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Internet revolution and new economy



## B2C trading in the automotive industry: the internet is primarily a source of information

- The sale of new cars exclusively via the internet is still in its infancy. Probably just a few thousand cars were sold direct via the internet, i.e. as blind purchases, to private buyers in Germany in 2001 (less than 1% of all new registrations).
- In our view, the internet will not establish itself as a discrete distribution channel in the **new-car segment** in Germany. We forecast that in five years' time the proportion of car sales completed directly via the internet by private buyers will be under 3%. But it will probably be used as a source of information in about 70% of all new-car purchases.
- In the medium to long term, the so-called **built-to-order model** promises to revolutionise the new-car segment. In this system, the customer draws up his own ideal car online, and the resulting order then flows directly into the production output chain.
- The internet is already firmly established in the **used-car segment**, the car marts taking the dominant role. In Germany, for example, more than half of all the used cars on the market currently figure on the car-portal websites. Each of the major providers gives its customers the choice of over 500,000 cars.
- The internet's most important future function in the used-car market will be the same as it is today: putting buyers and sellers in touch via **online car exchanges**. Direct online sales of used cars to private buyers in 2007 will account for no more than 2% of all changes of ownership, while the internet will be used as a source of information in some 80% of used-car purchases.
- **Conventional car-dealing** will be most affected by the internet, which will accelerate the consolidation process that is already under way. The internet will enable **car manufacturers** to reduce their distribution costs. **Private car buyers** will benefit because the internet reduces their information deficit. Direct purchases of new cars via the internet can be expected to enjoy discounts of about 10% of the list price.
- Though in years to come internet **car marts** will maintain their dominant role as supply-and-demand brokers in the used-car segment, or possibly even extend it, consolidation is inevitable in this field too. In the longer term, only about five independent internet car exchanges are likely to survive in Germany.

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# B2C trading in the automotive industry: the internet is primarily an information medium

The discussion of e-commerce in the automotive industry generally concentrates on electronic trading between companies, e.g. between manufacturers and component suppliers. But as well as this so-called Business-to-Business (B2B) trading, the market between companies and consumers (Business-to-Consumer, B2C) is developing very fast. Car manufacturers are gradually expanding their internet facilities for private buyers, while the online platforms of private providers where potential car buyers can choose from a large number of vehicles, principally in the used-car field, are already very important.

This paper analyses the market segments in electronic B2C car trading, their current and future commercial significance for the car market and the functions of the various market places. It also considers the effects of B2C trading on the various market players in the automotive industry. It focuses on Germany, the EU and the US. The subject of the investigation is the private-car market, excluding vans and trucks, motor homes, motor-cycles, car accessories etc.

## B2C e-commerce in the automotive industry: market segments and market players

The B2C market in the automotive industry can be divided into two market segments regardless of specific national characteristics: the markets for new and used cars. At present the used-car field is clearly dominant. Both car manufacturers and commercial operators of internet platforms are active in online trading, and more and more car dealers advertise their stock on the internet. Sometimes they have their own websites, but much more often they place their stock on the better-known sites of the internet car exchanges. Finally, car-rental companies have also discovered that the internet is one way of selling ex-fleet and also new cars to private customers.

### New-car segment: still in its infancy

The sale of new cars exclusively via the internet is still in its infancy. MCC smart GmbH, a subsidiary of DaimlerChrysler AG, is currently the only car manufacturer to offer the customer the facility to configure every detail of a new car on the internet and buy it online, i.e. the contract is concluded online without the customer having test-driven the vehicle or even seen it ("blind purchase"). But so far new cars sold via this channel account for considerably less than 1% of the company's overall sales. In pilot projects implemented by other manufacturers (e.g. Opel in Germany and Volkswagen in the US) the numbers of cars sold directly on the internet were also negligible. The number of direct sales through direct online providers (getyourcar.de) or car-rental companies (e-sixt), which as a rule exploit new-car price differences within the EU, are so far extremely modest in terms of total sales volumes. Probably only a few thousand cars were sold direct via the internet, i.e. as blind purchases, to private customers in Germany in 2001; this is equivalent to a market share of less than 1% of all new registrations. On an international comparison, this puts Germany in the mid-range. According to a survey by Cap Gemini Ernst & Young in 2001 the direct sale of cars via the internet is most important in Japan and the US. France and Italy are the back markers.

#### Price differences for new cars in Euroland\*)

Compact segment

	November 2001	May 2001
Opel Corsa	36.9	37.4
Ford Fiesta	16.4	16.5
Renault Clio	26.4	31.3
Peugeot 106	20.3	23.5
VW Polo	14.7	28.0

\*) Percentage deviations from the lowest price (not including tax)

Source: EU Commission

## The internet is the ideal way to increase market transparency

The online sales figures for new vehicles naturally turn out substantially higher if so-called internet-supported car sales are included. However, different definitions of what should and what should not be classified as an online sale render it very difficult to make reliable statements about this. In many analyses all that is required in order to speak of an online sale is for the initial contact – between the customer and the car dealer, for example – to be established via the internet, while in others at least the first steps towards the initiation of the contract must take place online. Regardless of these demarcation difficulties, sector experts like Prof. Ferdinand Dudenhöffer, head of the prominent Center of Automotive Research (CAR), estimate that a good third of new-car buyers in Germany now use the internet to obtain information. In the US, the country where internet car marts originated, the equivalent figure is almost 70%.

The internet really is a godsend for potential car buyers. The online car marts are again the pioneers in the new-car segment, since as a rule some of the cars they have on offer are new. But these marts function only as intermediaries: the potential car buyer can use a search mask with varying levels of detail, the so-called Car Configurator, to put his dream car together and initiate an online search. The hit list, which can be sorted by various criteria (such as price or how far away the dealer is), leads the user to the car dealers who have the vehicle he wants in stock. As a rule dealers pay the operator of the internet car mart an all-inclusive monthly fee for the inclusion of their stock.

The advantages for all concerned are obvious. Consumers receive comprehensive product and price information very fast and at very low cost, and are alerted to special offers. Car exchanges that specialise in EU reimports, like euro-car-market.de, claim that their prices are consistently 10 to 30% below manufacturers' list prices. Collaborating with the internet mart saves car dealers the investment in setting up and maintaining their own elaborate websites and expands their potential sales territory. These are significant advantages, particularly for smaller dealers, though they forfeit their information advantage when negotiating with customers. The operators of the car portals live on the payments from the car dealers and from advertising revenue (banners). So far, though, they run the greatest risk, because in order to achieve adequate income they need to reach a certain critical size, which most of them have not (yet) done.

Most car portals have yet to achieve profitability, and the stock-market crash in the New Economy has forced many providers out of the market. Nonetheless online car marts like autoscout24.de, mobile.de and car4you.de, which generally deal in both new and used cars, are among the best-known of all the car-related websites in Germany – and some of them are already active in other European countries as well. What is more, the best-known car portals get more hits on their websites than the car manufacturers. In the US, market leaders Carpoint and Autobyte now receive several million hits per month. Autobyte maintains that some 4% of all new-car sales in the US are generated by the company's marts and those of its subsidiaries (e.g. Autoweb.com and Autosite.com).

**Problems of demarcation make it very difficult to formulate reliable statements about the significance of the internet in car distribution**

**The efficient provision of information for car buyers – expanding dealers' potential selling territory**

**Online car marts are among Germany's best-known websites**

## Expansion of car manufacturers' online services

The car manufacturers are also gradually expanding their internet services in the new-car segment. Even if – except at smart – direct online purchases are not yet possible, the car manufacturers' websites now offer an extensive range of information and services. The Car Configurator, which gives potential buyers the price of the car they want, is now a standard feature – at least on domestic providers' sites. Search engines also come up with the nearest appointed dealer or sales and service outlet of the respective manufacturer. Some sites enable requests for offers or test drives to be submitted online or provide information on financing facilities.

Generally it seems to be the case that in those countries where the internet is already widely used as a source of information for new-car purchases (the US and to a lesser extent Germany), car manufacturers' websites contain a more extensive range of information than in countries where internet use is less common. Also, car manufacturers' websites in their home countries tend to be superior to those of the foreign competition in terms of the services and information they contain.

## Only modest success in the new-car field

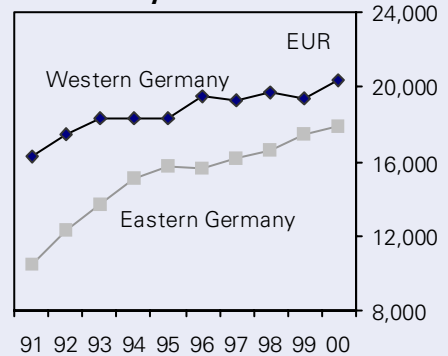
There's no question: in the next few years the internet will play an ever greater role in the new-car segment too. In our view, however, it is more than questionable whether it will detach itself from the traditional distribution channels and establish itself as a commercially significant, independent channel in its own right. Instead, for the broad mass of car buyers we expect the internet merely to support traditional distribution rather than replace it. Our forecast is that even in five years' time the proportion of direct car purchases completed by private buyers on the internet (blind purchases) will still be less than 3%. Assuming that in 2007 about 45% of all new-car registrations will relate to private vehicle-holders (2001: 49%) and that some 3.5 million new cars will be registered, this would be equivalent to no more than 50,000 cars. On a projected average new-car price of EUR 20,000, that gives a market volume of EUR 1 billion. Generally speaking, high-volume models with a strong brand name and a high familiarity factor – i.e. the mid-range, especially its lower segment – are best suited for direct sales. As these models are probably familiar to car buyers from other sources (because they've rented one or somebody they know drives one, for example), there is not so much need for advice as with niche vehicles and prestige models.

There are several reasons why our forecast of the number of direct sales of cars on the internet in 2007 is not higher:

- A car, even if the customer can specify it with a Car Configurator, is a heterogeneous product that needs extensive advice. It is thus considerably less suitable for online distribution than more homogeneous or digitisable goods like books, CDs or software.
- Price plays a major role. As they are now, most car buyers in future will probably be unwilling to buy such an expensive and emotional product as a car without seeing it first. This is particularly true of the "typical" German car buyer, for whom his car and his holiday are still closest to his heart.

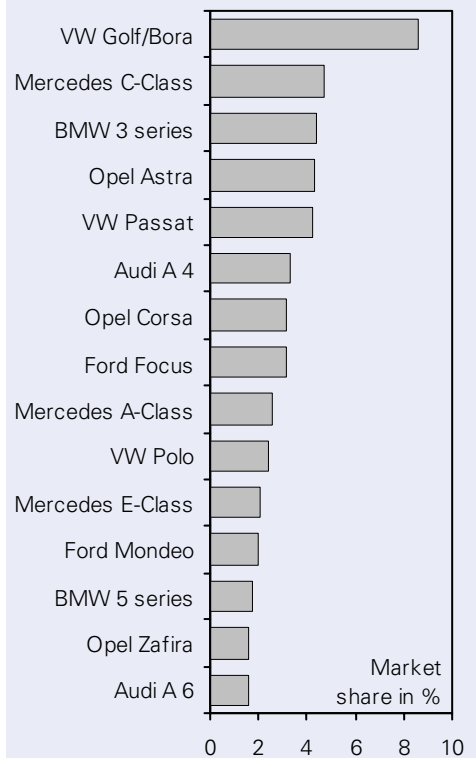
## An extensive range of information and services is available from car-manufacturers' websites

Trends in new-car prices in Germany



Sources: Deutsche Automobil Treuhand, Veedol Report

Top 15 new cars registered in Germany, 2001



Source: Federal Motor Vehicle Office

- Abiding worries about payment security or data protection are slowing the advance of e-commerce, though in the medium term this factor will become less important as these worries are gradually alleviated by the use of electronic signatures.
- Sales of new cars to private buyers can easily fail on price. On the internet the price (where direct sales are concerned) is generally not negotiable: the potential buyer has to take it or leave it, though it will probably be lower than the official list price. But if the buyer orders his car in the conventional way from a dealer, he can try to beat the price down, and/or obtain optional extras at the same price, by haggling. The price factor, which for online buyers is one of the most important decision-making criteria, thus loses its significance.
- Many customers will in future still prefer to buy their car from the same place where they can subsequently have it serviced and repaired. With an online purchase this may not necessarily be possible.
- There are demographic reasons why the internet may not have much success in penetrating the new-car segment of the market. It is mainly "older" buyers (aged 45 and over) whose higher income and greater assets enable them to buy new cars, whereas the younger generation (particularly new drivers), who are much more familiar with the internet, overwhelmingly choose used cars. Even in future there will be some older people to whom the internet remains an alien medium, and they will prefer to be advised in person by a dealer.

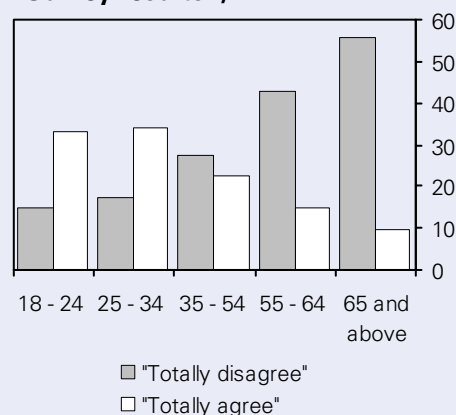
All in all, the internet will remain principally a source of information where new-car purchases are concerned. It will only supplement traditional distribution channels. Finally it must be borne in mind that the forecasting horizon of this investigation is "only" five years. Penetration of the car market by the internet will naturally increase in the longer term.

### Manufacturers move towards direct selling

The relatively small proportion of direct online sales of new cars to private buyers should not blind us to the fact that the internet is revolutionising car distribution. For even if future customers take a test drive and seek personal advice about the car, their decision on which car to buy, where to buy it and how much to pay for it will be increasingly influenced by the internet. In five years' time the number of internet-supported new-car sales (i.e. where some stages of the contract are completed online, not just when the internet is used to obtain information) could well account for 10 to 15% of all sales. In 2007, the internet will be used to obtain information in about 70% of all new-car purchases.

The car marts will have by far the greatest significance for internet-supported car sales because they bring supply and demand together. In direct sales, the car manufacturers will gain market shares from car-rental companies and specialist direct distributors. We expect that in 2007 all domestic (volume) manufacturers will offer their customers in Germany the facility of ordering a certain quota of vehicles online and having them delivered direct to their doors or to their nearest dealers. Naturally the same is true of the US and Japan.

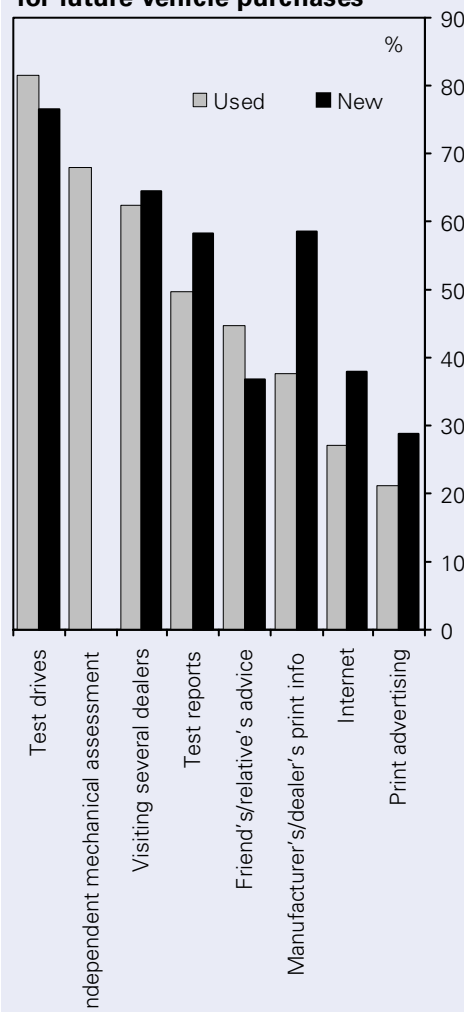
#### Survey results\*)



\*) Proportion agreeing or disagreeing with the statement "I would like to be able to contact my car dealer by e-mail" by age groups in %

Source: Automotive industry research centre

#### Importance of information sources for future vehicle purchases



Source: Survey by Cap Gemini Ernst & Young in ten industrial countries

Direct selling may well initially take the form of special campaigns (e.g. the sort of time-limited project that Opel has already mounted), in the course of time becoming more and more the norm. The main incentive for the customer is a discount, which might be in the region of 10% of the list price. The manufacturers hope to improve their margins per vehicle sold, but the low numbers involved mean that this will not have any effect worth mentioning on their overall profits. Basically they also see direct sales as a means of strengthening customer ties, i.e. as a marketing instrument. It is doubtful whether this distribution channel will become established in foreign markets in the very short term (by 2007), because the lower market volumes in regional markets such as Portugal and Scandinavia make transaction and logistics costs substantially higher.

### The “built-to-order” vision of the future

In the medium to long term, the so-called built-to-order model promises to revolutionise the new-car segment. In this system, the customer (within fixed limits) draws up his own specification, ideally online using a Car Configurator. The resulting order then flows directly into the production output chain, i.e. the options ordered by the customer are passed electronically to the relevant component suppliers. These manufacture the required subassemblies, which are then delivered “just in time” to the car manufacturer’s assembly line. The cost savings achieved would be significant.

The primary objective of built-to-order is to increase the proportion of direct customer orders, which the CAR currently puts at about 30%, at the expense of those originating from dealers, which hitherto have always predominated. This will mean that customers will not have so long to wait for their new cars. The concrete demand for particular cars will also substantially reduce the long periods for which new cars are currently held by dealers. After all, what is the point of reducing the time taken by the production process in the automotive industry to an absolute minimum if the new car then spends several weeks or even months at the dealer’s, tying up capital?

### Internet established in the used-car segment

In both the US and Europe the internet now has a firmly-established presence in the used-car market, the internet car marts playing easily the most dominant role. In Germany, for example, more than half of all the used cars on the market (about 650,000) currently figure on the car-portal websites. Each of the major providers gives its customers the choice of over 500,000 cars, and several thousand car dealers use them to advertise their used cars. Private individuals can offer their cars for sale on the online exchanges free of charge (Consumer-to-Consumer, C2C).

In the US it is the major car portals and nationwide conventional car dealers that have the largest market shares. In Germany, car manufacturers now also have used-car exchanges on the internet (for both their own and other makes). Besides their own dealers’ stocks these feature special offers of recent used or one-year-old cars; for example recent used cars can be ordered direct from Mercedes-Benz on the internet for home delivery. Basically what the manufacturers want to do is pocket dealers’ margins on the sale of one-year-old and ex-rental cars themselves. Finally car-rental companies themselves offer ex-rental cars on the internet, sometimes through online auctions.

**“Built-to-order”:** customer orders flow directly into the production output chain

**Over half of the used cars on the market can be found on the internet**

In terms of unit sales, the used-car market is substantially larger than the new-car sector. In Germany, for example, more than 7.2 million changes of ownership were registered last year, as against some 3.3 million new cars – and in the US about 40 million used cars change hands every year. Used-car buyers are typically private individuals: they accounted for almost 95% of all changes of ownership in Germany in 2001.

The used-car market on the internet is also helped by the fact that internet usage – which is the necessary precondition for online sales – is most widespread among the 14-24 age group. For financial reasons, this group of potential (future) car buyers is primarily restricted to buying used cars.

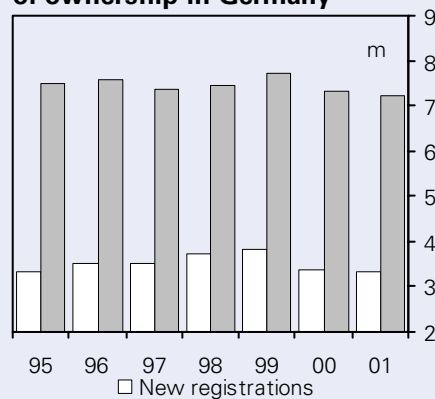
### Market penetration today and in 2007

As in the new-car segment, demarcation difficulties make it difficult to formulate reliable statements about the proportion of internet-supported or direct sales in the used-car market. One thing that is certain is that blind purchases completed online still play a negligibly insignificant role. While there are car portals that specialise in the direct sale of recent used cars (e.g. montena.de), most car marts act only as the intermediary between buyer and seller, who as a rule make direct contact with each other by phone or e-mail. Also the greater uncertainty about the condition of a used car than a new one makes it more important for the buyer to inspect the car and test-drive it beforehand. For this reason, a seal of approval from (independent) inspectors is becoming more and more important for the sale of used cars on the internet, as this boosts the consumer's confidence in the product. Car dealers probably already sell a significant proportion of their used cars to customers who first became aware of them through the internet.

In all major car markets, the internet is currently being used more as a source of information for used-car purchases than for new-car purchases, and this internet function will increase in the next five years: in 2007 the internet will be used to obtain information in 80% of all used-car purchases in Germany. In the US the figure will probably be even higher. In the major car markets of the EU, the internet as a source of information has achieved above-average market penetration in the UK as well as in Germany. In the southern EU countries, Italy and Spain, the internet will still play only a minor role in five years' time, even if there is an increase in its use in connection with used-car purchases. The situation is similar in France, where used cars are traditionally traded between private individuals for tax reasons.

In the medium term, more car manufacturers will start direct-sales operations in the used-car as well as the new-car segment. The best results will be achieved by companies that use constantly-updated electronic databases to keep the customer informed of the availability of used cars and can arrange vehicle delivery to fit in with the customer's requirements. This will put the car manufacturers in direct competition with car-rental companies and specialist direct providers. Though the direct online sale of used cars to private buyers will account for at best 2% of all changes of ownership in Germany in 2007, in absolute terms this amounts to a not insignificant total of 150,000 vehicles. All in all, however, the internet's most important function by far in the used-car market is to put buyers and sellers in touch with each other via online car exchanges.

### New car registrations and changes of ownership in Germany



Source: VDA, base: Federal Motor Vehicle Office

**In five years the internet will be used to obtain information in about 80% of all used-car purchases**

### Specific national characteristics

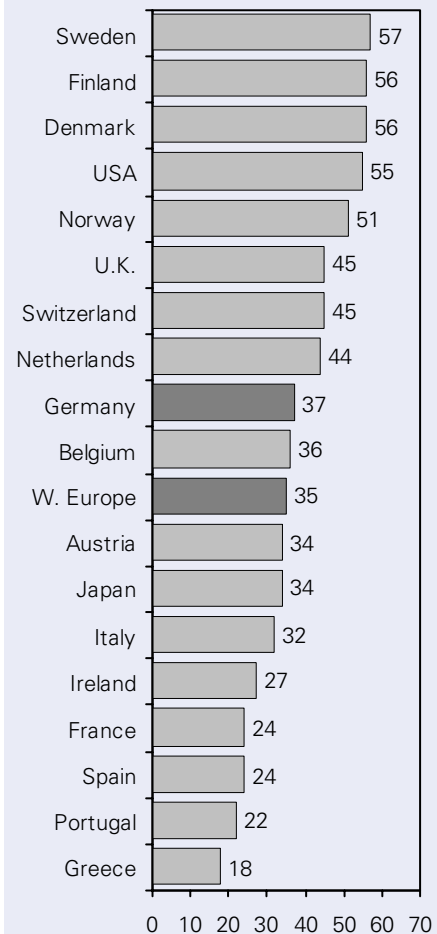
It is true of every car market in the world that the internet will grow in importance in the years to come, both as a source of information and as a distribution channel. But there are a number of specific national characteristics that will tend either to further or to impede the success of electronic B2C trading.

- It goes without saying that receptiveness to the internet is a basic precondition for the use of the medium to research and complete a car purchase. The Scandinavian countries and the US lead the international field in internet use: as more than half of the population regularly uses the internet, it tends to play a greater role in B2C car trading than in countries with lower usage rates like Spain, France and Italy.
- There are significant national variations in customer attitudes towards cars as a product. To the average US citizen, for example, the car is primarily an item of practical use. Price is the most important criterion in the purchase of a car, and the emotional component secondary. Also car buyers in the US insist on very short delivery times. To the typical German car buyer, in contrast, the emotional attachment to the car plays a far more important part. We might pick out the brand image as a particularly important factor. According to Cap Gemini Ernst & Young, German car buyers are also the most patient customers in the world, i.e. they prefer to wait for a car that has exactly the specification they want rather than take the best one they can have straight away.

These different customer preferences imply that the internet can assume greater importance for car purchases in the US than it can in Germany. Online research makes it possible to compare prices thoroughly and quickly, and as a rule the cars on offer – at least in the used-car segment – are available immediately. But the long waiting times for cars that people put up with in Germany, together with the important emotional component involved in buying a car, indicate that personal advice and a test drive are of above-average importance to the typical German consumer and that the internet is not going to be able to replace them.

- Finally, there are still a number of other specific national factors that affect the significance of the internet in B2C car trading. These include population patterns and the density of car dealerships, which differ from country to country: low density, which means that customers have to drive a long way to reach them, would contribute to greater use of the internet, at least for the purposes of information. In the US, according to the CAR, there are only about two dealers per 1,000 km<sup>2</sup>, while in Germany there are over 60 – which militates in favour of heavier use of the internet in the US, even if the more varied stock carried by American dealers tends to compensate for the disadvantage of their relative sparsity. The size of a given market is also important. The US and the major European car markets have the requisite critical size, but in the smaller car markets transaction costs might be so high as to make direct sales via the internet impossible.

Internet users per 100 inhabitants, 2001



Source: BITKOM: Basis EITO

## The effects of increasing B2C trading on market structure and market players

Although the numbers of vehicles (whether new or used) sold direct to private buyers via the internet are likely to remain small in future, the internet is still going to have a tremendous impact on market structures in the automotive industry in the years to come. It is becoming clear that it is accelerating many of the structural changes that were already taking place in the sector.

### Car manufacturers' reduced distribution costs

The German automotive industry achieved huge cost savings in the 90s, above all in the fields of purchasing (the Lopez effect) and production (outsourcing, rationalisation and automation). It is now the declared aim of all car manufacturers to bring about significant reductions in distribution costs, which according to the CAR account for some 35% of the price of a car. To this end, the manufacturers have for some time been gradually thinning out their dealer networks, which are far less sporadic in the EU (and especially in Germany) than they are in the US. This process is largely independent of the rising significance of the internet in car trading.

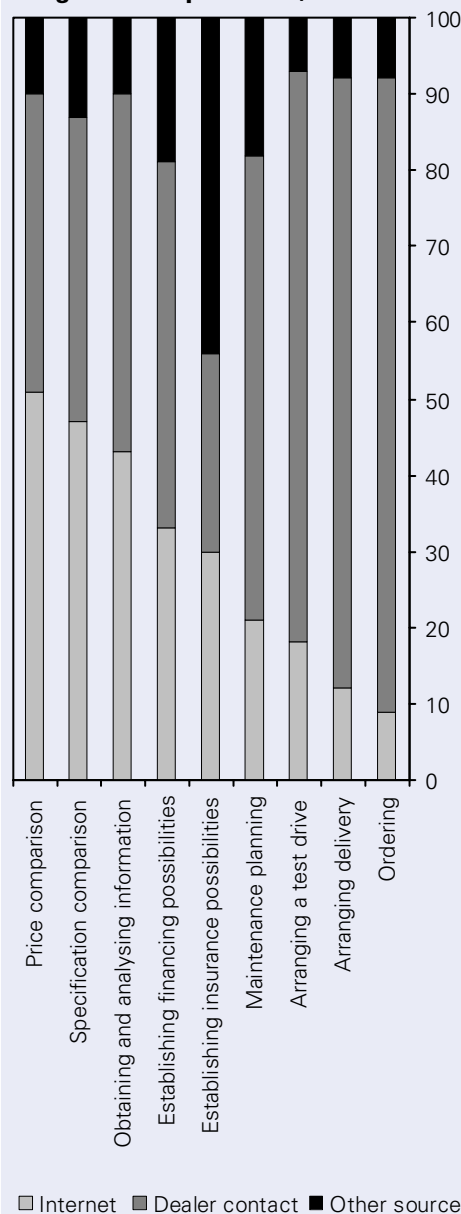
At the same time, the car manufacturers are building up new distribution channels of their own, such as direct selling via the internet, with the objective of cutting distributions costs. In future, benefiting from the strength of their brand names, they will organise internet distribution in close cooperation with both their surviving dealers of choice and sales outlets of their own. According to estimates, selling cars direct via the internet can cut distribution costs per vehicle – not distribution costs overall – by more than a third: reduced storage costs, less need for advice and hence lower staff costs etc. This would be equivalent to nearly 13% of the price of the car. Since the manufacturers will not pass on the cost savings to consumers in full, their margins per vehicle sold will rise.

These savings are naturally balanced by the costs of establishing and maintaining an internet presence, but in comparison with the automotive industry's total investment spend these are relatively low.

### Massive process of consolidation in conventional car dealing

Conventional car dealers will see far-reaching changes in the years to come. Of the present 23,000 or so dealer operations in Germany, only half are forecast to survive in the medium to long term (and even then they would be far less thin on the ground than they are in the US). Though the consolidation process is being accelerated by the internet, it is mainly driven by other factors: longer servicing intervals for cars are reducing workshop revenue; workshop overcapacities; increasing competition from workshop chains like Pit-Stop; the manufacturers' objective of thinning out the dealer network; more exacting showroom requirements; the growing significance of vehicle electronics in the car segment, which requires heavy investment in test equipment and employee training. Finally, the planned new block exemption regulations will increase competition in the automotive industry in general and at the dealer level in particular, as they are intended to make it easier to create multi-brand dealer operations and establish branch dealerships in the EU internal market.

Preference for the internet or personal dealer contact at various stages of car purchase, %



Source: Survey by Cap Gemini Ernst & Young in ten industrial countries

**In the longer term only half of the dealers in Germany will survive**

This consolidation process is now being intensified by the internet. This increases market transparency and hence strengthens the customer's negotiating position, which will hit dealer margins in both the new and used segments. At the same time competition from internet-supported distribution methods is intensifying.

**Consolidation in online car marts**

Though in the years to come internet car marts will maintain their dominant role as supply-and-demand brokers in the used-car segment, or possibly even extend it, consolidation is inevitable in this field too. In the medium to long term only about five independent internet car exchanges are likely to survive in Germany.

The car portals with the best prospects are those with large vehicle stocks, an international orientation and a broad range of additional services (e.g. route planning, travel hints, online help for customers having problems with their own vehicles, access to financing and insurance facilities). The high familiarity factor of some car marts has already enabled them to establish themselves as market leaders. They often have the backing of financially strong partners like banks, retail groups or publishing houses that are able to absorb the car portals' possible start-up losses. At any rate, it is becoming difficult for late-comers to penetrate this segment.

**Quo vadis reimports?**

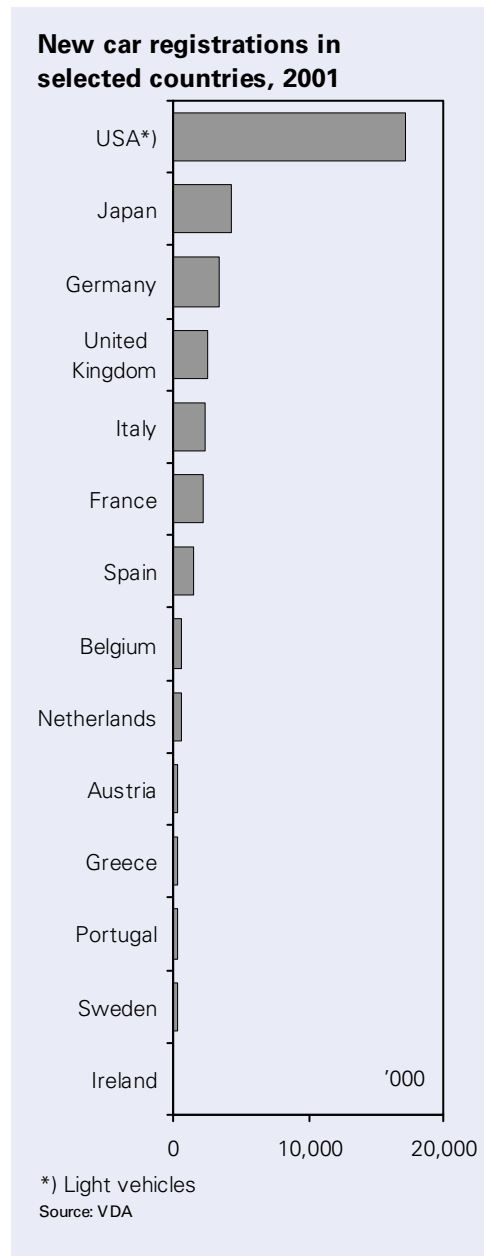
Car-rental companies and new direct providers on the internet will maintain their niche positions in future. Where the car-rental companies are concerned this is particularly true of the direct sale of ex-rental vehicles. But difficult times are coming for providers that specialise in the direct sale of EU reimports on the internet, because the manufacturers are gradually harmonising their pre-tax prices within the EU. Owing to tax factors and differences in purchasing power in the individual EU countries, this will take some years to complete, especially in the compact and mid-range segments – but in the medium term it will deprive reimport specialists of their *raison d'être*.

**No price "miracles" for private buyers**

Private car buyers are definitely benefiting from the internet's increasing significance in car trading. It evens out the distribution of information, for example, which was always skewed in favour of the providers – significantly strengthening their negotiating position in sales discussions with dealers. And for bargain-hunters who need no personal advice on their purchases and are not afraid of buying direct, the internet has a multitude of special offers.

But anybody who is expecting the internet to bring about a full-blown collapse in car prices will probably be disappointed: returns in the automotive industry as a whole, and in car-dealing in particular, are currently so meagre that there is little room for further cuts. In the used-car segment increased price transparency and the high availability of comparable models will certainly enable customers to increase the discount they squeeze out of the dealer by an extra percentage point or two. In the new-car segment, the discounts offered by the manufacturers on direct internet sales will hardly exceed 10% of the list price. The largest discounts are (for the time being!) available on reimport purchases completed online.

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**The internet eliminates the skewed distribution of information that disadvantages car buyers**

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