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November 2004
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IT and the Automotive Industry

This is Darren Perry for Radio Tuck and I'm here today with Glenn Mercer, Director of Automotive Services with McKinsey & Company. Welcome, Glenn.

When we think of Information Technology (IT) in any manufacturing-intensive industry, such as the auto industry, the first thing that usually comes to mind is the impact of technology on operations. Could you describe for us the role that IT plays in the design and production of automobiles today?

In terms of design and production, the role of IT has relatively stabilized. We've all, you know, made faster or slower transitions to CAD/CAM or CAX, and visualization technologies, and you know, 3-D wireframes—all that kind of good stuff—such that some of the more advanced adopters, like Toyota, are no longer building physical prototypes of cars at all, but going directly from digital data to cutting dies for stamping and things like that.

On the design side, IT is absolutely invaluable—but I don't think there's been a big bang in the last few years. On the supplier level, where we're designing parts, there's more work to be done yet, because suppliers have the additional task of, if three or four different car companies are using three or four different CAD/CAM systems, does the supplier have to invest in all three or four?

The exception is probably the eternal debate of "build-to-order"—and whether we want to, in North America, move to a "build-to-order" system. If we did go to a system where instead of buying a car off a dealership lot, we actually *ordered* the car, then we do have to do a lot of work on upgrading configuration front-ends and plant scheduling systems, and things like that, which right now are not at all set up for "build-to-order".

Perhaps more obvious to consumers is the impact that the internet has had on the way auto companies interact with customers. What are some ways that the industry is using this channel for marketing purposes? What has worked? And, frankly, what hasn't?

I think in terms of shopping for cars, comparing cars, the internet has dramatically changed the interaction between customers and car companies. Probably we're getting close to 80% of car shoppers using the internet at some point or time to compare vehicles, look for prices, and discounts and things like that. So, I think it's safe to say, that in many cases the customer shows up at the dealership knowing more about the vehicle than the salesperson does. You know what the dealer paid for it, how long the dealer has had it on the lot, how desperate he or she is to sell it, you know financing terms on it—it is one of the most picked-apart and now transparent transactions the world has ever seen.

There were two other aspects of internet interactions of car dealing that have not necessarily developed that rapidly. One was the idea of *advertising* on the internet—-[that] we could cut back on this enormous spend on network TV and cable TV, etc., etc., we could trim back on that and shift money toward our more targeted advertising on the internet. This has definitely not occurred. And we're spending just as much as ever on magazine, TV and newspapers.

The other thing that hasn't happened yet is "buying a car on the internet." Quote-unquote. And I really have to set that phrase off because it's essentially against the law to buy a new car on the internet. Every state has its own set of rules governing how cars can be sold: in California, unless you sign the purchase contract on the premises, physically at the dealership, you lose your three-day right to reverse the purchase without penalty. It seems that people are moving more toward the model now of research the vehicle, find out everything I know, but it still makes more sense to go visit two or three dealers in person to get the best price and the best car, than to sort them out via email and then show up at the one to do the final transaction.

Thinking about the concept of "building your car online"—I've read that, at least so far, the practice has been more successful in Europe than in the US. Could you give us your thoughts on why this might be the case? And how might these lessons be adapted for the US market?

So we look at BTO, and we say, is it better that customers get exactly the car they want as opposed to getting something they're not interested in? Is it better for dealers to not have hundreds of cars on the lot? Would it be better for the dealer to sell you a tailored car, because it's very hard to price-shop a car that's specified exactly to your needs? Absolutely! *But,* how do we actually get there from here?

Given that the factories really can't turn around a specific car in less than two or three weeks, the proposition that we offer Americans are 1) you can have a car that's about 90% of what you want—and by the way, I'll knock $1000 off it—and you can have it right now or the next 90 minutes at my dealership, or 2) you could wait two or three weeks, get something that's exactly what you want, maybe with a little less discount, and I can't really promise you the delivery date exactly—but what do you think? Certainly, for someone on the high end of the market, someone spec-ing that Porsche Carrera or something, no problem. But for the vast majority of vehicles, customers are saying, I don't think I want to make the trade.

And also, it implies that the customer wants to fully spec the vehicle. And we've seen that people get choice fatigue pretty quickly. And there we've even run into a negative effect, which I call the "Formica Effect"—which is: Formica, the countertop people, have 70 or 80 patterns that they can sell you, but I think that 95% of their volume is in 4-5 basic pseudo-granite patterns—because you have to resell the car, just like you've got to resell your house. And we see people opting for some fairly wild and crazy combinations on their vehicle, and then just before they purchase it, they go, wait a minute, I'm not sure if I can resell the vehicle with this. It's one of the reasons why so many vehicles are white, even though it's nobody's favorite color, because it's pretty easy to resell: it offends no one.

So the demand side has not panned out, so right now about 4 or 5% vehicles in the United States are build-to-order—almost all of them being high-end German luxury cars. On the supply side, "build-to-order" implies you *build* when there is an *order*. Now we have unionized workers in the United States in car companies and, if it's a really bad January, and nobody is buying cars, we don't close the factories. We don't yet have, and probably never will have, factories that are so infinitely flexible that we can make things when people want them.

So why is this more popular in Europe? Their cost of land in Europe is very, very high, so they never built dealers with a thousand cars on them. This already means you have less selection on the lot, and therefore you till people into "build-to-order". We've also got a continent where, generally speaking, there's one car per family. When you've only got one car, it's much easier to do the long-term planning that favors "build-to-order".

More and more, we're hearing about IT products for the car—whether that's in the form of navigation, communications, entertainment. How do you see IT changing our driving experience in the future?

The first comment would be that the demand for these kind of services varies dramatically by different parts of the world. Navigation systems are a big deal in Japan, because it's very hard to find things with the road system in Japan. In Europe, with its incredible crowding, traffic information systems are important. In North America, which, even though people complain about traffic in, say, NY or LA, we really don't have a traffic problem. And given that a lot of the country is on a grid system, navigation systems are also much less desired. Do high-end cars have these things? Yes. But there really hasn't been the fundamental demand for traffic information, which I can get from the radio, when I listen to Howard Stern and someone comes on in a helicopter and tells me what the traffic situation is like.

That being said, we do have telematics installed in North America with OnStar—that kind of true telematics, interactive communication and computing system on the GM cars is, I think, probably comes to 85 or 90% of all global installation. What's interesting there is our killer app, as it were, is safety and security. Trouble is, it's kind of really hard to charge a lot for that.

And that's when we come to, what everybody's always hoped for, the rolling office—email in your car—that's been pretty much shut down. Not a lot of consumer demand for it, and the

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regulators are not impressed. Anything that helps the American driver spend even less of his concentration on driving is not well-received.

There are a few bright spots. One, of course, is infotainment: rear seat DVD systems; hard drives in the car, to load up video on; XM and Sirius. One of my pet projects there is infoviewing—so the idea of smart gas pumps that could sell you "Spider-Man 4" at the same time that you're pumping gas.

The other thing is usage-based telematics insurance. Progressive Insurance owns the patent on this. This is the idea that, right now your insurance is essentially a fixed cost. If you could actually monitor the vehicle, we could actually price insurance much more accurately. The first reaction to this from almost everybody is, do I want people to know where I'm driving the car, etc. Well, first of all, regulators will probably require a black box in your car anyway that can be used in accident reconstructioning—so it may be a moot point. But, the other case is they don't really need to know *where* the car is. What affects accident claims is time of day and things like that. I'm a big fan of that, because for many drivers insurance is one of the biggest expenses they face during the year. A system that essentially won't bill you unless you're driving might turn out to be very attractive.

To your knowledge, have consumers or consumer groups expressed concern with these privacy issues to date? How will the industry address these concerns?

Some consumer groups have expressed concern—virtually no consumers. That is, the people who have actually tried the product overwhelming are happy with it. Again, whether the insurance companies keep the records or not, this'll all be swamped in the government essentially requiring onboard recorders anyway. So that's going to be out of the hands of industry.

The other thing that has been very interesting is civil rights groups love this stuff, and so do environmental groups. Environmental groups like anything that variabilizes the cost of driving of a car because then you drive the car less. And then civil rights groups have become strongly in favor of it because it takes away any racial profiling.

Right now at least, with, at this point of time, someone like OnStar or Progressive, the casing and storing of this kind of data is massive beyond all conception and not something they want to deal with.

Well , Glenn, it's been great to have you here today. And we'd like to thank you for sharing your insights and experiences. Thank you.

You're welcome, bye-bye.