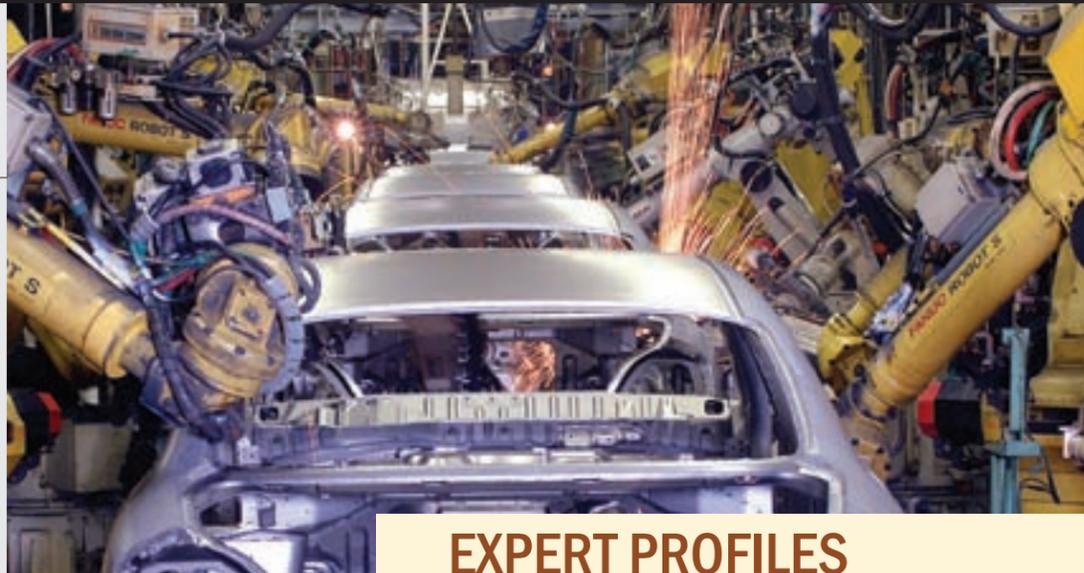


SWITCH OFF THE AUTO-PILOT

The current crisis in the auto industry was caused by market factors, but also by some serious management mistakes. What changes do automakers need to make?



GO's Academic Forum examines the current crisis in the auto industry: its causes, its consequences to management, its prospects. The panellists this month are Professor Ashok Som from ESSEC (Paris), Professor Bruce Belzowski from the University of Michigan (the state that also contains Detroit), and Professor Thomas Callarman from CEIBS, Shanghai. (See box for more biographical information).

GO begins by asking the panel about the causes of the crisis and finds that its panellists have little difference of opinion on this topic, except in terms of emphasis. Professor Ashok Som, who teaches at ESSEC and also at IIM-Ahmedabad, emphasises the American perspective. "America is influenced by the lack of public transport in a vast country," he explains. "Americans have always built vehicles suitable for long-distance travel. Like other peoples they also have their own way of demonstrating status, and the large SUV (sport utility vehicle) derives from that. Then came the petrol price increase. That left them without the right models of cars to sell, and a vast inventory of models that no longer sell. To make matters worse, the public is now not buying because the

economic recession has shaken them enough so as not to want to spend."

Professor Bruce Belzowski, at the University of Michigan's Transport Research Institute, while agreeing with all that, shifts the emphasis to the "big issue of the 'legacy costs'. That's the term we use, in the main, for the cost of paying pensions to retired employees. These 'legacies' constitute a very heavy cost for US automakers. In fact, labour is considered a fixed cost by US automakers, since contracts with the unions severely restrict management's freedom to change the way things are run. But the legacies also include the onerous overheads that the competition has managed to avoid. Detroit's main competitors are both the foreign-owned manufacturing

facilities that have established themselves in less unionised American states, and the new breed of emerging market car makers, namely from China and India."

Professor Thomas Callarman, at the China Europe International Business School (CEIBS) in Shanghai, prioritises mismanagement. Says he, "At the crux, the USA's problem is a poor product portfolio. Management there focussed too heavily on SUVs and big cars, as well as light trucks. They neglected development or research on smaller, more fuel-efficient vehicles. That's how they lost it." As an afterthought he adds, "In the US there's also a problem with the management of suppliers. Suppliers are not considered close partners, as

is the case in Japan. Detroit has a tendency to beat up on suppliers when times get rough. By healthier contrast, Toyota is more cooperative."

Management changes

To GO's query concerning the consequences of all this on management, Ashok Som foresees this: "Organisational structures need to be changed; processes need to be changed; mindsets need to be modified. Pan back to the effect that Carlos Ghosn had on Renault, when he joined their ranks in France in 1996, before it formed its alliance with Nissan in 1999. He re-designed age-old French processes (eliminated 'socialist-type' hurdles that had existed, namely in labour relations). Along with effective capacity

EXPERT PROFILES

Bruce Belzowski is the associate director of the Automotive Analysis Division, Transportation Research Institute, University of Michigan, which he joined in 1994. He previously worked for UM's Institute for Social Research and for RL Polk, where he was responsible for developing models of new car purchases and aftermarket spending. He has been a major contributor to most industry structure group projects. He has authored research reports focusing on a variety of automotive topics, including product development, manufacturer-supplier-dealer relations, globalisation, information technology, knowledge management, and human resources. His current research topics include Product Lifecycle Management (PLM), powertrain strategies, and globalisation of the automotive industry. He holds a BA from UC Berkeley and a MA from the University of Michigan.



Thomas Callarman is professor of operations management at the China Europe International Business School (CEIBS) in Shanghai. He entered the automotive field doing research at Arizona State University and then, in Australia. In the nineties he worked there in association with Ford and carried out research with Holden University. An authority on inventory and production control processes, he has been at CEIBS in Shanghai since 2005. He holds a PhD in Management from Purdue University, and an MBA from Arizona State University. He has over twenty-five years experience in research and has been published in journals, such as the *Journal of Managerial Issues*. He has consulted with several Fortune 500 companies in various areas of operations management.



Ashok Som is professor of international strategy and management at the ESSEC business school, near Paris, France. He holds degrees from IIT-Kharagpur and a PhD from IIM-Ahmedabad. His areas of expertise include strategy and human resources. He is interested in the interplay of strategy process and the shaping of human resource practices, especially in turbulent environments and with a particular focus on cross-cultural and post-merger integration. He is the author of "Organisation Re-design and Innovative HRM" (Oxford University Press). He is also the head of a special programme on the luxury sector, taught jointly at ESSEC and IIM-Ahmedabad.



utilisation, downsizing, plant closings, and product re-engineering, he promoted the top HR manager to a place on the executive committee. And he created smooth relations with Nissan by installing cross-functional teams and cross-national teams."

Professor Som goes on to predict more consolidations and alliances, in order to reduce the cost base. "Manufacturers with an R&D advantage will have an easier time, especially in handling automotive use of fuel cells and alternative energy sources," he explains. "The aim will be to attain greater leverage, so as to be able to adapt and move more quickly. Managers will also be busy attempting to increase their penetration of emerging markets. This is where growth will still occur. Survival will depend on these growth markets. Car makers will quite necessarily, focus on them. The small-car segment must be made to grow, and they will have to attend to that. From India, watch for the Tata Nano, and from China for the Chery. The base of the pyramid will continue to expand. US companies are like dinosaurs, too large to adapt easily. But nowadays one needs to adapt on the double, because one needs to restructure production every two years."

Professor Callarman's future vision also includes management changes in the rapport between blue collar and white collar workers: "One big change will be in the way management deals with the auto unions. They must wring concessions from them by hook or by crook in order for the companies to survive. Why pay 95% of a laid-off workers wages? To finally get their product palette right, they will

have to develop a far deeper understanding of the oil business. Fuel price has become a major factor in determining the model mix. Anyway, there will be fewer models, and more emphasis on fuel-efficient and alternative-fuel models. At the same time they'll need to attain sufficient production volume to reach the economies of scale required for low cost. Auto makers should concentrate on fewer 'brands' (GM has already cut down from 5 to 4, by eliminating Oldsmobile, leaving only Chevrolet, Buick, Pontiac and Cadillac)."

Future prospects

When queried on prospects in general, our panel is both positive and pessimistic. For Professor Belzowski, the current market hiccup will not have globalisation skid into the guardrail. "Globalisation will continue. In the auto industry it will remain particularly significant in the area of research and development. Geographically remote facilities will cooperate more and more effectively by means such as computer-assisted engineering (CAE). By such means you avoid the cost of re-creating the wheel in America, then in Asia, then Europe, then South America, and so forth. Data transmission speeds and increased computing power have been important accelerating factors here, and will remain so. Mind you, although globalisation is gathering speed, there is still the need for some customisation. That will not disappear. There will continue to exist customers who think they need a Smart, and others who think they need a Rolls."

By this time the panel had settled in and, instead of individuals holding forth, the

The contenders - Top ten automakers in the world

Company	Country	Founded	Vehicle Production ('000s)	2007 Revenues	2007 Operating profit
Toyota	Japan	1937	9,498	\$262	\$22.6
General Motors	USA	1908	9,350	\$181	\$-4.4
Volkswagen (VW)	Germany	1938	6,346	\$74	\$1.9
Ford	USA	1903	6,248	\$173	\$5.3
Honda	Japan	1948	3,912	\$120	\$9.5
Peugeot (PSA)	France	1882	3,457	\$56	\$1.0
Nissan	Japan	1932	3,431	\$89	\$7.9
Fiat	Italy	1899	2,679	\$59	\$2.1
Renault	France	1899	2,669	\$41	\$1.4
Hyundai	South Korea	1967	2,618	\$74	n.a.

Notes: Financials in \$ billions; Sources: OICA, GO analysis

procedure increasingly took on the form of repartee. Points made, and answered, included these:

For Professor Callarman, labour costs in the USA need to be lowered lest the 'turmoil' they generate ripple off to the industry elsewhere. In China, you reckon with about \$2.00/hour as a fully-loaded blue-collar wage. In the USA, it's \$75.00/hour. So, even though the USA uses a bit less labour to produce a vehicle, the cost differential remains enormous. "And believe me," pleads Professor Callarman, "the plants in China are very advanced for the most part, so there is no big labour input differential with industry elsewhere. The biggest difference between the USA and China is in the overheads (supervision, general and administrative expenses)." The panel discussed production automation in Japan and Germany, and were informed that Chinese plants also possess a noteworthy

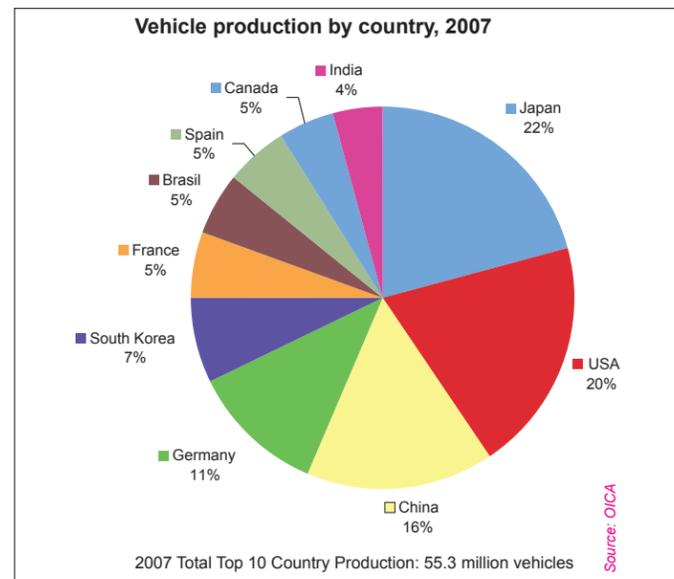
degree of automation. And with this degree of automation and capital investment, there is fewer opportunity for car makers to reap a competitive advantage, by lowering labour costs. Professor Belzowski underlines the need to reduce overheads in developed markets in order to remain competitive. Should GM move its headquarters to Belize, Volkswagen to Belarus, and Toyota to Pyongyang?

The panel proceeds, understandably, from there to the question of how, or whether, the industry can find a strategy to overcome its crisis. Given its high sunk costs, it is difficult to change strategy on the turn of an exigency. Professor Som invited the panel to consider as a model for reform how Tata managed to change its strategy quickly, and drastically, in 2001-2002. It was then that it changed from producing old clunky trucks to new fancy Volvo conveyances. But that didn't template a way

to solve its current problem, namely that of merging the two ends of the auto spectrum, with Jaguar at the one end and Indica at the other. Yes, there's always something, another panellist shrugged in response.

That led one of the panellists to declare that the most

important strategy, it seemed to him, was for a company to attain a production rate of 4 million vehicles/year. This would provide the economy of scale required to assure survival. And what was to happen to the others? Some of the others will die, we are told, or be absorbed.



eyes, when his company picked up a 9.9% stake. Not bad for a company that only started in the automotive field in 2003, with the acquisition of Tsinchuan Automobile Company! BYD will use four industrial centres in Xi'an, Beijing, Shenzhen and Shanghai, for its research & development and for vehicle production.

BYD's present claim to fame, as well as claim to substantial funding from the Chinese government, concerns its development of an electric power train for its car. The Chinese government is pushing Build Your Dreams because it, in general, believes that by doing things in a big way it can leapfrog work in the developed markets and come up with the most successful commercial solution. Having that, it plausibly argues, profits not only China, but the world.

Thomas Callarman, professor at Shanghai business school CEIBS, and long on China experience, comments: "That's the way China often operates. When the government decides on a strategy to pursue, it as much as mandates it for the industry. If the Chinese see an opportunity they focus on it and use the resources of the state to develop what hopefully will be a leadership position. And they're having to look into something that even developed research has not yet solved, namely the problem of battery disposal. It is not so easy to dispose of old, used batteries, even in China."

GO agrees in failing to imagine how one disposes of the old dreams one once built. ■

Mono-model-mania?

The panel then addressed another issue: should auto manufacturers keep the full product range? It allows them to spread the risk, both geographically and in terms of product palette, one panellist noted. To this the response was, if there's a segment missing in a car maker's product portfolio, and if servicing this segment promises profit, then it's cheaper and quicker to re-tool an existing plant to a new purpose than build a new factory. Professor Belzowski mentions that Honda has introduced a stretchable car platform for its Accord range, that allows a factory to re-tool for different chassis sizes, with low downtimes.

Professor Belzowski then broaches the topic of innovation within car making processes, and the specific topic of Toyota's difficulties in its globalisation effort. The company suffers from the lack of sufficient Japanese engineers and managers to send abroad to inculcate the Toyota Way to its foreign subsidiaries and plants. This is particularly important for the constant stream of innovations so dear to the company and that has in the past enabled it to streamline its production and management processes on a continual basis. This keeps a factory or a company from going stale. Toyota's philosophy is that there is always room for improvement. Part of the current difficulty within Toyota is that it is looking for improvements in areas that are 99% fine, whereas other areas are only 80% fine and are not getting enough attention.

The panel now turned to discussing the situation in which

large manufacturers assemble different brands from similar platforms, parts suppliers or designs that seem strangely look-alike. The same things are sold to everyone. Although economies of scale are reaped, there is also cannibalisation and brand dilution. Professor Som warns that this is not in the car makers' best interest.

Team up to beat up R&D

Collaboration has not yet become the rule in R&D. Companies have been chary of sharing it with their competitors. But R&D is costly, and as budgets get tighter, the past individualism may morph into a future multitude, or at least so thinks Professor Callarman. In this regard a panellist reminded us of one fairly recent example of research co-operation, his reference being to the BMW-Mercedes-GM-Chrysler hitch up on hybrid power trains. So, it'll be up management to figure out how, and how much, to spend on R&D.

As to the trend in palette management the panel finds it difficult to predict. Some manufacturers will continue to offer a range, from minicar to small truck (e.g. GM, VW, Toyota), whereas other makers will seek a niche. Think German car makers at the top end, and some emerging car makers at the small-vehicle end, one panellist suggested. The failure of the Daimler-Chrysler merger seems to show that having the full palette is not necessarily effective. On the other hand, Fiat that largely sells small cars, has been doing well enough – as has Cadillac, which concentrates on luxury ones.

In response to that, a panellist opined that opportunities



remained for niche players, especially in the new power train developments (see box on Build Your Dream in China).

Professor Belzowski reminds us that for management improvements, the devil is in the details. He reported that at his university they were investigating future development of production minutiae, "...like metal stampings and the quality control of these. The way the edges are machined can have an impact on vehicle quality and cost."

Watch those lawmakers

Another panellist reminded us that looking into the future should include keeping an ear cocked and eye peeled on legislative changes. New regulations on pollution, emissions, safety standards, and fuel economy, can massively affect production – and costs. Automakers in emerging markets, one panellist remarked, are especially exposed to government interference in a variety of forms, notably including legislation and other kinds of pressure.

All three professors counselled incessant ear and eye monitoring of the competition from China and, yes, India. China automakers

are already exporting their low-end inexpensive vehicles to Africa, Southeast Asia and other markets. China is following in the footsteps of Japan automakers in the 1970s and South Korean ones, a decade later. Manufacturing skills are on par with the best worldwide practices. Design is now playing catch-up in China.

"But developed market car makers need not panic quite yet," reassures Professor Callarman. "Chinese car sales are dropping, due to the crisis; in 2008 China will probably end up producing fewer cars than in 2007 (an expected 7.8 million vehicles vs. 8.5 million in 2007)." True, he was rejoined, and look at Toyota in the USA: sales down by 34 per cent!

Anyway, it's like how Obama put it, and thereby won a presidency; what is needed is change. More specifically, the panel agreed, there's a need to shake off, or at least critically review, once and for all the strategies and models of the past, the ones that have led us to inefficiency and attendant mega-crisis. Auto managers must have a willingness to tweak the models, to break the old forms, and find new strategies, not just settle for make-do stratagems. ■

BI-POLE POSITION

China invests in battery-powered cars, in an effort to gain a lead on the pack

Automakers have been spending heavily in electric and alternative fuel vehicles, especially as gas prices soared, making other solutions more attractive economically.

In China, the government's strategic plan includes the development of electric fuel cells for cars, and one of the companies that is spearheading that development is Shenzhen-based BYD, which stands for Build Your Dreams. BYD achieved note as the maker of an SUV that car reviewers have described as a copycat version of a BMW product. Another BYD vehicle, the BYD E6 electric car, which somewhat resembles a Toyota Yaris, will begin its commercial life this year, probably in Israel. Propelled for up to 300 kilometres by electricity from lithium-ion iron phosphate batteries (located under the rear seats), the E6 will pack quite a punch, with the ability to reach a speed of 100 km/h in a mere ten seconds, and a 160 km/h top speed. The car is expected to start selling in Europe in 2010.

The firm started out in 1995 as a battery manufacturer for electrical appliances, such as cell phones. It is listed on the Hong Kong Stock Exchange, and was recently the target of Warren Buffett's shrewd investor