasing workforce. So how can the different qualification requirements be identified systematically? Which skills will be needed in the presence and the future? And which mindset helps to cope with the current challenges?

4 Top Skills for Purchasers: Which Skill- and Mindset Is Needed?

Being able to master a broad transformation process always requires the right skill- and mindset. The workforce must be able *and* willing to transform from the former to a new role. Derived from the previously described transformed role of the purchasing function, purchasers more and more act as “intrapreneurs” with increasing degrees of autonomy and responsibility, and a broader perspective across different company functions. For example, when negotiating with suppliers they continuously have to look for the best overall solution for the company—both short term and long term—especially when entering a new strategic partnership with an innovative partner. They very often have to define their individual role and concrete tasks newly as in a digitalized environment there are hardly any blueprints on how to conduct the particular purchasing process. This requires the willingness to adapt, learn, and to understand the need for change. This of course does not happen overnight but requires a continuous learning process in which the following questions need to be asked—both by human resource management (HR Management) and the responsible purchasing executives: How future-proof is the current skill- and mindset of our purchasing team? In which areas do we especially need to invest in order to cope with the new requirements? Which competencies will become more important in the future, which ones will lose importance? What are effective and efficient ways for the workforce to acquire the new skills? Which additional skills for purchasers are needed in specific regions of major importance such as China? The following chapters reflect the major findings of our scientific research work and interviews with purchasing executives.

4.1 Strategic Approach to Identify Skill Needs: Which Are the “Future Hot Skills”?

No one learns skills such as data analytics, state-of-the-art negotiating methods or better communications or intercultural skills overnight. It takes time to qualify people or to hire new specialists from the external labor market and integrate them into the existing team and culture. Therefore, it is of major importance to strategically identify the company’s specific “future hot skills,” which should receive special attention as they are characterized by two dimensions:

- They will be of *high importance* in the next years
- and are *scarce* on the internal and external labor market.²

Different HR processes such as recruiting, development, qualification, and retention have to be involved to ensure that the “future hot skills” are available in a sufficient number and quality (Fig. 2).

²For detailed information about this approach and methodology see Weiß (2017b).

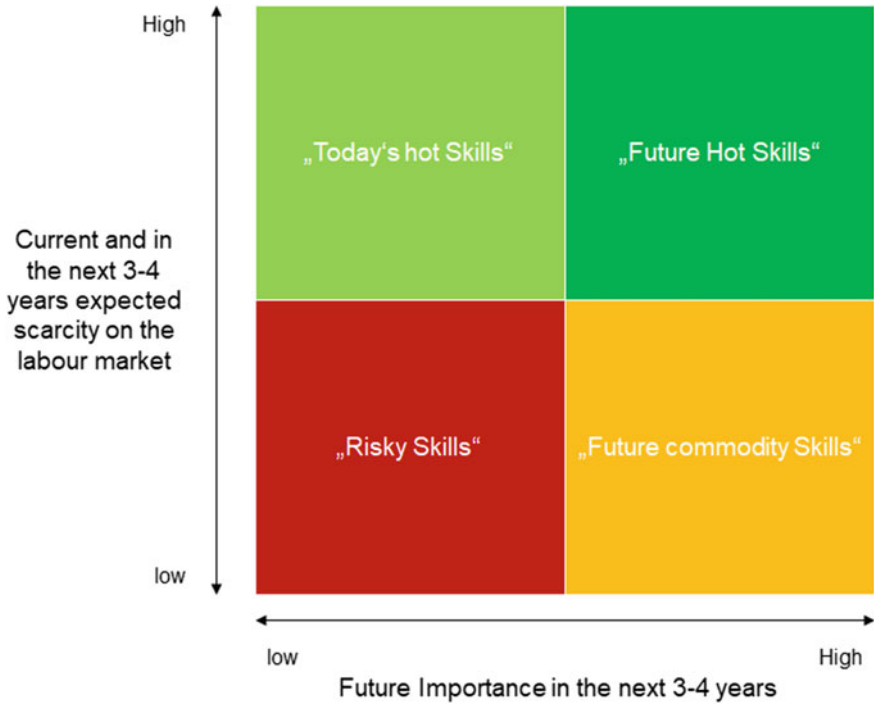


Fig. 2 Strategic competency matrix (authors' own figure)

This strategic skill analyses based on the competency matrix needs to be done individually by every company. However, certain trends seem to be applicable for the majority of OEMs. Our research has shown that for most companies, *specific digital skills* in

- Digital product development,
- Digital business
- Industry 4.0 or
- Advanced analytics

in *combination* with

- *Profound experience in purchasing*

represent “*future hot skills.*” Such skills combinations are highly requested in the new purchasing environment and at the same time relatively scarce.³ Administrative and repetitive purchasing tasks, however, can in the future be more and more

³For a detailed list of specific digital skills see Strack et al. (2017).

replaced by AI solutions and digitized processes. For those jobholders with “risky skills” new fields of application need to be found or they need to be “upskilled” for new tasks.

In addition to the “future hot skills,” we have analyzed in our research, which additional skills are needed in order to foster “well-rounded” qualification for purchasing tasks.

5 Successful Purchasers: How Does a “Well-Rounded” Qualification Profile Look like?

The characteristics of purchasing 4.0 with its increased complexity require more comprehensive and generalist qualification profiles of purchasers than ever before. Purchasers need a so-called T-shaped model of their qualification, which reflects *deep knowledge* in one area on the one hand and a *broad base of general supporting knowledge* on the other hand. Figure 3 gives an overview, which breadth of knowledge is desirable and should be part of the continuous qualification process for purchasers.

Referring to profound purchasing experience, Fig. 4 offers a broad overview, which specific skills and mindset are needed to complement the breadth of knowledge.

On the level of an individual purchaser, it is desirable to fulfill the majority of the requirements listed above. A diverse purchasing team is helpful to supplement individual skill gaps with skills from other team members. Or as Siemens CEO Joe Kaeser sees it: “*No one can be perfect. But a team can be.*” In this context,

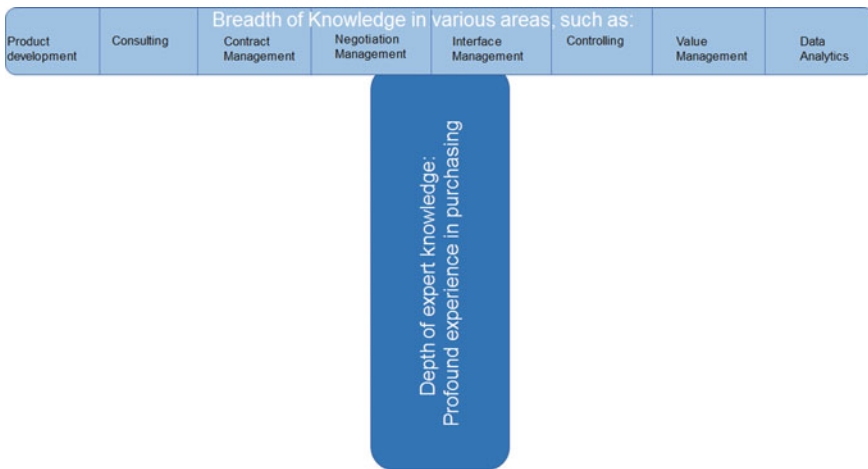


Fig. 3 T-shaped model of qualification: well-rounded qualification profile (authors’ own figure)

Skills	Mindset
<p>Functional</p> <ul style="list-style-type: none"> • Distinct technical skills which are equivalent to a developer • Technical assessment competence • Functional knowledge on supply chain management 	<ul style="list-style-type: none"> • High degree of responsibility • Self-reflection • Open-mindedness • Mental flexibility • Willingness to <ul style="list-style-type: none"> • be a multi-talent generalist • continuously learn and improve • travel
<p>Methodical</p> <ul style="list-style-type: none"> • Negotiation management and negotiation methods • Project- and time management • Thinking in alternatives • Strategic planning and planning in scenarios • Decision-making ability in ambiguous environments • Agile working methods • Creativity • Management of complexity • Handling of conflicts of objectives 	
<p>Social</p> <ul style="list-style-type: none"> • Networking skills, skills to build up sustainable relationships • Ability to work in interdisciplinary teams • Empathy & intuition • Cooperative negotiating skills • Communication skills • Intercultural and foreign language skills • Frustration tolerance 	

Fig. 4 Qualification profile purchaser 4.0 (table compiled by authors)

responsible managers must be well trained in diversity management and in forming and leading diverse teams as well as in fostering cooperation within the team.

China is one of the most important sourcing markets for automotive OEMs. So, which additional skills do purchasers need in order to master the specific challenges in China and to successfully work with Chinese partners?

6 Additional Skills Needed in China

Before we will elaborate on the specific skills needed in China, we would like to give a short overview on how the purchasing function in China looks like. In most Chinese companies, the purchasing function is still in its beginning, even in companies which have been active in international environments for several years. Purchasing functions as in European OEMs are mostly not existing in an equivalent way. Purchasers of Chinese OEMs often fulfill administrative tasks but are not responsible for strategically selecting suppliers, negotiating, or building up long-lasting relationships with partners. In China, usually, the developer in cooperation with the management team takes the decision which suppliers are selected. The strategic relevance of the purchasing function is currently not seen as high as in Europe but might change in the future.

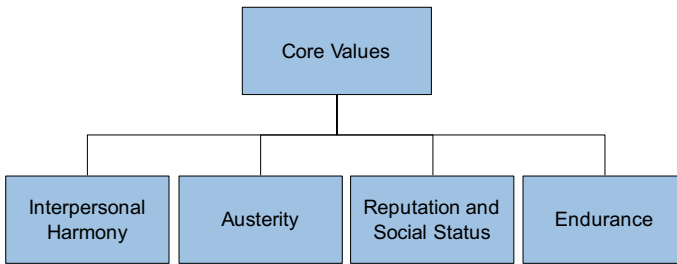


Fig. 5 Core values in the Chinese culture (authors’ own figure)

When dealing with Chinese business partners, it is crucial to understand the core values of the Chinese culture, which are derived from Chinese Confucianism and which strongly influence Chinese thinking and behavior.⁴ Knowing and understanding these core values is especially important for purchasers who aim to build up relationships with Chinese suppliers for the first time or who aim to build up sustainable and long-lasting strategic partnerships in areas of mutual specific interest such as battery cells (Fig. 5).

- *Interpersonal harmony*: Building up harmonious interpersonal relationships plays a major role in Chinese society. Only after having established a solid and harmonious relationship, Chinese are willing to offer loyalty and trust.
- *Austerity*: Due to economic and political instability in the past, generations of Chinese have learnt to save money and to manage their personal financial resources with a long-term orientation. This established core value influences Chinese behavior in price negotiations.
- *Reputation and social status*: Chinese children are trained from early age on to have a high reputation and to contribute to aim for a high social status in society. Therefore, ranks and titles play a major role in the Chinese business world.
- *Endurance*: Also, from early childhood on, Chinese are trained to work hard for their goals. Laziness and inactivity are frowned upon. Therefore, Chinese are trained to work with a high level of energy and persistency until they have reached their objectives.

A special element of the Chinese culture is the concept of “Guanxi.”⁵ Many China experts see *guanxi* as one of the most crucial success factors for doing business in China. Fundamentally “*guanxi* means building a network of mutually beneficial relationships which can be used for personal and business purposes. In this sense, *guanxi* is not so much different than the importance of having a strong network when doing business in any country. However, in China, *guanxi* plays a far more important role than it does in the West” (Business Insider 2011).

⁴For more details see Weiß (2017a), p. 101 seq.

⁵For more details see Weiß (2017a), p. 105 seq.

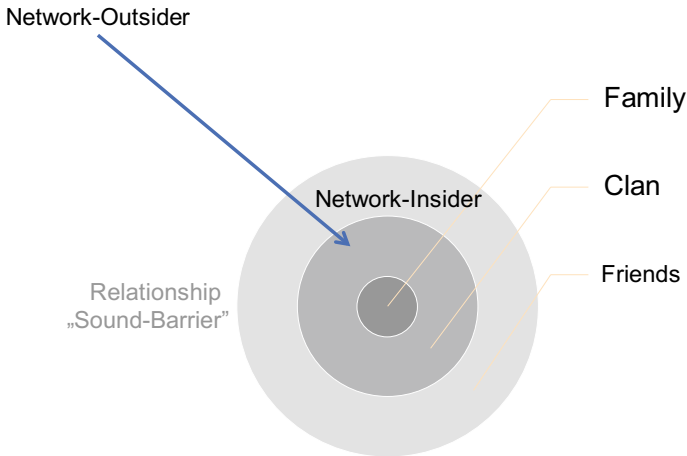


Fig. 6 Guanxi as success factor in China (authors' own figure)

Chinese clearly differentiate between “Network-Outsiders” and “Network-Insiders.” Family, clan, and friends represent the personal network of a Chinese person, and they are part of the personal “guanxi.” Only within this network, trustworthy relationships and cooperation are possible. The term “friend,” however, has a broader scope than in Western cultures. Everyone who breaks through the “relationship sound barrier” can be regarded as a friend. Therefore, repetitive activities outside the board room and office such as dinners and sharing time in the evening or week-end together are appropriate measures to become a business “friend” (Fig. 6).

So how can European purchasers prepare themselves for cooperating and negotiating with Chinese partners? What are special characteristics of the Chinese business culture? Which special skills are relevant?

- *Strategic relationship building and networking* in the sense of *guanxi* are crucial for finding the right Chinese partners. Investing in *guanxi* takes time but is a necessary investment for entering long-term and trustworthy relationships.
- Therefore, a *high level of interest* for the Chinese culture in combination with *distinct intercultural skills* is necessary for every purchaser in China. Personal relationship building often takes place *outside regular office hours*. Joint dinners and “socializing activities” help to better understand the Chinese partner and to build up trust. Relationships in the Chinese culture should be fostered on a *continuous and ongoing basis*, even if there is no current project.
- *Status and hierarchy* play a major role when negotiating with Chinese partners. Chinese want to negotiate only with partners on the same level. Titles and status symbols play a major role.
- Moreover, *language skills* are relevant. With many Chinese business partners, negotiation discussions cannot take place in English because the language skills of the Chinese counterparts are not sufficient. Consequently, it is recommendable

to have own team members who are able to translate during negotiations. As the Chinese language is highly ambiguous, translators must not only be able to speak the Chinese language fluently, they additionally need a profound functional knowledge about the negotiation topics in order to be able to translate adequately.

- When negotiating with Chinese partners, it is recommendable to aim at finding a win-win situation. The concept of “giving face” to the Chinese partners and avoiding “losing face” in negotiations is crucial for every negotiation and long-lasting relationship.⁶

7 Forecast: Do Not Forget the Culture

The complexity and dynamic of the purchasing role will remain high. Thus, the transformation of the purchasing function will continue in the next years. The nature of purchasing will become more and more a cooperation with suppliers at eye level with a strong focus on managing sustainable partnerships as well as mutual interests. The purchasing function will need to adapt quickly to new and continuously changing supplier portfolios and to cope with dynamic supplier structures. The digitalization of purchasing provides high data transparency and fully automated information flow within the value chain. Purchasers are more and more released from administrative work and must focus on added value data analytics or strategic evaluation. Companies should therefore continuously invest in “upskilling” and “reskilling” the purchasing workforce.

Not only skills but also the culture should be in the center of interest: We all know: “culture eats strategy for breakfast.” Managers should be willing to establish a culture in which purchasers have enough freedom for their decisions and are able to act as “intrapreneurs” within the company. Strongly hierarchical structures, however, work against the success of a modern purchaser who is able to successfully master the complex challenges of purchasing in the 4.0 environment. Therefore, an appropriate organizational and structural environment needs to be established to facilitate new ways of working together and to establish good conditions for lifelong learning.

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⁶For further details about cooperating with Chinese partners see Weiß and Weiß (2014) and Weiß (2017a).

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