

Future of Mobility 2020

The Automotive Industry in Upheaval?



Contents

The Automotive Industry in Crisis	1
Basic Framework for Mobility Tomorrow	3
Mobility Types in 2020 –The Mobility Consumers of the Future	5
New Challenges Force Transformation	9
From an Automotive to a Mobility Market: Future Business Models	11
The Agenda for the Automotive Industry	14

Authors:

Marc Winterhoff
Carsten Kahner
Christopher Ulrich
Philipp Saylor
Eike Wenzel

The Automotive Industry in Crisis

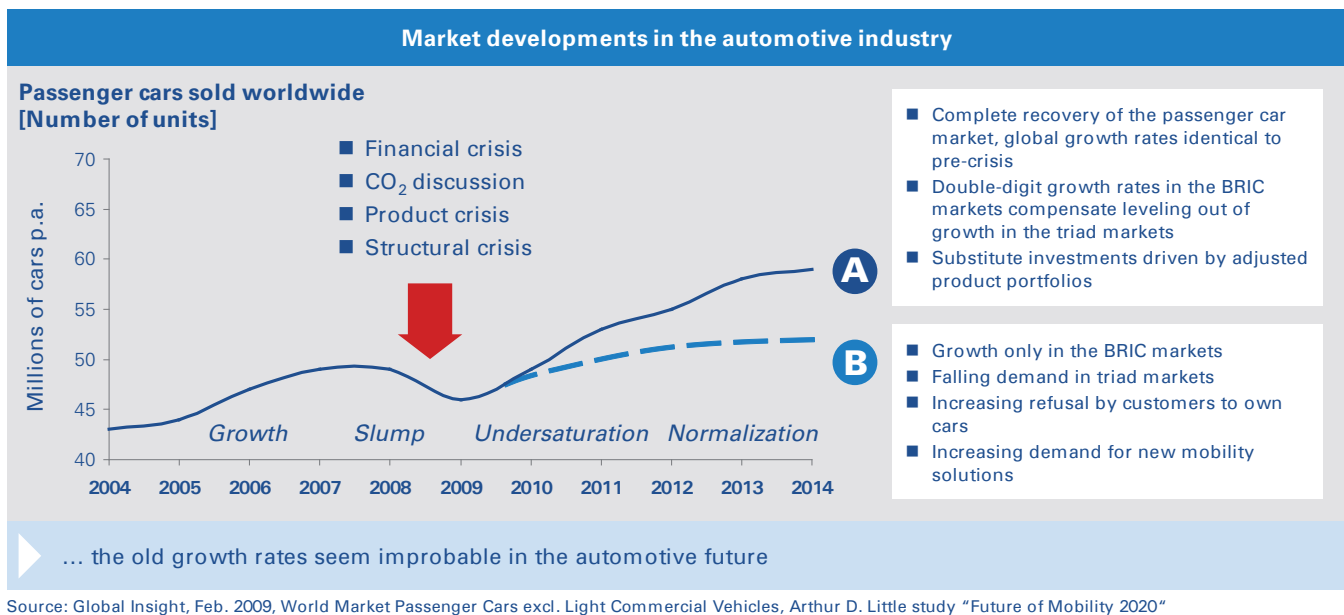
The automotive industry is caught in the middle of a crisis of a magnitude the industry has never seen before – an entire industry is paralyzed, in disagreement about whether the bottom of the crisis has already been reached or the market will continue to slip downhill. Over the short and medium term, the restructuring actions initiated now will help optimize cost structures, but will the long-term ability to compete be safeguarded? Will the automotive market return to its pre-crisis state or will new business models change the future of mobility?

Until now, the automotive industry has been predicting complete market recovery after riding out the current crisis. Although the industry has corrected its sales figures for 2009 by well over 8 million vehicles compared with October 2008 forecasts, it is nonetheless projected that the industry will weather the financial crisis in 2010 and the old growth rates will return. The main drivers cited are strong demand in the BRIC states and the

increasing market penetration of low consumption and emission power train technologies, such as hybrids or electrical drive trains.

However, from our perspective this overlooks the fact that although the financial crisis has expedited the massive collapse in sales, it was certainly not the sole cause. The fundamental change in customer demand has its roots in both the CO₂ debate and the price of oil, which steadily increased to record heights right up until the crisis broke. Both climate change and fossil fuels are two well-known megatrends with global impact that had not attracted much attention from the automotive industry before that time. However, in the blink of an eye in the course of automotive history, these factors irreversibly changed customer behavior, leading to a noticeable weakening of the market and considerable segment shifts from big, luxurious vehicles to smaller ones with efficient consumption. Even the rock-bottom oil price of below US \$50, caused by the crisis,

Figure 1: Scenarios of worldwide automotive sales



does not provide any sustainable relief, since a long-term oil price below US \$150 per barrel is probably unrealistic.

For Arthur D. Little, a number of fundamental questions arise: What long-term trends will influence the market beyond the current cyclical fluctuations? How will these affect the future automotive market quantitatively and qualitatively? Is there any growth potential at all in the passenger car market or must the entire industry adapt to market stagnation or even sustained declines in sales in the future? What would this mean for the automotive industry, and what strategies should today's automakers apply in order to react to this scenario?

The dynamics of customer behavior have surprised both the automotive industry and experts. To set a strategic course forward at this juncture, it is necessary to recognize the larger social trends that will have an impact on automotive sales over the long term. This way manufacturers can properly anticipate their effect on consumer demand and respond with the right products and services for the 2020 automotive customer.

Given this situation, in collaboration with the Zukunftsinstitut, a German trend research agency, Arthur D. Little has drafted the global study "Future of Mobility 2020," in which long-term trends are analyzed to predict profiles of the types of mobility customers in the car industry can expect in the next decade. Based on these – to some extent completely new – mobility requirements, the effects on the automotive market and the business models within the automotive industry are analyzed and possible strategies for market actors outlined.

Basic Framework for Mobility Tomorrow

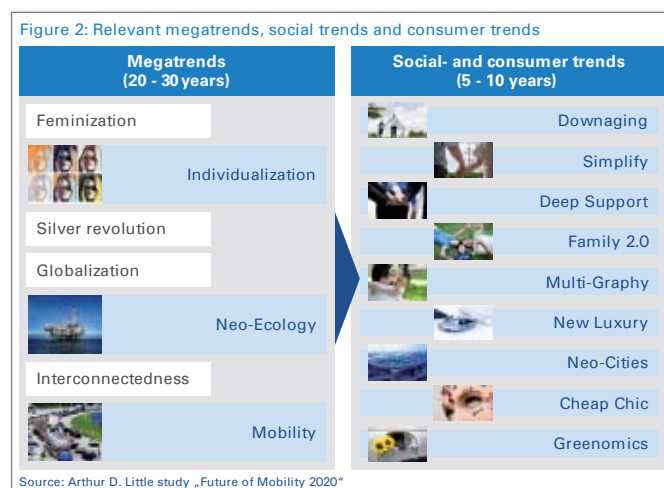
What are the drivers of change in mobility requirements, and what are the root causes? Jointly with the Zukunftsinstitut, Arthur D. Little has conducted an extensive analysis of megatrends and the resulting societal and consumer trends. In this context, **megatrends** are global factors that constitute the basic conditions for all areas of the economy and society for a timeframe of 30-50 years. Three megatrends identified in the research are particularly relevant to the topic of mobility:

Neo-Ecology, which originated in the environmental movements of the 1980s, is today perceived as a societal responsibility, both at the individual and company level (e.g. "Corporate Social Responsibility"). The skyrocketing oil price and the growing environmental awareness of the effects of CO₂ emissions once again have enormously accelerated this megatrend. For almost all industries, products that were developed in ignorance of this trend are hardly even marketable today.

The megatrend **Individualization** describes the consumer's disengagement from mass movements. Increasingly, traditional life patterns are being abandoned, and across all social strata, the customer is relishing being non-conformist. For example, a successful entrepreneur can drive a subcompact irregardless of its status symbol, while a student, on the other hand, is equally as likely to favor a dependable family station wagon. The customer increasingly expects mobility solutions adapted to his own personal attitude to life, in terms of both personalizable car concepts and innovative modular or individual mobility concepts that move beyond the automobile.

Mobility, the third pivotal megatrend, describes the strong quantitative growth in mobility over the last 30 years. In the 1960s and 1970s in the triad markets (Japan, North America and Western Europe), the mobility radius of individuals expanded significantly; the BRIC markets (Brazil, Russia, India, China) followed with some time lag. Limitations on or harmful effects of mobility, such as the volume of traffic and CO₂ emissions, were only reflected in society much later. At this point, innovative car concepts alone are only partially able to cover individuals' increased mobility requirements. What will be crucial here is the optimal integration of vehicle-linked mobility with other mobility forms.

Alongside the megatrends, societal and consumer trends affect demand and consumers' buying behavior, typically with a time horizon of five to ten years. In our study, we identified nine topical societal and consumer trends which will influence the demand for mobility in the upcoming years.



Among the trends identified, **Downaging** is shaping the image of society in a particularly lasting way. As baby-boomers near retirement, our society is irreversibly getting older all the time, but at the same time we feel continuously younger. The majority of those over 60, and with high buying power (a steadily growing demographic), associate the third phase of life with a departure into a new and active life. Thus, mobility as an instrument of interconnectedness increasingly becomes a central component in structuring one's markedly active and diverse day-to-day life.

Another societal trend with a significant influence on consumer behavior is a new appreciation of luxury, increasingly associated with young, well-educated consumer groups with high buying power. Complementary to our traditional understanding of luxury, the **New Luxury** is defined by having time of one's own, the authority to decide when and how one deploys that time, and active experiences. Meanwhile, luxury solely for purposes of presentation or prestige is becoming less important.

Cheap Chic, is a consumer trend with its roots in the broad emergence of design and style in all areas of life. Whereas just a few years ago the characterization “design” unambiguously indicated a premium product, customers’ demand for design has recently diffused into all price segments. The customer who is looking for either premium or discount has become little more than a marginal phenomenon. Instead, consumers’ emancipation proceeds onwards, as they develop into the new customer-kind through individualization, globalization and internet research. To the cheap chic, “either / or” is an outdated concept as they are consuming in an ambivalent and hybrid way: today discount groceries, tomorrow specialty foods.

Simplify describes the consumer wish for purity and simplicity in high-tech surroundings. Technological innovation continues to remain one of the most specious buying arguments, but the customer is expecting simple and intuitive access to complex technologies and services. To a significant extent, the demand for austere and reduced (down-sized) products is indebted to this consumer trend.

Deep Support describes a similar consumer wish which is emerging. The support segment is about placing the consumer, not the product, at its focus. In an increasingly complex social environment, consumers are constantly looking for integrated support in multifaceted tasks and to answer questions from daily life related to mobility, finance, culture, and learning.

The increasing complexity of life, and the growing degree of interconnectedness and interactivity have also influenced family life enormously. **Family 2.0** stands for a new form of living together that transcends the traditional father – mother – child unit. Nowadays, the family is perceived as an association spanning the generations, made up of actual family and a network of friends, taking place in various locations among former partners, friends, grandparents and children. Interconnectedness through mobility is an obligatory prerequisite for this construct.

The consumer trend **Multi-Graphy** is often the cause of complex family networks. The era of three-phased life planning is over. In the future, life models will be subject to several phases of learning, partnership and family. How one designs one’s life is

becoming ever more individual. In tomorrow’s world, we will be compelled to deal with even greater changes to our life plans at ever shorter intervals.

The **Neo-Cities** societal trend is driven by increasing urbanization and the Neo-Ecology megatrend. Green metropolises and zero-emission cities are the urban designs of the future. Car concepts need to find a new positioning within these environments – more sustainable, smarter and designed to meet individuals’ requirements.

The societal trend **Greenomics** has developed the greatest dynamic in recent months, vastly accelerated by both the CO₂ debate and the financial crisis. Besides feeling a societal responsibility for our environment and turning away from exclusively profit-maximizing forms of economic activity, individuals are increasingly recognizing the role pleasure and health activities play in a holistic lifestyle. On the basis of the Greenomics trend, a mass movement is growing amongst customers who are looking for an intelligent balance between sustainability and enjoyment, pleasure and health, consumption and social responsibility.

Mobility Types in 2020 – The Mobility Consumers of the Future

Driven by both the megatrends and the resulting societal and consumer trends, we propose a framework for understanding consumers’ mobility preferences in 2020: so-called mobility types. As a complement to classic market research tools (such as modelling customer types using sigma milieus), the mobility types identified in this report serve to improve our understanding of customers, particularly in terms of tomorrow’s mobility requirements. The range of mobility requirements are shown using lifestyles in the context of their sociological environment. Seven mobility types have been identified for the triad markets: Greenovators, Family Cruisers, Silver Drivers, High-Frequency Commuters, Global Jet Setters, Sensation Seekers and Low-End Users. (Fig. 3)

Greenovators

Probably the most dominant mobility type for the triad markets is represented by the Greenovator. In 2020, they will make up just under 30% of the total automotive market in the triad markets. Greenovators directly link environmental awareness and a sustainable lifestyle with their quality of life. Restraint in consumption and luxury constitutes an essential component of their understanding of culture and life – obviously with conse-

quences for mobility consumption. Greenovators are primarily interested in intelligent, sustainable, and to some extent even ascetic car concepts. They define themselves vis-à-vis their sociological surroundings, not least through the deployment of sustainable products, thus interpreting automotive prestige in a new way. The demands that Greenovators pose to mobility products and services will be more complex. Greenovators want integrated ecological mobility concepts that are oriented towards their own personal well-being and the good of society.

Family Cruisers

The family life of Family Cruisers takes place in an ever more fragmentary way. In the future, modern lifestyles in particular will be characterized by a significantly increased mobility effort. Family Cruisers organize their families’ leisure time in a way that is reminiscent of the logistics department of a parcel service or of entertainment organized for tourists – we are constantly being “transported” to an experience. The new definition of the concept of family as a “network of many” entails new mobility requirements, means of transport, and vehicle functions. Family Cruisers make one thing particularly clear: “Family 2.0” puts new demands on the household’s mobility requirements,

Figure 3: Mobility types of the triad and BRIC markets

Mobile Lifestyles 2020 – Triad Markets		BRIC Markets		
Greenovators	<ul style="list-style-type: none"> Reflection of the socio-ecological consequences of mobility Demand for innovative and sustainable solutions 	+	Basic	<ul style="list-style-type: none"> Basic mobility Demand for simple and affordable products Preference for nationally produced products
Family Cruisers	<ul style="list-style-type: none"> Increasing demand for mobility in an increasingly fragmented network of family and friends 		Smart Basic	<ul style="list-style-type: none"> Affordable middle-class products Possibility for individualization
Silver Drivers	<ul style="list-style-type: none"> Proactive in the third phase of life Experienced with products, high quality awareness 		Premium	<ul style="list-style-type: none"> Status, prestige, comfort Differentiation as winners
High-Frequency Commuters	<ul style="list-style-type: none"> Daily life characterized by high frequency of mobility Mobility predominant in tomorrow’s megacities 			
Global Jet Setters	<ul style="list-style-type: none"> Global mobility requirement as prerequisite for the job Demand for exclusive premium support 			
Sensation Seekers	<ul style="list-style-type: none"> Mobility as a symbol of leisure time, fun and lifestyle, status and prestige 			
Low-End Mobility	<ul style="list-style-type: none"> Limited mobility budgets, need for affordable mobility solutions Willingness to downgrade mobility 			

Source: Arthur D. Little study „Future of Mobility 2020“

sometimes as varied as their members. Requirements are becoming more individual; new family forms also pose new requirements to community mobility. Family Cruisers' mobility behavior can be explained by an explosion of needs from everyone involved, resulting from the desire to balance career, partnerships, child rearing and one's own individual personality development.

Silver Drivers

Silver Drivers are a new generation of older people who will become increasingly important as a target group in the future mobility markets. Silver Drivers like to consume, are mobile, have a wide variety of interests and are extremely active in their leisure life. Silver Drivers are not only well-off; they are first and foremost ready to spend their money rather than save it. Their battle cry is: "Anyone who saves is just starving themselves for their heirs," and they stimulate consumption – precisely on the mobility markets. As mobility concepts, Silver Drivers tend predominantly to choose vehicles that meet their comfort requirements, but no longer superficially package them in the form of respectable senior citizens' sedans.

High-Frequency Commuters

High-frequency mobility will continue through 2020 to be a sign of growth and good business. Being en route means being in business, taking part in global prosperity. High-Frequency Commuters are extremely mobile job nomads who are constantly on their way to customers, business partners and temporary projects. Network-type concepts, which combine several mobility services in an intelligent way are required to meet High-Frequency Commuters' needs. With the help of modern digital networking possibilities, High-Frequency Commuters will be able to organize themselves in carpools more spontaneously and at shorter notice and develop a high affinity towards car-sharing and short-term rental car offers. The tendency in the future will be for the car to take on a complementary role for High-Frequency Commuters, focussing on the flaws of the public transport system. Primarily in regions with high population density, the car will be accorded an even more central function for commuter traffic.

Global Jet Setters

Global Jet Setters are people who are regularly en route – quite frequently several times a week – between the major cities of the world. Being constantly in transit is not an exceptional situation for the Global Jet Setter; it's the general rule. As naturally as others travel to work in the morning by getting into their car or taking the subway, Global Jet Setters jump on planes. For suburban mobility, however, they too cannot get by without car solutions. Being in transit on an ongoing basis intensifies Global Jet Setters' wish to arrive somewhere, to feel at home and find tranquillity. Modes of transport have to satisfy what Global Jet Setters demand from a "third place": places where one feels at ease and can be productive, where one can connect the practical with the pleasing. Meeting people, keeping in touch with contacts, coming up with ideas, learning, and being creative – all this is becoming ever more important for Global Jet Setters when travelling. Therefore, means of transport must fulfil the functions of a personal workstation, as well as the desires for privacy, familiarity and intimacy.

Sensation Seekers

In the long term, "fun while driving" will not just be a nostalgic feeling; for many consumers the car experience will continue to be an element of a modern lifestyle. In 2020, too, there will be people who like to drive ("car guys") and are ready to pay for it. For Sensation Seekers, cars are the ultimate objects of experience and in the future will link driving with attributes like freedom, fun and pleasure. To fulfil Sensation Seekers' wishes and needs, future concepts should consider cars ever more strongly as third places: as refuges between job and home, in which the driver is happy to stay, feels good, enjoys life, but can also spend time sensibly. For Sensation Seekers, cars express their attitude towards life. Cars also need to offer Sensation Seekers a sensory experience, fulfilling social functions. The 2020 car experience should be an extension of office and living room, making use of multimedia networking and include maximum safety.

Low-End Users

The Low-End User is the hard reality of the 2020 car market who will decisively turn mobility markets upside down. In the future, a significant segment of affluent societies in the West will no longer be able to afford individual mobility to the extent that they now do. Rising fuel prices are making mobility ever more expensive. In addition, there are increasing financial burdens through taxes and charges on gas consumption and CO₂ emissions. An increasing number of major cities across the globe will take projects like the Congestion Charge in London as guidance and implement similar programs. These are the basic costs that will determine the modern mobility consumer's future mobility behavior. The disagreeable threat of having to forgo individual mobility drives a growing demand for efficient, inexpensive mobility solutions. (Fig. 4)

Basic, Smart Basic and Premium – the mobility types of the BRIC markets

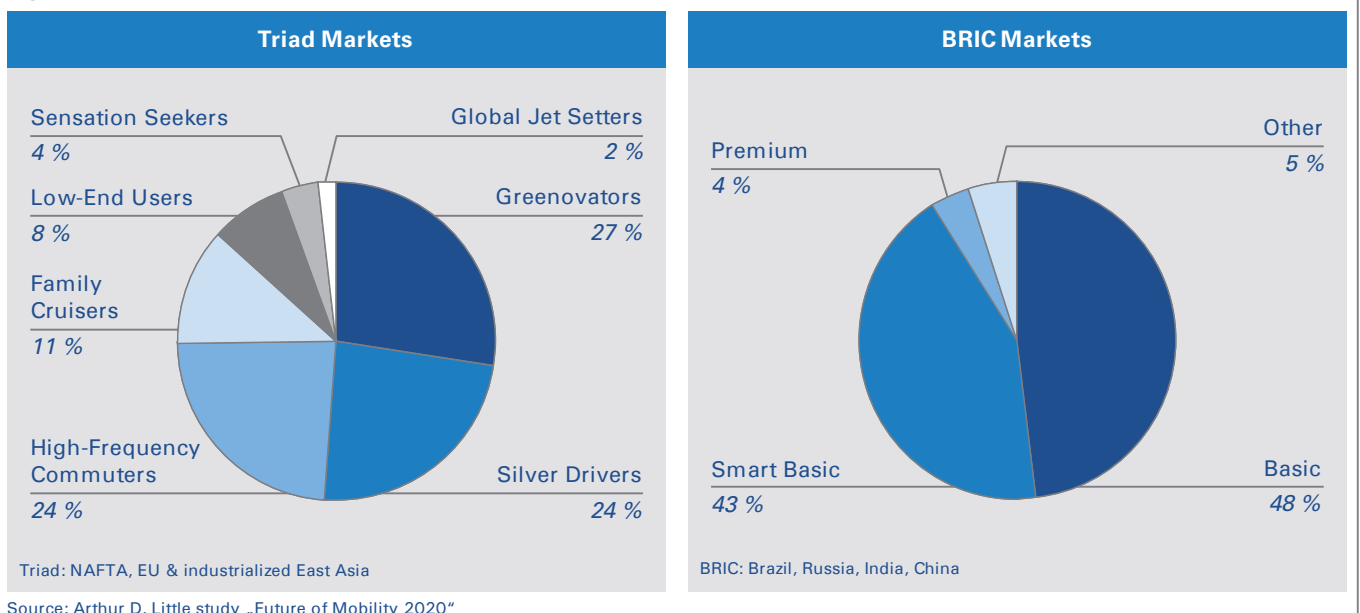
The mobility types of the seven developed markets have developed out of the basic sociocultural conditions of our society and have built upon the car market that has existed for several decades and is close to saturation point. On the other

hand, for the majority of consumers in the BRIC markets, the accessibility of individual mobility is far from a matter of course. Hence, the status symbolism associated with owning an automobile is still much more pronounced than in saturated markets. Different structures of assets and liabilities and a different cultural and societal background thus bring about fundamentally different basic conditions for the development of mobility types in the BRIC markets by 2020.

Basic

In the BRIC markets, the Basic customer is a segment developing alongside the aspiring middle classes of the emerging markets and constitutes the largest customer segment (Fig. 4). The category can be defined using income levels though not across countries. In Russia, for instance, customers can afford a car of their own starting at a monthly income of approx. US \$1,000, which means that in the year 2010 there would be approx. 45 million potential customers. In India, on the other hand, annual per capita income is a mere US \$700 and only 8 out of 1,000 Indians own a car.

Figure 4: Distribution of the mobility market across mobility types



Source: Arthur D. Little study „Future of Mobility 2020“

However, across the BRIC Basic customers, mobility requirements are very similar. Their mobility consumption is primarily about eliminating a shortage of autonomy and opening up a larger radius. Until now, the newcomers' life and work took place close to the family and in local communities. Negotiating greater distances was usually done with public or cargo transport. For many, however, their first form of autonomous motorized locomotion will not be a car. The BRIC middle class is shifting away from two-wheelers to cars, primarily because they want to fulfil their requirement for more cargo space and to rely less on weather conditions.

Automotive manufacturers who want to succeed in the mass markets of the future must offer extremely economical and cost-effective vehicles with alternative drive mechanisms. The evolutionary pressure on the "automotive" system is even more intensified by Asia's mass populations. Modern technologies will possibly be much more successful at penetrating the megacities of Asia. It is not unlikely that electric cars, for instance, will be driven in even greater quantities in Asian megacities like Calcutta than in London or Berlin.

Smart Basic

By 2015, after the global middle class has reached a basic supply of mobility, consumers' mobility demands in the quickly growing economies will expand. With economic advancement, comfort aspects gain in significance for the Smart Basic. Their consumer behavior makes an essential contribution to market pluralization and further drives the decline of the triad as lead markets for the automotive industry. The accelerated pace in which consumer requirements change in emerging economies can also be seen in an environmental context, as they are likely to respond to climate change more quickly than was the case in the triad markets. This is particularly relevant for the residents of the megacities in Asia and Latin America, as they are most directly affected by traffic-related environmental pollution.

Their strong economic position will make it possible for Smart Basics to fulfil their mobility desires beyond mere pragmatism, by also addressing less material wishes for the first time. This can be seen with the Smart Basic type: already, "green think-

ing" is not just the privilege of affluent western societies, but in the medium term is making its way into the global middle class as well.

Premium

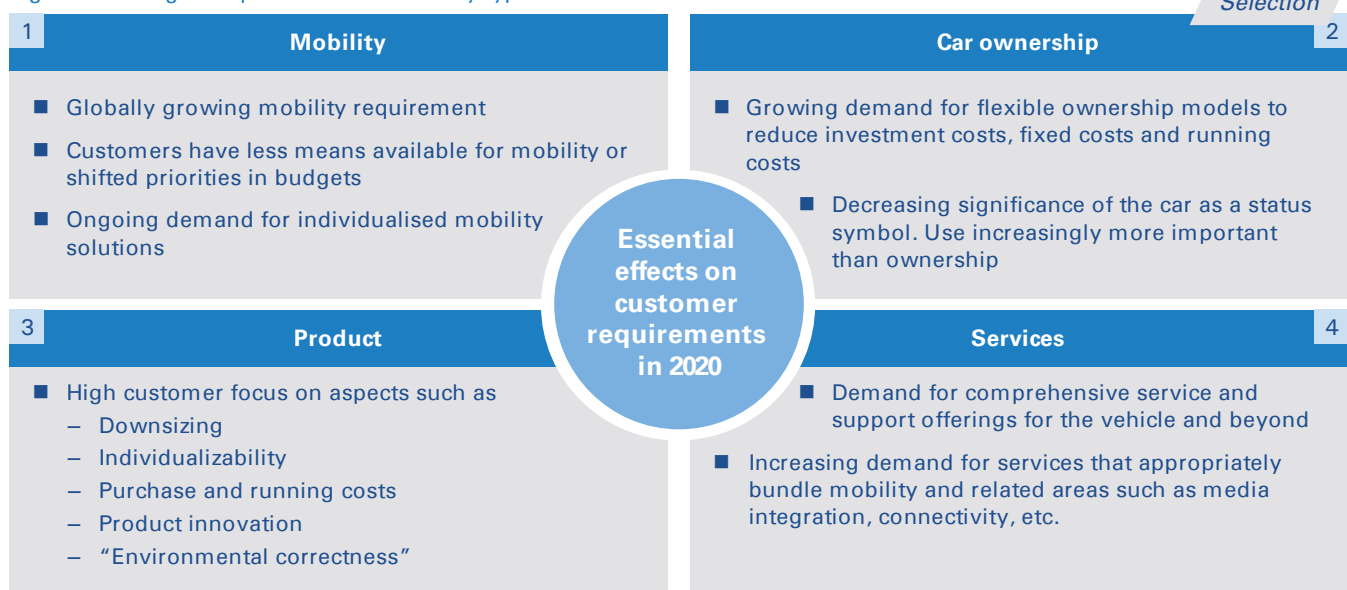
The Premium customer of the BRIC markets is far from the Basic and Smart Basic customer segments. For this customer, the classic appreciation of status symbolism transported by luxurious and predominantly western vehicles will continue to take precedence over issues like sustainability or cost efficiency. For the automotive industry, this will also be a customer segment with attractive margins in the future; in terms of sales figures, however, it will remain a comparatively small market in the overall view.

New Challenges Force Transformation

The analysis of mobility types shows that customers' requirement profiles are shifting: sustainability, individuality and an optimized cost position are increasingly prominent amongst most customer groups, while luxury, size and engine performance remain important evaluation criteria for only a smaller customer segment. In car development, automotive manufacturers are confronted with the specific challenge of balancing their innovation capacities, and the enormously expensive investment towards sustainable vehicle design. Sustainable vehicle concepts need to be "shouldered", while the customer is expecting a product portfolio from automakers that caters to their shrinking budgets in terms of both purchase price and running costs. As a consequence, manufacturers are currently plunging into this fiercely competitive and shrinking market segment and cannibalizing each others' profits through a price war. The ambivalence towards increasing development and manufacturing costs and declining or stagnating market volume puts the profitability of existing business models at risk. (Fig. 5)

However, there are ways out of a market environment with declining margins and crowded competition. For instance, a review of the IT industry of the mid-1990s paints a similar picture of stagnation and excess supply driving hardware manufacturers like IBM, Compaq and Hewlett-Packard into ruinous price wars and led to a drastic decline in margins. The dominant business model of pure product manufacturing was challenged, and in response, the sector's leading companies developed a range of business model innovations. While Dell continued to position itself as a pure hardware manufacturer, but with revolutionized distribution and production processes, IBM gradually turned away from producing products and re-invented itself as a service company. Apple supplemented its business model, based on premium computers, with additional product areas such as the MP3 Player (iPod), the Smartphone (iPhone) and most notably with service-based sales from iTunes. The realization of a multi-revenue business model can currently be observed in the mobile telephone industry as well. Apple, a new competitor in this industry, demonstrated to the competition how various sales streams can be generated from applications, media and services via a product.

Figure 5: Changed requirements of mobility types 2020



Source: Arthur D. Little study „Future of Mobility 2020“

Even Nokia, the clear market leader, which until recently was completely product-oriented, is now following this example against the backdrop of market stagnation. It has set up a comparable internet portal to gain a share of the attractive service business. Even in emerging markets, which had until now been the basis for product-based growth plans, Nokia has recognized the necessity of offering additional relevant services besides hardware to fulfil customer requirements.

Can similar trends be observed in the automotive markets? A look at the Japanese automotive market shows that the younger customer segments there are turning away from the very concept of owning a car.

First signs on the automotive market: “Kuruma Banare” in Japan

In Japan today, there is a decreasing significance of owning one's own car, a trend the Japanese call “Kuruma Banare”, simply translated “demotorization”. Cars are losing their role as status symbols in favor of Smartphones, Netbooks, or the next new pocket-sized mobile device. Following this trend, the car industry is forging new paths to market mobility and generate new revenue streams. The use of car-sharing has tripled in the past year; in this context, even OEMs like Toyota and Mazda are starting pilot projects strongly sponsored by the state. For Toyota, the M2M communication / telematics business area is a growing area for new services – and thus new profit streams – during the car ownership cycle around the areas of safety, comfort (navigation, media-on-demand, connectivity) and sustainability. In addition, Toyota is investing in the robotics sector in the hope of offering completely new product concepts for short-haul mobility within cities, some of which could even work together with public transportation. Given current market pressure, some Japanese manufacturers are going further. Strategists at Nissan, for instance, are discussing whether the corporation should concentrate on development, design and marketing, and contract production out to contract manufacturers in low-cost countries.

From an Automotive to a Mobility Market: Future Business Models

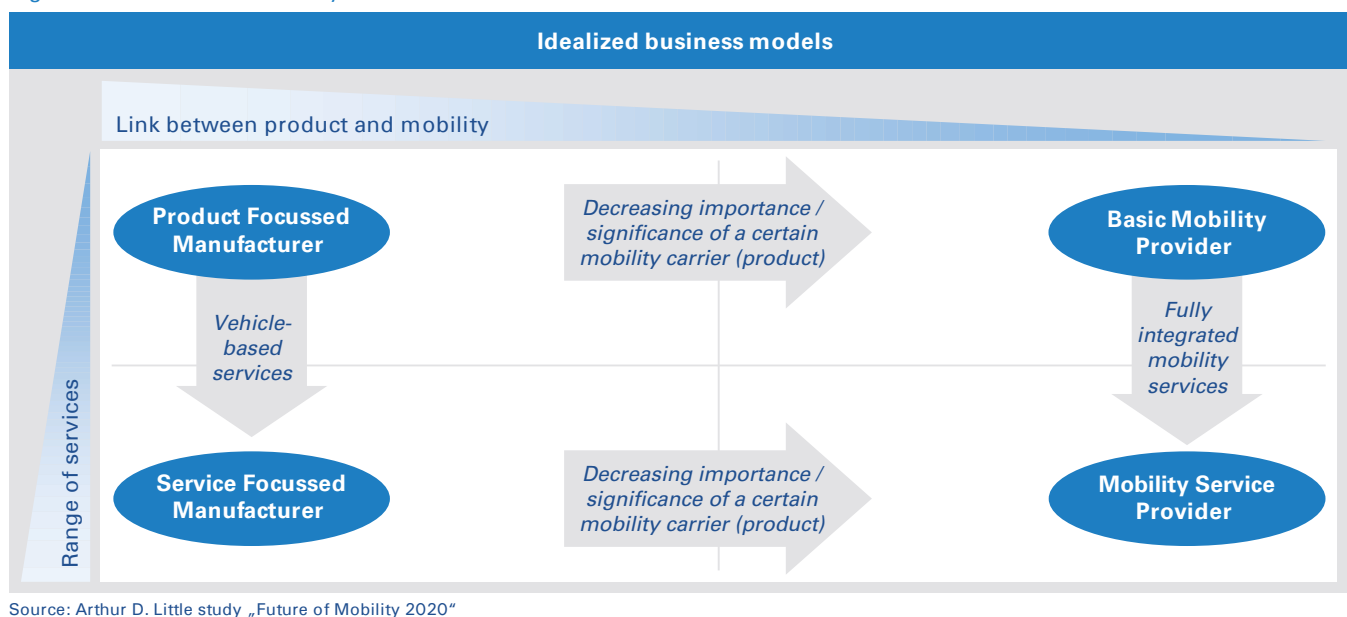
The “Future of Mobility 2020” study shows there is an acute need for action. In the future, customers will be less willing to invest money in mobility; in addition, their willingness to commit to a product over a long period will decline. At the same time, their mobility, sustainability and innovation requirements are set to increase. In this field of conflicting priorities, it will only be possible for a few automotive manufacturers to continue to attain the necessary margins with pure product-related sales streams. (Fig. 6)

The automotive industry is confronted with the challenge of putting its established business model to the test and finding innovative new ways to secure sustainable margins and to fulfil future mobility requirements. Arthur D. Little has developed a model for the future development of the automotive market, or rather its transformation from an automotive to a mobility market. The portfolio for possible business models in the mobility market of 2020, ranges between the two axes of “range of services” and “link between product and mobility,” generating four characteristic business models.

The first axis, “range of services,” describes the scope of services that expand on the basic mobility offering with further mobility, convenience and lifestyle services in appropriate form. The services here are either directly connected with mobility (e.g. traffic or parking guidance systems), or otherwise overarching services which the customer can use during the actual mobility time (e.g. online shopping, office support, etc.).

The second axis, “link between product and mobility,” represents how the provision of mobility is necessarily linked to a certain product. One extreme is physical ownership of a car, while the other is complete rejection of owning one’s own car.

Figure 6: Model of the Mobility Market in 2020



Source: Arthur D. Little study „Future of Mobility 2020“

Idealized business models in the mobility market in 2020

The four idealized business models we outline for the 2020 mobility market represent extreme points in the market model. While in the future, automotive manufacturers can position themselves in accordance with these idealized business models, they are more probable and just as likely to succeed with mixed forms that are close to the ideal types or that link them.

The **Product Focussed Manufacturer (PFM)** is the business model with the greatest closeness to today's automotive manufacturers in terms of content and structure. Their core competence is in product and manufacturing technology, and they are known for technological excellence. Technology leadership is typically recognizable here in all areas, from engine performance to lightweight construction concepts. The PFM's particular manufacturing competence differentiates it from other business models and fulfils the precondition of producing simultaneous, cost-effective, qualitatively high-value products.

Technology excellence thus caters to a range of mobility types, although with completely different products. This means you are still likely to attract classical technology enthusiasts and comfort lovers who are prepared to buy high-priced products such as Sensation Seekers or Silver Drivers. But Greenovators too are intrigued by innovative, primarily sustainable technologies. The Low-End User, on the other hand, is interested in entry-level models.

Because the Product Focused Manufacturer's main income stream is primarily attained by selling physical products, in the future it will primarily be premium vendors who are able to hold their own in this niche. Alternatively, a few volume manufacturers with a leading market position, sufficient margins, and optimal cost positions could lead amongst PFMs. An example of this positioning could be Porsche for the premium sector or Tata for the low-end sector, provided that the Nano's extreme price positioning can really be achieved in a profitable manner.

The **Service Focussed Manufacturer (SFM)** provides mobility in the same way as the Product Focussed Manufacturer (PFM) through a strong attachment to the core product: the automobile. An important distinguishing criterion between SFMs and PFMs is the former's scaled-back, moderate technology dominance. SFMs concentrate their resources on reproducing existing technology in the second generation with a low share of product-oriented innovation of their own. Manufacturing areas beyond their strategic competence are outsourced so that they chiefly take on the function of system integrator in the value chain. However, the SFMs expand their service portfolio with a comprehensive offering around the core product and services in related areas. The vehicle is the platform and the "enabler" for a range of services that are actively marketed to the customer throughout the cycle of ownership. The SFM represents the comfortable and central interface for all questions and services for the customer that involve the product ("one-stop shopping").

This business model specifically addresses those customers who still want to acquire their individual mobility by means of a certain product, but are demanding a comprehensive portfolio of services as well. Product individuality on the one hand and the range of services on the other lead to an upscale price level, interesting for those mobility types that spend a particularly great amount of time in their cars or who don't want to deal with the topic of mobility except for the actual time spent driving. Thus, predestined customer groups include Global Jet Setters, Family Cruisers and High-Frequency Commuters.

Similar to Apple in the computer industry, the Service Focussed Manufacturer develops a unique selling proposition through design and individuality, with a comprehensive service that allows the business revenue generating opportunities across the entire customer lifecycle, but with a very low depth of added value. The close integration of hardware and software is crucial for success: on the one hand it enables seamless, easy-to-use customer experience, on the other it helps build up switching barriers by creating ever stronger attachment to the system.

The **Basic Mobility Provider (BMP)** uncouples mobility from car ownership in order to optimally fulfil his customers' requirements. Mobility no longer means automobility by default; the only thing that counts is efficient and inexpensive transport. A car represents merely one building block in a holistic mobility concept that the customer can configure individually. The automobility share is covered by a standard car, while other mobility building blocks can be handled using public and non-individual means of transport. The standard car is less advanced in terms of technological criteria (drive train technology, comfort, safety) compared to other OEMs' vehicles; the focus is primarily on practicability and cost efficiency. Electrical power systems, for instance, would therefore be appropriate drive concepts. Basic Mobility Providers offer mobility without having to produce the cars themselves. Together with Mobility Service Providers (MSP), the Basic Mobility Provider is undergoing the most sustainable and significant change vis-à-vis OEMs' current business models.

Such a concept speaks to differing customer groups. Through "shared mobility", the customer has de facto lower total cost than for car ownership. Depending on their usage, they will have significantly lower costs with a pay-by-use approach than with complete car financing. In addition, the cost structure is flexible for the customer, i.e. he can directly reduce his monthly expenses by forgoing mobility if personal constraints compel him or motivate him to do so. Thus, in the first instance the Low-End User is addressed. Typical representatives of this business model are car-sharing providers like Zip-Car, DB Carsharing and Mobility in Switzerland, who have seen huge growth to their customer bases in recent years. In the process, the concept of car-sharing is undergoing transformation through new usage concepts like Car2go from Daimler or Flinkster from DB Carsharing – from a niche offering for "starry-eyed idealists" to an attractive, easy-to-use alternative for urban mobility. The "betterplace" concept from Shai Agassi, former SAP board member, also originates in the Basic Mobility Provider business model. With betterplace, Agassi wants to create an infrastructure for emission-free mobility, explicitly without becoming an automotive manufacturer in the process. The cars are intended to be produced and distributed by cooperation partners, such as Renault. An additional example of a BMP would be the Car-Abo

subscription offer from Sixt, in which the user acquires a right to a vehicle of a certain class and is provided with a car at any Sixt station around the world. Both concepts, betterplace and Car-Abo, can be expanded by including additional mobility services in a Mobility Service Provider offering.

Like the Basic Mobility Provider, the **Mobility Service Provider (MSP)** completely dissolves the link between car and mobility. However, they additionally position themselves by establishing a diverse and very substantial mobility service portfolio.

The MSP's core competence is the successful mastery and operation of complex customer relationships by integrating a cooperation network. The more services from just one provider, the more comfortable the customer experience. Similar to the Service Focused Manufacturer (SFM), the MSP offers a range of services that go beyond vehicle acquisition, thus comprehending all of mobility as an integrated component of everyday life (online commerce, parking services, etc.). In actual fact, all questions around the topic of mobility are removed from the customer, as befits the Deep Support idea.

This business model is attractive to those customers for whom – despite adequate means – the ownership of a car does not seem necessary, in fact, to some extent, even seems an impediment. Comfort, luxury and brand status can be transported via expanded services. The actual sale of products is no longer the core of the business model. Instead, the modern mobility service provider works to solve their customers' mobility problems and in so doing delivers sustainable convenience: more time, more time for oneself and a higher quality of life. The MSP brand ascends to a globally and vertically organized super-brand and lifestyle provider. Since, similar to the most basic mobility provider, cars are distributed across multiple users, the concept is comparably efficient and against this background quite sustainable, though not ascetic at all. In this way, successful Greenovators with their high global mobility requirements also feel addressed.

The Agenda for the Automotive Industry

What is clear is that the entire automotive industry is confronted with fundamental challenges. The sharp decline in demand initiated by the CO₂ debate and intensified by the global financial crisis has meanwhile brought several manufacturers to the brink of insolvency. The cooperations, bankruptcies and takeovers forced by the crisis will have lasting effects on the structure of the global automotive industry.

Like any crisis, this one will also reach an end. But even after the crisis (as our study reveals), the challenges facing the remaining automotive manufacturers will still exist. The megatrends of the future and the resulting characteristics of mobility requirements suggest that the gap between shrinking margins on the one hand and weakening sales growth rates on the other will lead to fundamental changes in how the automotive industry does business. Falling margins are also caused by raw material prices that will increase again over the long term, the global overproduction, enormous additional costs for low-consumption and low-emission drive trains including electrification, and the customers' decreasing car budgets and downsizing etc. Any signs so far of weakening future sales figures are driven by the growing demand for flexible models of ownership and the declining significance of the car as the ultimate status symbol.

Clearly, there will be successful product-oriented and technology-oriented automotive manufacturers in the future, but only few will be able to successfully master the growing gap described above. Overall, Arthur D. Little expects a differentiation of the business models in the automotive industry as it gradually shifts more and more into a mobility industry.

For the automotive manufacturers' future strategy, we see an agenda with four core elements which should now be factored into companies' strategy development processes:

Definition of the future business model

- Determining the future positioning as it relates to the four idealized business models covered by the future mobility market model
- Definition of the future target customer segments in accordance with the mobility types in 2020
- Definition of the future business model as regards unique selling propositions, revenue sources and cost position

Adapting the market offering

- Adapting the market offering of products and services in accordance with the positioning selected and the target customer segments
- Adapting the innovation and development portfolio
- Expanding the services offering (depending on the positioning selected)

Adjusting the value chain

- Redefinition of the core competence and redesign of the value chain (make-or-buy)
- Building and / or acquisition of the necessary competencies

Expansion of cooperations and partner network

- Establishing the necessary cooperations to enable new market offerings (particularly services)
- Expansion of partnerships within and beyond the automotive industry

Authors

Marc Winterhoff

Director
Head of Automotive & Manufacturing Central Europe

Carsten Kahner

Principal
Automotive & Manufacturing Central Europe

Dr. Christopher Ulrich

Consultant
Automotive & Manufacturing Central Europe

Philipp Saylor

Consultant
Automotive & Manufacturing Central Europe

Dr. Eike Wenzel

Member of Management Board
Zukunftsinstitut [Future Institute]

Contact information

Benelux

Jeroen DeKort
+31 102018817
dekort.jeroen@adlittle.com

Germany, Switzerland and Central Europe

Marc Winterhoff
+49 6117148136
winterhoff.marc@adlittle.com

China

Thomas Schiller
+86 2164478866
schiller.thomas@adlittle.com

France

Laurent Hartmann
+33 155742915
hartmann.laurent@adlittle.com

Italy

Fabrizio Arena
+39 0668882344
arena.fabrizio@adlittle.com

Japan

Yusuke Harada
+81 334368931
harada.yusuke@adlittle.com

Nordic

Per M Nilsson
+46 317581022
nilsson.per.m@adlittle.com

South Korea

Daesoon Hong
+82 27202040
hong.daesoon@adlittle.com

Spain

Jesus Portal
+34 9170274 34
portal.jesus@adlittle.com

UK

Simon Mall
+44 8703366646
mall.simon@adlittle.com

US

Pierre Boldt
+1 2126612500
boldt.pierre@adlittle.com



Future of Mobility 2020

The future of the automotive industry is green and sustainable – but there are potholes and detours on the way there. The automotive industry must be prepared to challenge traditional structures and strike new paths as regards cooperative efforts and business models in order to meet tomorrow's customer requirements.

Arthur D. Little

Arthur D. Little, founded in 1886, is leading in management consulting. We link strategy, innovation and technology with in-depth industry expertise. We support our clients with sustainable solutions for the problems of complex businesses and processes. Arthur D. Little has a cooperative working style, extraordinary employees and a company-wide commitment to quality and integrity. The company has more than 30 locations around the world. With its partner Altran Technologies, Arthur D. Little can access a network of more than 17,000 experts. Arthur D. Little is proud to consult to many of the Fortune 100 companies around the world, as well as to many other leading companies and entities of both the public and private sectors.

For more information, please visit www.adl.com

Copyright © Arthur D. Little 2009. All rights reserved..

www.adl.com/mobility-2020