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One Billion New Automobiles

by Bill Jackson and Vikas Sehgal

Imagine how the world would be transformed if the number of people who owned cars doubled in a decade. In fact, as the rate of personal vehicle ownership soars in Asia, a new kind of global automotive manufacturing industry is emerging to capitalize on this new customer base. Automakers (and the financial markets and supply chains that support them) already know their world is going to change; the media are beginning to pay attention to fledgling motor vehicle companies such as Chery (in China) and Mahindra and Mahindra (M&M, in India). But few people realize the full implications. If the auto markets of developing nations evolve on a par with established markets by, say, 2020, that development could upend today's prevailing notions of what a car costs, how it is produced, and how it is used.

The trends that will shape this future — from automobile production to environmental impact to changes in working patterns — are proceeding at different speeds. But they are all interrelated, and their impact will be cumulative. These trends include:

• **Social Mobility.** In emerging markets, especially if the building of roads and fuel infrastructure continues, individual mobility and job opportunities will increase. This in turn will accelerate both the democratization and the industrialization of China and India.

We can assume that no emerging nation will become an automotive society on the U.S. model, with its suburban sprawl, subsidized fuel, and demand for large cars. Countries like India and China will likely impose strict regulations on vehicle size, fuel economy, emissions, and driving rights — and they will cut back or eliminate their current fuel subsidies. Excise taxes on larger engines and vehicles are also likely. The Shanghai government has already implemented a Singapore-style license-fee system that effectively rations drive time at peak periods in high-congestion areas.

As a result, people in relatively wealthy urban centers — such as Beijing, Guangzhou, Hyderabad, and Bangalore — will continue to rely on public transportation, since daily driving is impractical in dense cities without major highways. Rather than providing mobility during the week, cars in such locales will be used by residents to leave town on weekends, and they will also serve as status symbols.

For rural areas, however, motorization will open new horizons, and not just for car owners. For the first time, residents of remote villages will be able to reach urban centers in a half-day's travel. Economic activity, be it agriculture, industrial production, or retail sales or distribution, will no longer be logistically isolated in rural regions. China's automotive and steel sectors were once geographically segmented, with small clusters of suppliers and manufacturers du-

plicated in each major region. Now, the new highway system allows major players to consolidate in centralized locations, increasing their scale advantages.

• **Environmental Impact.** It's still not clear whether emerging-country policymakers will take energy availability and environmental concerns into account as they promote growth. Why should they, since environmental concerns are a secondary issue in most developing countries? To date, many leaders in these nations have argued that they

Society of Indian Automobile Manufacturers, "is whether to converge with European standards in the next few years, or just to maintain a one- or two-year gap behind Europe." The latter option, he said, "may allow us to develop indigenous technologies at lower cost, making the cars more affordable but still meeting emission norms."

• **An Expanding Lower-End Auto Market.** India's best-selling small car is currently the Maruti Alto, which sells for less than 210,000 rupees (about US$4,500),

in emerging markets to serve the millions of new vehicle owners there, they could follow the path that Japanese and Korean carmakers have paved to bring their products to established markets. The basic vehicle model of the emerging economies could be adapted for other nations, offering fuel efficiency and unprecedented low prices, with a few extra tweaks like the additional safety features that established markets require.

China and India are already exporting cars to the Middle East, Africa, and Eastern Europe; these markets can act as testing grounds for penetration into North America and Western Europe. Eventually, China and India could become the world's leading producers of small cars and of vehicles that use alternative fuels. India's motor vehicle industry may, in particular, surprise the rest of the world. It benefits from access to a large population of skilled engineers, a 60-year history, and the world's fastest-growing major automotive market. Indian manufacturers such as Bajaj and TVS currently produce more two-wheeled vehicles (such as motorcycles and motor scooters) than those of any other nation except Japan. Indian automakers, including M&M, Maruti, Hindustan Motors, and Tata, currently make about 1 million automobiles per year, of which about 80 percent are small, fuel-efficient cars well suited to relatively low-income consumers living in relatively dense urban areas anywhere in the world.

Recent history suggests that many Western automakers will fail to respond effectively. U.S. manufacturers have focused on large cars and trucks, and European car

India's motor vehicle industry has skilled engineers, a 60-year history, and the world's fastest-growing automotive market.

cannot afford the luxury of environmental accountability (particularly for greenhouse gas emissions and their impact on global climate change). This is a source of worry for many experts. China is already second only to the United States as a consumer of energy and producer of greenhouse gases. If driving habits in China, India, and other emerging nations duplicated those in the U.S., the environmental impact could be catastrophic.

But history suggests that rising economic growth leads to greater environmental awareness sooner or later, and this change may already be happening in the East. For example, China has just raised its fuel economy standards, and India's metropolitan governments are beginning to tighten environmental regulations. "The challenge for developing countries," says Dilip Chenoy, director general of the

and manufacturers there are aggressively developing automobiles that will sell for about half that amount. The cars that become popular in emerging markets will deliver necessities rather than creature comforts: A typical car manufactured in India or China may have a plastic shell, a rudimentary motor, good brakes, and a stout suspension to handle unpaved roads, but no airbags. In adapting vehicles for the narrow streets of emerging nations, manufacturers could change the world's conception of what a car looks like, down to whether it must even have four wheels. Even today, in countries such as Thailand, it's possible to see a family of seven balanced on the back of a motorbike; to such families, a three-wheeled, three-seated vehicle would seem positively luxurious.

• **New Pressures on the Auto Industry.** As manufacturers develop

companies have focused on performance. Both groups have thus missed opportunities to develop economical cars with high fuel efficiency and the selling point of reducing dependence on foreign oil.

If all the current automotive trends accelerate, many companies will see their value chains overhauled, not just in the auto industry but in every sector. Nations around the world will suffer the consequences of increased pollution and greater global competition for fuel. And the automobile as a product will be transformed. Those manufacturers and suppliers that start planning now for a new wave of upstart competition will be the most

likely to thrive in the next automotive environment. ✚

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Best Buy's 70 Percent Solution

by Michael Linton

It seems more difficult today than ever before to be a successful marketer. Whereas marketers once all had essentially the same choices of tools and media — newspapers, magazines, in-store advertising, television spots, or radio — they must now think about data mining, international advertising, interactive media, partnerships, customization, buzz marketing, and more. A wealth of choices is often an opportunity for innovation, but not so for most marketers, who are often dissuaded from creativity by an increasing demand for short-term organic growth.

Do marketing leaders really face unique pressures, compared to executives in other parts of an organization? Statistics suggest that the

answer is yes. According to a recent study by the Association of National Advertisers, the average job tenure for a chief marketing officer (CMO) is 23 months, the shortest for all C-suite positions. Given that track record, I was fortunate to have lasted nearly five years as CMO of Best Buy Company.

There are two reasons that marketing is in the bull's-eye in many companies. First, everyone can see what the marketing arm is doing, as well as which competitors are doing better. Few people would accost a chief information officer at a company party to make suggestions on data architecture, but colleagues are only too willing to share their thoughts about whether the latest ad campaign strikes their fancy. Second, a lot of marketing innovation is tough to measure. Although there

is empirical evidence about the speed of technology, the length of supply chains, and the cost of manufacturing, the effect of a marketing campaign is more difficult to quantify, especially in its early stages.

Marketers who rely exclusively on programs that can provide immediate, predictable results, such as promotional sales or a standard TV or print campaign, are doomed to be left in the dust by innovative competitors more prepared to develop bold new promotions attractive to their customers. Yet marketers who devote too much time to innovative but unproven techniques can miss out on short-term returns that, however limiting, cannot be ignored. Success is driven by picking your moments for innovation, setting reasonable expectations, and knowing your company's culture. Marketers must stay objective at all times, but also maintain the passion to create something new and different.

Unfortunately, many of the most promising areas for innovation have not been tried and therefore lack metrics for judging response. Is there any way to accurately project the effect of a partnership with the Rolling Stones to deliver an exclusive DVD? It's nearly impossible to roll out a major PR event or loyalty program with any estimate of upfront monthly return on investment that is much more than a guess.

To satisfy both long-term and short-term needs, marketers should devote the bulk of their budgets to predictable endeavors with calculable returns on investment (ROI). (I refer to this type of marketing management as "Ready, Aim, Fire" because we plan meticulously before we act.) But do not try to prove ROI on every tool or program.

Instead, project your return against the total budget and set aside a portion of the marketing budget for a small group of uncertain, or "Ready, Fire, Aim"–style, projects — in a word, innovations.

Want to try a new partnership deal, jump into a new medium, sponsor a NASCAR driver, or try e-couponing? Do so on the smallest scale possible and then measure the effort once it is in place. Stop the promotion if it's not working and expand it if it is, but don't spend an inordinate amount of time trying to project its brand impact and financial return unless you really have a way to do that. Instead, set broad expectations based on the best logic you can muster.

At Best Buy, we faced the unknown when we had the opportunity in 2003 to partner with the advertising agency National Cinemedia, AMC Theatres, and cell phone providers to sponsor faux movie previews that would run during the "golden minute" right before the feature starts. The message was to turn cell phones off. Each "preview" ended with a cell phone ringing followed by a tragic consequence, such as the discovery of a stealth World War II U.S. submarine by the enemy when a cell phone rings in the boat. Needless to say, the true impact of this project was impossible to measure initially. But we decided to take the risk, and it paid off: The campaign was viewed by thousands and thousands of people, it helped add an aura of edginess and irony to consumer perception of Best Buy, and it placed our brand in an entirely new medium in a relevant way.

During my tenure at Best Buy, if a calculated risk was not moving the financial meter during its allot-ted time frame, we did not hesitate to shut it down, see what we'd learned, and refocus the energy and money on a new innovation. We applied what we called the "70 percent rule" to calculated risks: We tried to get our plans 70 percent complete before launching them. Once the idea was out there, we learned from it, whether it worked well or fell flat. Overall, we would rather have taken 20 small steps and

Try a new marketing effort on the smallest scale possible and measure it once it's in place.

have been right 13 times than have taken five big steps and have been right four times. The opportunity to gain new marketing knowledge is greater with more endeavors, and the chance to explore more ideas results in more innovation.

Of course, there's a caveat. If an idea is so expensive or so important to a company that failure would be catastrophic, it probably makes sense to take the time to get it 90 percent right before moving forward. For example, at Best Buy we spent a year building our loyalty program — a program to attract repeat customers by rewarding them with financial incentives and other benefits. We then tested it as the "Reward Zone" for one year in one region on a limited number of products to generate feedback, see if the idea had merit with consumers, and find out if our systems would work. The program now has more than 8 million members. We were still years behind some of the best-in-class players in the market, but — because we couldn't afford to get it wrong — we knew that the program required a high level of investment in research. When a national rewards program fails, it can be a huge embarrassment for a company, and it is virtually impossible to relaunch.

Whichever marketing choices are made, it is important to innovate within the existing parameters of a company's brand. That's easy to say but hard to do, because marketers often feel pressure from their functional peers and other man-agers to do what competitors are doing. They'll hear, "Let's have a Web site like Company Y and an incentive program like Company Z, advertising like Company A and community giving like Company B." The best advice I ever received as a marketer was to make sure that each brand and each company has to find its own way.

The sweet spot where marketers can succeed is small and probably getting smaller as the marketplace gets faster, more global, and more customized. The ability to keep up with that marketplace will be driven by achieving the right balance between tried-and-true endeavors and the innovative tactics that require calculated risks. We learned at Best Buy that striking the right balance is a never-ending task; it takes a combination of judgment, savvy, good math, and, most likely, a little luck. ✚

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From Laptops to Backpacks

by Mark Anderson

I will never forget a visit I made to a math classroom in an elementary school at Lemon Grove School District in San Diego, Calif. We were there in the spring, and a bar chart on the wall showed that each of the students had already finished the full year's curriculum, months ahead of time. This is not an upscale, highly privileged district. Half of the kids are on the free lunch program, and English is not the native language of many of their families. (Thirty-seven languages are spoken in their homes.)

I had gone there with a theory that when students are given their own computers to use at school and at home, under the right conditions, "superlearners" will emerge. But we weren't completely prepared for the overwhelming success that we found at Lemon Grove. We asked the math teacher about the potential for improving student performance. She smiled and pointed to the bar on the chart that represented the best achiever. "He's already two years ahead of this class," she said.

We hope such stories will be typical of the future; they certainly are not typical of the past. Last May, Goldman Sachs International Vice Chairman Bob Hormats put into words (in a keynote address at the 2006 Strategic News Service [SNS] Future in Review conference) what many businesspeople know instinctively: Education can be a country's greatest weakness in a globalized business environment.

We also know that simply throwing money at the problem does not help. Education funding in the U.S. has been climbing for decades, but reading scores continue to decline. Meanwhile, Western education systems are increasingly unable to produce enough candidates for high-value jobs, involving

The next computer revolution will take place in classrooms, when each child owns his or her own PC.

research and development, programming, engineering, and the like — jobs that increasingly go instead to candidates in India, China, and other developing regions. So what is the answer, and who can provide it?

These questions led me to form SNS Project Inkwell in 2003, a global consortium chartered to "accelerate the deployment of appropriate technologies onto K–12 desktops." My cofounders and I believed that only technology could deliver a revolution in K–12 education. But not just any technology. Specifically, what is required can be expressed in a phrase: "one-to-one computing" — that is, the revolution that takes place in the classroom when each child owns his or her own PC. Yes, the devices have to be better designed than they are today — and much cheaper. That's been our primary goal. And no, the device itself is not nearly as impor-

tant as the training of educators for its proper use and introduction into schools. That's a related goal, which we are working on right now.

Three long-range trends are coming together to make one-to-one computing particularly relevant now. First among them is computers in schools. During the Clinton administration, the U.S. spent $50 billion per year on wiring schools to the Internet. Each school launched its own computer lab, and kids learned to type. But in the end, it was an embarrassing showing: The government spent $200 billion bringing technology to schools during the 1990s without any noticeable improvement in learning or test performance.

It turns out that having a computer lab, or a PC on a teacher's desk, or even one machine for every four students, is essentially worthless — in fact, it's probably a distraction. As far as we can tell, real improvement takes place only in classrooms with a one-to-one computer/student ratio.

Hence the second trend: the movement toward providing individual children with computers. Its best-known incarnation is One Laptop per Child, the handiwork of MIT Media Lab pioneer Nicholas Negroponte and Logo programming language inventor Seymour Papert. But this program, according to Dr. Papert, does not include, or require, any educator training at all.

Just plug in the machine and the education outcome should change. It turns out that this is not plausible. Without teacher training, computers cannot be introduced into classrooms effectively.

Fortunately, the third trend is a rise of interest, mostly unseen outside education circles, in better "staff development," as educators call it. And when these three trends come together, here's what we see:

• Schoolrooms self-organize into study pods (usually of four members), and students begin working and learning in teams. Learning is more project-based, with each student taking responsibility for a particular part of that project.

• During oral and written questioning, all children answer all problems at their computers, so it isn't just the bright kids who jump in. The teacher can see how each child is doing and provide help in real time to those students who most need it. Students take their machines home at night and do homework on them in a connected environment (this, too, is part of the Inkwell goal). For students in needy homes, this is a great equalizer.

In a survey by the Greaves Group and the Hayes Connection, titled "America's Digital Schools 2006: A Five-Year Forecast," 88 percent of the schools operating one-to-one programs that tracked their academic outcomes reported "moderate to significant positive results." The survey concluded: "It appears that properly implemented ubiquitous computing solutions can help improve student achievement to a significant degree."

Former Maine Governor Angus King (who is now chair of the Inkwell Governor's Committee) was a pioneer in understanding the power of one-to-one. In 2002, he ordered laptops for every seventh grader in his state — about 37,000 of them. Maine is currently in its fourth year of this program. "We realized early on that this was not just about education," Governor King said. "This is about economic development."

Massachusetts, Michigan, and South Dakota have similar statewide one-to-one programs. Virginia, Florida, Pennsylvania, and another 11 states are also now moving toward statewide implementations.

One-to-one computing could produce a windfall for computer makers. That's why they will be motivated to tackle the performance and cost improvements required to make this concept a success. There are 54 million kindergarten through 12th-grade students in the U.S. alone. At a hypothetical technology budget of $1,200 per child — which includes not only the PCs but learning devices, servers, software, network, and training — there is a potential $64 billion in the Inkwell U.S. market. Apply this formula around the world, which we are doing, and the numbers grow much larger.

But to take advantage of this boon, computer makers will have to produce machines at reasonable prices that better meet the needs of students and teachers. We have more than 30 corporate members of Inkwell so far, and we are working to establish standards for machines that are simple, durable, and accessible to children. A typical Inkwell computer can outperform business laptops in a variety of measures, from higher survival rates in the classroom to less time lost to booting and support, with a lower total cost of ownership.

Even in an age of ever-tighter education budgets, the movement toward one-to-one PCs is inevitable. The success in states like Maine and districts like Lemon Grove is so dramatic that even if some educators resist, parents and politicians will surely overrule them. In fact, the revolution is under way: The Greaves/Hayes survey found that 24 percent of all U.S. education districts are already in the process of transitioning to Inkwell's approach. Starting in schoolrooms, the magnitude of this change may be the catalyst that ushers in the next wave of lightweight computers, which will be associated less with the airplane seat of a business traveler, and more with a student's backpack — and ultimately with a new style of lifelong learning that emerges on this new, near-ubiquitous platform. ✚

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Outrunning the Regulators

by Joni Bessler, Debra Banning, and Roman Regelman

The password to your bank account is about to be invalidated," reads the e-mail. "To prevent this, please click on the following link and enter all your security information."

The hapless individual who follows instructions, of course, risks giving away access to one or more bank accounts to cyberthieves. And as such devious practices become more sophisticated, regulators tend to get nervous. In fact, that anxiety has led the Federal Financial Institutions Examination Council (FFIEC) to add another layer of rules to those governing the banking industry, already among the most regulated business sectors in the United States. Under the new requirements drafted by the FFIEC, which was created in 1979 to estab-

lish uniform principles in federal bodies' oversight of the industry, financial institutions must put more stringent controls on their electronic security by the end of 2006. Specifically, they must examine the ways in which they communicate electronically with customers, whether those interactions are on Web sites or interactive phone systems; they must determine what security threats exist on those systems, establish a process for assessing future risk, and formally educate their customers about security risks.

Banks don't have much more time to meet the FFIEC's demands and, unfortunately, many will make the minimum effort necessary to comply with the requirements, sigh in relief, and consider the task finished — thus leaving themselves unprepared for the FFIEC's next set of guidelines.

This attitude does not just open the door to future noncompliance. It sets in place a debilitating cycle of increasing vulnerability. Given the constantly evolving state of security in financial services, banks that take a desultory approach to security are positioning themselves as the weakest members of the herd, and thus the most vulnerable to sophisticated "phishing" and "pharming" schemes, in which attackers gain access to customers' accounts and personal data through e-mail fraud or Web traffic redirection. The FBI estimates that every incident of a Trojan virus attack costs banks at least $38,000 in revenue loss and employee hours — and that figure doesn't take into account the harm to a company's reputation and loss of customer confidence, which can be more damaging than the actual attack.

Companies in heavily regulated industries, a group that includes pharmaceuticals, health care, and utilities, often act as though the regulations that besiege them are irritating trivialities. However, new requirements can offer companies an opportunity to escape the cycle. For instance, instead of maintaining an ad hoc approach to foiling invasions and complying with regulations, banks should craft an overall public-facing security strategy. Although it can be difficult to persuade senior management to invest in long-range plans, there's no better time to do it than when they are in the shadow of an imminent regulatory deadline — especially one that is disrupting the entire organization as the company marshals its resources to deal with it.

For example, in aiming to go beyond regulatory compliance and achieve security excellence, banks

can institute a mechanism for self-analysis and self-improvement that allows them to anticipate their future security needs. In doing so, they will meet their current burden of compliance, lessen the impact of any future regulatory guidance, reduce their risk exposure, and address customers' concerns about the security of online banking.

Instituting such a robust risk-mitigation program involves three elements. The first is to determine the most appropriate technical solution, which can be the biggest hurdle for many companies: They may not know how many Web sites they operate, security across the systems may be inconsistent, and key applications and services may reside on poorly secured systems. Therefore, banks, for example, should assess their current level of risk exposure and determine risk-mitigation strategies that will balance compliance, business objectives, and customer satisfaction. In implementing technical solutions, banks must avoid overly complex approaches, which may have higher-than-expected direct and indirect costs.

The second element is an effective organizational structure to manage the initiative. A common roadblock to implementing new security standards is a decentralized company, which can lead to inconsistent approaches to IT security across the enterprise, along with incomplete monitoring and accountability. However, piecemeal fixes will not work. Grafting a centralized security program onto a decentralized organization often results in the corporate equivalent of organ rejection.

How might banks address this issue? They can create a hybrid centralized–decentralized model, in which critical compliance activities

and governance oversight are centrally managed, while less critical functions remain with the business units. Alternatively, banks can construct enforcement mechanisms that shift the burden of compliance to the heads of the business units, rather than keep it centralized at

Grafting a centralized security program onto a decentralized organization can lead to corporate organ rejection.

corporate headquarters. Regardless of the specific solution, banks can manage risk exposure and regulatory compliance in a uniform fashion only if they have the requisite organizational structures in place.

The final element of a robust risk-mitigation program, customer awareness, can be a key component of a company's defense against fraud and identity theft. A well-educated bank customer can more easily spot phony come-ons, like phishing e-mails, and avoid being deceived. In fact, many banks are finding that educated consumers are their front line of defense in reporting phishing and other fraud attempts. One basic but effective measure is to advise customers to always type the bank's Web address into their Internet browser rather than click on a link in an e-mail, because the e-mail may be fraudulent.

Furthermore, making customers aware of enhanced online security is a key differentiator in the marketplace. In a 2005 survey by Deutsche Bank Research, "security offering" was far and away the most important feature to prospective online banking customers, with 87

percent calling it their top priority. A well-publicized security program could prove a significant lure to new customers in the highly competitive banking environment.

Any highly regulated industry will face similar vicious cycles of its own and should be thinking about approaches for leaping ahead of regulatory requirements. The common thread is that simply responding to regulatory guidance will never be enough. Anticipatory thinking is the only way to avoid being caught in the middle of an endless series of provocation and regulation. ✚

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