Module Five | Class One and Two

Ecological 1

MOD5

Ecological Farming

CLASS DAY ONE

In times of crisis, people reach for meaning. Meaning is strength. Our survival may depend on our seeking and finding it.

- Dawna Markova

Is Your Supply Chain Ready for the Congestion Crisis?

by George Stalk and Petros Paranikas

A few years ago one of us (George) and his wife decided to sell their large house in the center of Toronto. With only one of their six children living at home, now was the time. But who in this age of smaller families would want our house? To our surprise, it sold in 20 minutes for 25% more than the asking price. A childless couple who lived 20 miles away bought the house because they were sick of commuting into the city!

Longer commute times are just one sign that congestion is creeping into our lives. Highways and bridges are in desperate need of repair, making travel slower—and more dangerous. Our overburdened air-traffic-control system struggles to deal with increasingly crowded skies. Port congestion is a growing problem, exacerbated by the new super-size container ships that take far longer to unload than older, smaller ships. "Expect delays" has become the recurring theme of our transportation system.

With growing congestion a global megatrend, companies have a choice. Either accept it (and its higher costs and lower profits) or take control of your fate with strategic, game-changing actions that cut time and costs from the supply chain.

A looming crisis. First, it's important to understand the magnitude of the coming congestion crisis and its underlying drivers. These include the following:

Not enough port container capacity. Until the summer of 2008, container ports on both the west and east coasts of North America were nearing capacity as imports and exports

soared. Then the recession hit, and the problem receded as port traffic slowed. But now the problem is back with a vengeance. Shipment volumes through North American ports, which fell 20% in 2009 from a record peak in 2007, are now higher than they were in 2007, and port-expansion plans from Vancouver to Los Angeles/Long Beach are bogged down by political wrangling.

Railway systems are near capacity. For instance, the average transit times to move containers from the ports of Los Angeles and Long Beach to Chicago grew from 84 hours at the end of 2004 to 120 hours by early 2015.

Highways can't keep up with demand. The highway systems in North America and Western Europe are also feeling the strain. The United States greatly expanded "lane miles"—one measure of capacity—in the 1950s, 1960s, and 1970s but not much since then. Meanwhile, the load factor on the system has been doubling every 30 years. Today, the load factor (total vehicle miles traveled divided by lane miles) is growing more than 10 times faster than capacity is.

Air freight isn't the answer. Airports in North America are slowed by outdated traffic-control systems, limited runway capacity, and a shortage of fuel-efficient air freighters. In the last 40 years, only three major new airports have been built in North America: Dallas-Fort Worth, Montreal's Mirabel, and Denver International. All of them replaced existing airports. Expansion of runway capacity in the United States also has been limited. Since 1975, just 41 new runways were planned, and only 25 were actually built, each with an average construction time of about 11 years! Lobbying by special interest groups got in the way.

The impact on supply chains. The shortage of transport capacity relative to demand will have a profound effect on businesses. For instance, Procter & Gamble's logistics costs already exceed such key value-adding costs as manufacturing, even though the company mainly ships by land. Longer supply chains also increase inventory levels and carrying costs related to financing and warehousing.

These are just the first-order costs of congestion. The second-order costs are even greater. Companies can easily match supply and demand if demand is steady over time with no change in volume or mix. But as soon as demand changes, supply levels at each step of the chain must adjust. Given the lag time before changes in de-

mand are actually felt by different players along the chain, their effects are amplified when they hit, leading to inventory shortages or pile-ups. Then, companies tend to overcompensate by stopping or increasing production lines, and inventory levels can fluctuate wildly. This is the "whipsaw" effect, and congestion can exacerbate it.

The associated costs can be significant: Lost profits from a stockout equal the gross margin of a product—generally in the range of 20% to 50%. Product overstocks result in discounted prices, which are usually about half to two-thirds of the gross margin. Congestion-driven losses from stockouts and overstocks are overwhelmingly greater than the direct costs of congestion but often remain hidden because they may not be measured or called out.

The bottom line: Companies must redesign their supply chains or become victims of the direct and indirect costs of increasing congestion.

What companies can do. Companies can minimize the business impact of congestion—and gain a strategic advantage over less-prepared competitors—by enhancing their supply-chain performance in four critical ways:

Improve process efficiency. Speeding up value delivery can result in remarkable performance improvements. For instance, a 25% reduction in the time needed to deliver a product or service can double the productivity of labor and of working capital. And our experience over the years at BCG is that a business that can deliver value twice as quickly as its competitors will grow twice as fast and be three times more profitable.

Improve information flows. Supply-chain speed and agility sharply increase when information is shared across the network. Walmart's Retail Link offers an electronic bridge to the retailer's suppliers, providing data on sales and inventory levels and allowing them to download purchase orders. This close integration gives suppliers a better sense of true demand, which can reduce the effects of congestion throughout the supply chain.

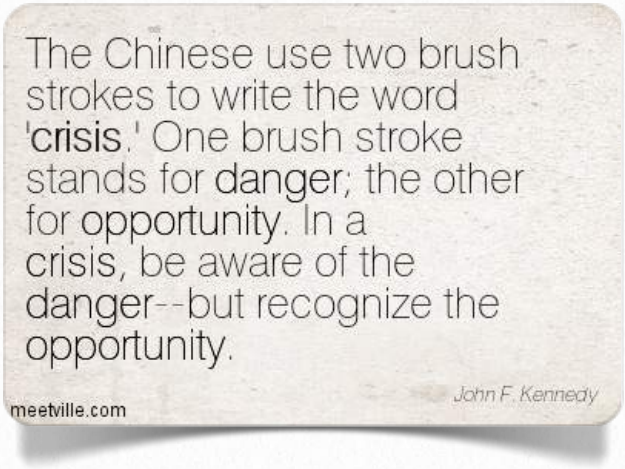
Reduce variability. The longer your supply chain is, the greater the risk of variability. But much supply-chain variability is self-inflicted, the result of inadequately informed planning and needless complexity in processes, products, and portfolios. As noted above, improving process efficiency will reduce cycle times, a good first step toward reducing variability. But companies

should also look for ways to shorten and simplify their supply chains by shifting away from high-volume, world-scale plants that make just a few products to smaller plants that make a wider range of products closer to local markets. Increases in unit-production costs are often offset by lower logistics costs, faster replenishment cycles and fewer stockouts and overstocks. The same logic can apply to distribution logistics when global distribution centers are replaced by regional warehouses.

Compress transit times. Besides improving process efficiency and shortening their supply chains, companies can improve cycle times by rethinking how they transport their goods. One tactical approach is to make more use of air freight. Air cargo costs per ton are four to six times greater than on-ocean shipping costs, which account for 0.5% to 2% of the shelf price of most products. For the right products—those with high margins, a limited shelf life, or short product life cycles such as fashion and technology items—the added costs of air freight are more than offset by the positive impact on profits of fewer stockouts and overstocks. Air freight can cut weeks from the time it takes to ship from China to North America and Western Europe.

In the end, the above four are just tactics. Real benefits—growth and profits—come when these tactics are employed in a differentiating strategy that exploits congestion. For example, one possible strategy is building dominant share positions with those customers who value faster, more reliable responses from their suppliers.

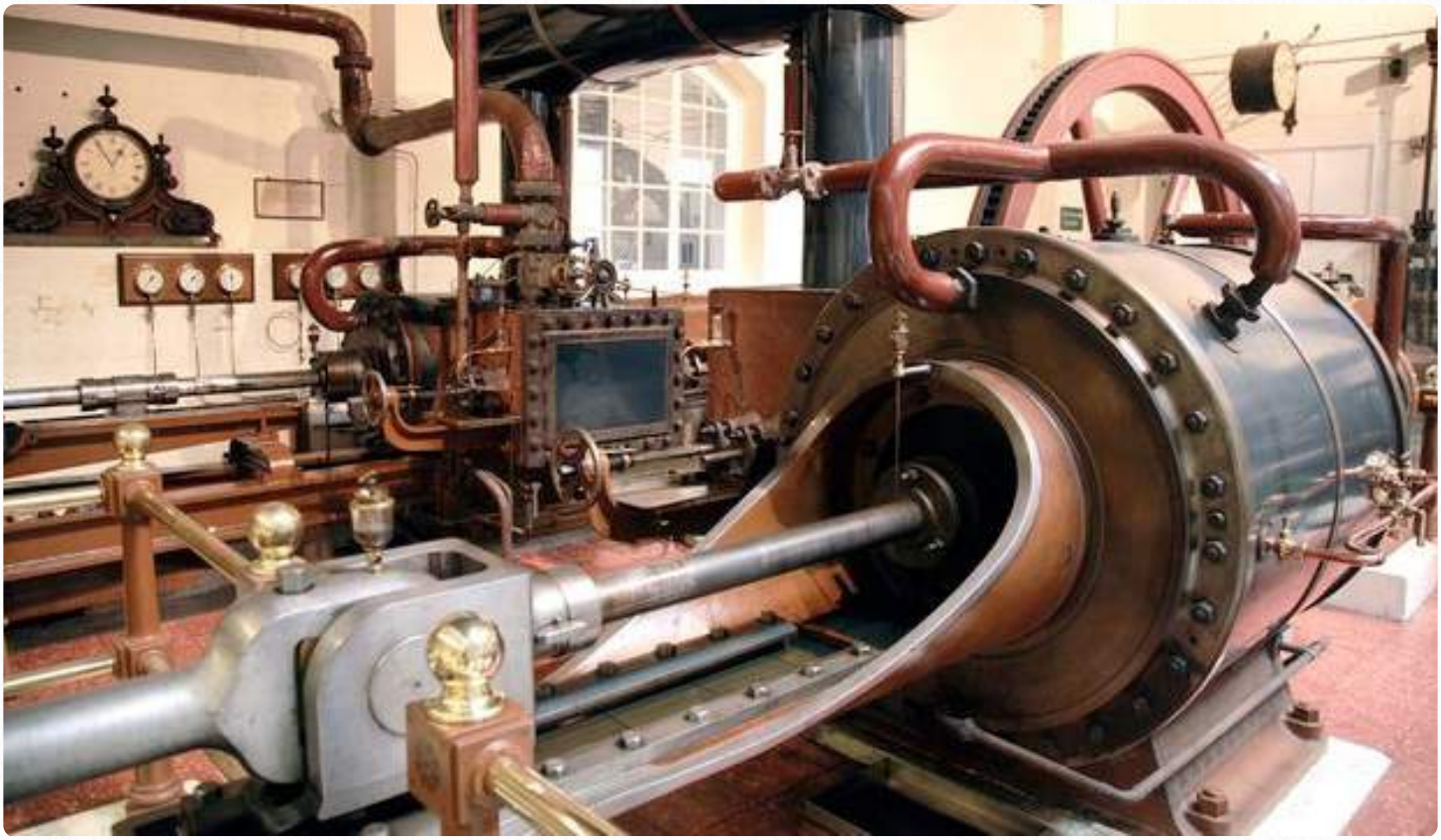
Such tactics and strategies for improving supply-chain performance can increase market share, reduce costs, and dramatically improve profitability. Companies that take action now can turn the looming congestion crisis into a major strategic opportunity. Use it against your competitors before they use it against you.



Movie 1.1 Humanity From Space - Connected Planet

Humanity from Space is an epic journey of discovery. Using the very latest mind-boggling data and astonishing CGI, the film traces the story of humankind's ascent from hunter-gatherer to dominant global species.

New Power



Understanding "New Power"

by Jeremy Heimans and Henry Timms

We all sense that power is shifting in the world. We see increasing political protest, a crisis in representation and governance, and upstart businesses upending traditional industries. But the nature of this shift tends to be either wildly romanticized or dangerously underestimated.

There are those who cherish giddy visions of a new techno-utopia in which increased connectivity yields instant democratization and prosperity. The corporate and bureaucratic gi-

ants will be felled and the crowds coronated, each of us wearing our own 3D-printed crown. There are also those who have seen this all before. Things aren't really changing that much, they say. Twitter supposedly toppled a dictator in Egypt, but another simply popped up in his place. We gush over the latest sharing-economy start-up, but the most powerful companies and people seem only to get more powerful.

Both views are wrong. They confine us to a narrow debate about technology in which either everything is changing or nothing is. In reality, a much more interesting and complex transformation is just beginning, one driven by a growing tension between two distinct forces: old power and new power.

Old power works like a currency. It is held by few. Once gained, it is jealously guarded, and the powerful have a substantial store of it to spend. It is closed, inaccessible, and leader-driven. It downloads, and it captures.

New power operates differently, like a current. It is made by many. It is open, participatory, and peer-driven. It uploads, and it distributes. Like water or electricity, it's most forceful when it surges. The goal with new power is not to hoard it but to channel it.

The battle and the balancing between old and new power will be a defining feature of society and business in the coming years. In this article, we lay out a simple framework for understanding the underlying dynamics at work and how power is really shifting: who has it, how it is distributed, and where it is heading.

New Power Models

Power, as British philosopher Bertrand Russell defined it, is simply "the ability to produce intended effects." Old power and new power produce these effects differently. New power models are enabled by peer coordination and the agency of the crowd—without participation, they are just empty vessels. Old power is enabled by what people or organizations own, know, or control that nobody else does—once old power models lose that, they lose their advantage.

Old power models tend to require little more than consumption. A magazine asks readers to renew their subscriptions, a manufacturer asks customers to buy its shoes. But new power taps into people's

growing capacity—and desire—to participate in ways that go beyond consumption.

These behaviors include *sharing* (taking other people's content and sharing it with audiences), *shaping* (remixing or adapting existing content or assets with a new message or flavor), *funding* (endorsing with money), *producing* (creating content or delivering products and services within a peer community such as YouTube, Etsy, or Airbnb), and *co-owning* (as seen in models like Wikipedia and open source software).

Sharing and shaping.

Facebook is the classic example of a new power model based on sharing and shaping. Some 500 million people now share and shape 30 billion pieces of content each month on the platform, a truly astonishing level of participation upon which Facebook's survival depends. Many organizations, even old power players, are relying on these behaviors to grow the strength of their brands.

For example, NikeID, an initiative in which consumers become the designers of their own shoes, now makes up a significant part of Nike's online revenues.

Funding.

Funding behaviors typically represent a higher level of commitment than sharing and shaping. Millions of people now use new power models to put their money where their mouth is. The crowdfunding poster child Kiva, for example, reports that some 1.3 million borrowers living in 76 countries have collectively received more than half a billion dollars in loans.

Peer-to-peer giving, lending, and investing models effectively reduce dependence on traditional institutions. Instead of donating via a big institution like United Way that parcels out money on donors' behalf, people can support a specific family in a specific place affected by a specific problem. Platforms like Wefunder allow start-ups to access funding from thousands of small investors rather than rely on a handful of very big ones. One inventor just set a new record on Kickstarter, raising more than $13 million from 62,000 investors. To be sure, new power funding models are not without their downside: The campaigns, projects, or start-ups that are most rewarded by the crowd may not be the smartest investments or those that benefit the most people. Indeed, crowdfunding puts on steroids the human tendency to favor the immediate, visceral, and emotional

rather than the strategic, impactful, or long-term.

Producing.

In the next level of behaviors, participants go beyond supporting or sharing other people's efforts and contribute their own. YouTube creators, Etsy artisans, and TaskRabbit errand-runners are all examples of people who participate by producing. When enough people produce, these platforms wield serious power. Take Airbnb, the online service that matches travelers who need a place to stay with local residents who have a room to spare. As of 2014, some 350,000 hosts had welcomed 15 million people to stay in their homes. That's enough to put real pressure on the incumbent hotel industry.

Co-ownership.

Wikipedia and Linux, the open source software operating system, are both driven by co-ownership behaviors and have had a huge impact on their sectors. Many of the decentralized peer-directed systems Harvard Law professor Yochai Benkler calls "peer mutualism" belong in this category. Consider also an initiative that grew not out of Silicon Valley but out of a church in London. The Alpha Course is a template for introducing people to Christian beliefs. Anyone wishing to host a course can freely use its materials and basic format—10 meetings devoted to the central questions of life—with no need to gather in a church. Catalyzed by a model that empowers local leaders, the course has reached 24 million people in living rooms and cafés in almost every country in the world.

What's distinctive about these participatory behaviors is that they effectively "upload" power from a source that is diffuse but enormous—the passions and energies of the many. Technology underpins these models, but what drives them is a heightened sense of human agency.

New Power Values

As new power models become integrated into the daily lives of people and the operating systems of communities and societies, a new set of values and beliefs is being forged. Power is not just flowing differently; people are feeling and thinking differently about it. A teenager with her own YouTube channel engages as a content creator rather than as a passive recipient of someone else's ideas. A borrower on the peer-to-peer finance platform Lending Club can disintermediate that oldest of old power institutions, the bank. A Lyft user ex-

periences consumption as a kind of sharing and subtly shifts his view of asset ownership.

These feedback loops—or maybe we should call them "feed-in" loops, given that they're based on participation—make visible the payoffs of peer-based collective action and endow people with a sense of power. In doing so, they strengthen norms around collaboration and make the case that we can do just fine without the old power middlemen that dominated the 20th century. Public polls reflect the shifting attitudes toward established institutions. For example, the 2014 Edelman Trust Barometer shows the largest deficit in trust in business and government since the survey began in 2001.

Among those heavily engaged with new power—particularly people under 30 (more than half the world's population)—a common assumption is emerging: We all have an inalienable right to participate. For earlier generations, participation might have meant only the right to vote in elections every few years or maybe to join a union or religious community. Today, people increasingly expect to actively shape or create many aspects of their lives. These expectations are giving rise to a new set of values in a number of realms:

Governance.

New power favors informal, networked approaches to governance and decision making. The new power crowd would not have invented the United Nations, for instance; rather, it gravitates toward the view that big social problems can be solved without state action or bureaucracy. Often encountered in Silicon Valley, this ethos has at its core a deep and sometimes naive faith in the power of innovation and networks to provide public goods traditionally supplied by government or big institutions. Formal representation is deprioritized; new power is more flash mob and less General Assembly.

Collaboration.

New power norms place a special emphasis on collaboration, and not just as a way to get things done or as part of a mandated "consultation process." New power models, at their best, reinforce the human instinct to cooperate (rather than compete) by rewarding those who share their own ideas, spread those of others, or build on existing ideas to make them better. Sharing-economy models, for example, are driven by the accumulated verdict of the community. They rely on reputation systems that ensure that, say, rude or messy

guests on Airbnb have trouble finding their next places to stay.

DIO.

New power is also engendering a "do it ourselves" ethic, as Scott Heiferman, the CEO of Meetup, puts it, and a belief in amateur culture in arenas that used to be characterized by specialization and professionalization. The heroes in new power are "makers" who produce their own content, grow their own food, or build their own gadgets.

Transparency.

New power proponents believe that the more light we shine, the better. Traditional notions of privacy are being replaced by a kind of permanent transparency as young people live their lives on social media. Clearly, the walls between public and private discourse are crumbling, with mixed consequences. And although Facebook profiles, Instagram feeds, and the like are often nothing more than a carefully managed form of self-display, the shift toward increasing transparency is demanding a response in kind from our institutions and leaders, who are challenged to rethink the way they engage with their constituencies. Pope Francis—the leader of an organization known for its secrecy—is surprisingly attuned to the need to engage in new power conversations. His promise to make the Vatican Bank more financially transparent and reform the Vatican's media practices is an unexpected move in that direction.

Affiliation.

New power loves to affiliate, but affiliation in this new world is much less enduring. People are less likely to be card-carrying members of organizations (just ask groups like the ACLU that are seeing this form of membership threatened) or to forge decades-long relationships with institutions. So while people with a new power mindset are quick to join or share (and thanks to new power models, "joining" is easier than ever), they are reluctant to swear allegiance. This makes new power models vulnerable. New power is fast—but it is also fickle.

New power is also fundamentally changing the way everyday people see themselves in relation to institutions, authority, and one another. These new norms aren't necessarily better. For instance, new power offers real opportunities to enfranchise and empower, but there's a fine line between democratizing participation and a mob mentality. This is especially the case for self-

organized networks that lack formal protections. New power can easily veer in the direction of a Tea Party or an Occupy Wall Street. (We assume that most people think at least one of these is a bad thing.)

A Framework for Understanding the Players

Putting the two dimensions of models and values together yields a framework that helps organizations think about where they are now and also helps them chart their progress toward a more strategic position.

Castles.

In the bottom-left quadrant are organizations that use old power models and have old power values. By our estimation, this category includes the world's most valuable company—Apple—as well as some obvious dinosaurs. Apple's success in the past 15 years can be chalked up to a terrifically executed strategy of cultivated exclusivity and pushing products from the top down. Unlike Google, Apple largely eschews open source approaches, and despite its antiestablishment fan base and the carefully managed "maker culture" of its App Store, it is renowned for secrecy and aggressive protection of IP.

Connectors.

In the top-left quadrant are organizations with a new power model—for example, a network connecting many users or makers—but old power sensibilities. This category includes technology natives like Facebook, whose model depends on participation but whose decisions sometimes seem to ignore the wishes of its community, as well as organizations like the Tea Party, which has a strong, decentralized grassroots network but wields its influence in highly traditional corridors of power. Players in this quadrant tend toward "smoke-filled room" values while relying on a "made by many" model (and many run an increasing risk by doing so).

Cheerleaders.

In the bottom-right quadrant are organizations that use old power models but embrace new power values. Patagonia, for example, has a traditional old power business model, yet it stands out for its embrace of new power values like transparency. Some of these "cheerleader" organizations, such as The Guardian newspaper, are working to evolve their positions so that they not only espouse new power values but incorporate new power models effectively.

Crowds.

In the top-right quadrant are the "purest" new power actors. Their core operating models are peer-driven, and their values celebrate the power of the crowd. This is where we find established peer-driven players, like Wikipedia, Etsy, and Bitcoin, and newer sharing-economy start-ups, like Lyft and Sidecar. This quadrant also includes distributed activist groups and radically open education models.

Some organizations have moved from one quadrant to another over time. Think of TED, the organization dedicated to "ideas worth spreading." Ten years ago, the organization talked the talk on collaboration and networks, but in reality it lacked any kind of new power model—it was simply an expensive, exclusive, and carefully curated annual conference. Since then, TED has broadened its model by enabling self-organization and participation via the TEDx franchise and by making its previously closed content open to everyone. Both decisions have had a major impact on the scale and reach of the TED brand, even as the organization has grappled with risks associated with loosening control. TED is now effectively leveraging a complementary old power and new power business model.

Cultivating New Power

Most organizations recognize that the nature of power is changing. But relatively few understand the keys to influence and impact in this new era. Companies see newly powerful entities using social media, so they layer on a bit of technology without changing their underlying models or values. They hire chief innovation officers who serve as "digital beards" for old power leaders. They "reach out" via Twitter. They host the occasional, awkwardly curated, lonely Google hangout with the CEO.

But having a Facebook page is not the same thing as having a new power strategy. If you're in an industry that is being radically altered by new power, it isn't enough to add some window dressing. A newspaper business, for example, can't simply insert a comments section at the bottom of every article online and call that new power—it has to intentionally build reader engagement and a vibrant community, which almost certainly will require shifts in both its model and its values. The New York Times is struggling with exactly this dilemma, as its leaked innovation report last year demonstrated.

Traditional organizations that want to develop new power capacity must engage in three essential tasks: (1) assess their place in a shifting power environment, (2) channel their harshest critic, and (3) develop a mobilization capacity.

Audit your power.

A telling exercise is to plot your organization on the new power compass—both where you are today and where you want to be in five years. Plot your competitors on the same grid. Ask yourself framing questions: How are we/they employing new power models? And how are we/they embracing new power values? To understand how your organization is deploying new power, consider which participation behaviors you are enabling. This process starts a conversation about new realities and how your organization needs to respond. It doesn't always lead to a resolute determination to deploy new power—in fact, it can help organizations identify the aspects of their core models and values that they don't want to change.

Occupy yourself.

What if there were an Occupy-style movement directed at you? Imagine a large group of aggrieved people, camped in the heart of your organization, able to observe everything that you do. What would they think of the distribution of power in your organization and its legitimacy? What would they resent and try to subvert? Figure it out, and then Occupy yourself. This level of introspection has to precede any investment in new power mechanisms. (Companies should be especially careful about building engagement platforms without developing engagement cultures, a recipe for failure.)

There's a good chance that your organization is already being occupied, whether you know it or not. Websites are popping up that provide forums for anonymous employee accounts of what is really going on inside businesses and how leaders are perceived. In our new power world, the private behavior—and core challenges—of every organization is only a leak or a tweet away. This poses a threat to happily opaque old power organizations, which face new levels of scrutiny about performance.

Are you really delivering advertising reach for my product? Are you really improving my kid's reading skills? Today, the wisest organizations will be those engaging in the most painfully honest conversations, inside and outside, about their impact.

Develop a movement mindset.

Old power organizations need to do more than just look inward; they also need to think differently about how they reach out. Organizations that have built their business models on consumption or other minimal participation behaviors will find this challenging but increasingly important.

The capacity to mobilize a much wider community of people can be a critical business advantage, as we saw in the defeat of "online piracy" legislation in the United States, in 2012. In that conflict between technology companies and copyright holders, both sides enlisted armies of lobbyists, but only one side was able to mobilize an army of citizens. Google, Wikipedia, and other organizations inspired meaningful action—10 million petition signatories, more than 100,000 calls to Congress, and a "blackout" of the internet—creating a cultural surge when it mattered. The recent standoff between Amazon and Hachette also shows two sides attempting to flex their mobilization muscle, with Amazon rallying "Readers United" against Hachette's band of "Authors United."

To succeed, a movement needs much more than ad campaigns or "astroturfing." Leaders must be able to actually mobilize true believers, not just talk at them. A key new power question for all organizations is "Who will really show up for you?"

The Challenge for New Power

Organizations that rely on new power can be easily intoxicated by the energy of their crowds and fail to recognize that to effect real change, they too might need to adapt. They should bear three essential principles in mind.

Respect your communities (don't become the Man).

If old power organizations should fear being occupied, new power organizations should fear being deserted. Those who deploy new power models but default to old power values are especially at risk of alienating the communities that sustain them. This isn't simply a problem of mindset, where organizations lose touch with the crowds that made them prosper. It is also a practical challenge: The expectations of critical stakeholders—investors, regulators, advertisers, and so on—often run counter to the demands of new power communities, and balancing those agendas is not easy.

Facebook, like many organizations with a new power model, is dealing with this tension between two cultures. Facebook's old power corporate ambition (more data ownership, higher stock values) clashes with the demands of its own crowd. Initial surges of interest in alternative social networks promising to honor new power values may be a sign of things to come. As new power concepts of digital rights evolve, these conflicts will most likely increase.

Go bilingual.

For all new power's progress, it is not yet making much of a dent in society's old power superstructure. Khan Academy is the darling of the digerati, but our education systems remain largely unchanged, with school timetables still built around family lifestyles of the 1800s. Lawrence Lessig, a leading new power thinker, wants to overhaul campaign finance laws in the United States, but he has realized that the best way to "end all super PACS" is with a super PAC.

In this context, the right strategy for the moment is often to go "bilingual," developing both old and new power capacities. Arianna Huffington, for example, has built a platform that comprises a network of 50,000 self-publishing bloggers, but she also skillfully wields an old power Rolodex. Bilingual players like Huffington deploy old power connections to get what they need—capital, legitimacy, access to partnerships, publicity—without being co-opted or slowed down. They use institutional power without being institutionalized.

Get structural.

New power models will always have limited influence and impact unless they are operating within a superstructure designed to play to their strengths. Take the global grassroots movement Avaaz. Even though it has 40 million members, it will only get so far in its efforts to effect change if the decision-making mechanism that it seeks to influence is an entrenched old power structure like the UN climate negotiation process.

The battle ahead, whether you favor old or new power values, will be about who can control and shape society's essential systems and structures. Will new power forces prove capable of fundamentally reforming existing structures? Will they have the ingenuity to bypass them altogether and create new ones? Or will they ultimately succeed in doing neither, allowing

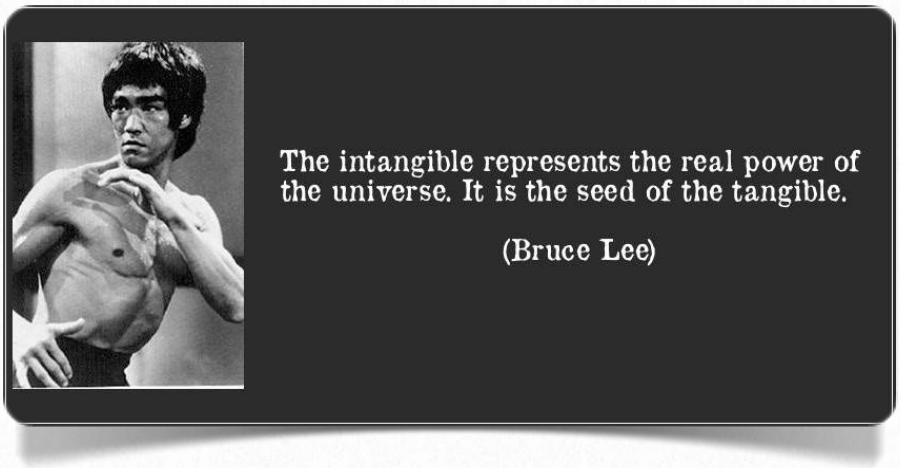
Knowledge is power, but enthusiasm pulls the switch.

- Ivern Ball

traditional models of governance, law, and capital markets to basically hold firm?

As we revel in moments of promise and see ever more people shaping their destinies and lives, the big question is whether new power can genuinely serve the common good and confront society's most intractable problems. Strategy and tactics are important, but the ultimate questions are ethical. "For all of its democratizing power, the Internet, in its current form, has simply replaced the old boss with a new boss," warns Fred Wilson, a partner at Union Square Ventures. "And these new bosses have market power that, in time, will be vastly larger than that of the old boss."

Too often, new power bosses dream only of a good "exit" from a hot business, but we need new power leaders to make a grand entrance into civil society. Those capable of channeling the power of the crowd must turn their energies to something more fundamental: redesigning society's systems and structures to meaningfully include and empower more people. The greatest test for the conductors of new power will be their willingness to engage with the challenges of the least powerful.



OLD POWER VALUES	NEW POWER VALUES
Managerialism, institutionalism, representative governance	Informal, opt-in decision making; self-organization; networked governance
Exclusivity, competition, authority, resource consolidation	Open source collaboration, crowd wisdom, sharing
Discretion, confidentiality, separation between private and public spheres	Radical transparency
Professionalism, specialization	Do-it-ourselves, "maker culture"
Long-term affiliation and loyalty, less overall participation	Short-term, conditional affiliation; more overall participation

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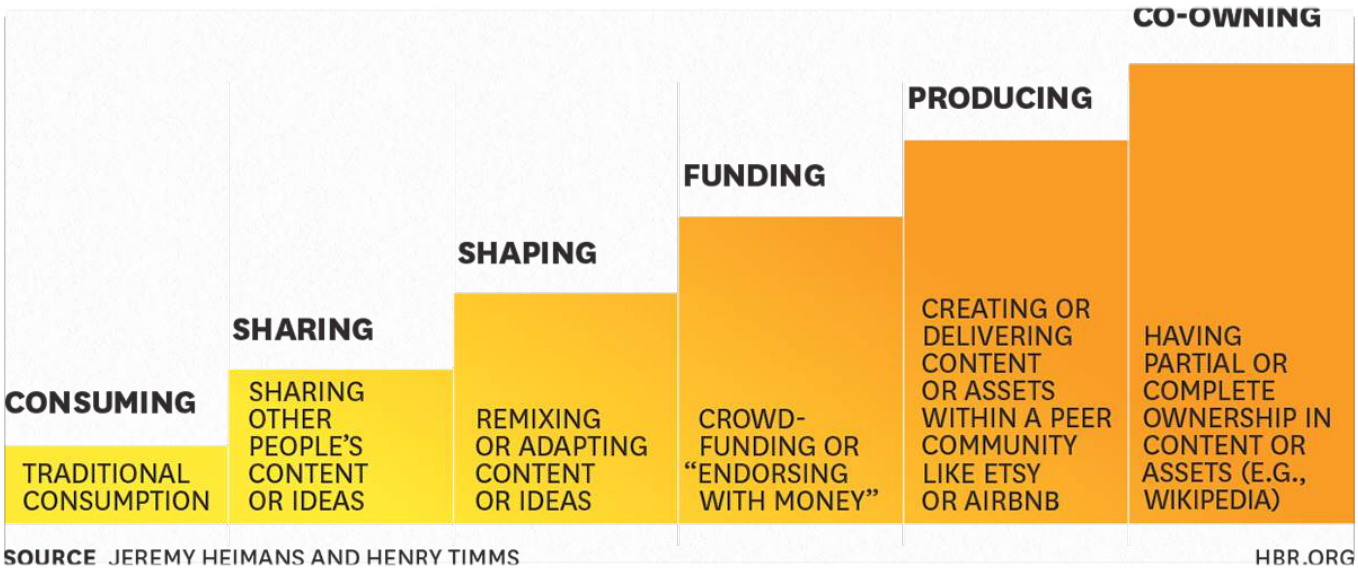

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New Power Case Study: Uber

The rise of Uber, the ride-sharing service, is a study in new power. Uber has built an extraordinarily fast-growing and dense transport network without any physical infrastructure at all. The service relies on peer coordination between drivers and passengers, enabled by sophisticated software and a clever reputation system. Passengers rate drivers, but drivers also rate their passengers—building trust and promoting good behavior without the need for a more onerous rules-based system.

Uber's business model depends almost exclusively on its relationship with its network participants (drivers and riders). That relationship is now at risk because of a misalignment between Uber's new power model and its old power values. For example, anticipating a future of driverless cars, CEO Travis Kalanick noted early this year, "Once we get rid of the dude in the car [the driver] Uber will be cheaper." This understandably infuriated many Uber drivers, and in some cities they are unionizing because they perceive the company to be exploitative. (By contrast, Airbnb has rallied its hosts into a grassroots army of defenders against skeptical regulators.) Making matters worse, Uber is also tussling with its customer base, which it badly needs to keep on its side, over its surge-pricing model. Uber defends the model as rational and efficient, but some see it as a breach of faith, and new power competitors like Lyft are using this mistrust to drive a wedge. With its community-centric brand proposition "your friend with a car," Lyft is claiming a closer alignment between its new power model and new power values.

As Uber scales up, it faces further challenges. After raising $1.2 billion from investors in 2014, it is now under considerable financial pressure to generate surpluses by concentrating power and sharing less value with drivers and consumers who feed the model.

At the same time, old power is firing back. In London and Paris recently, taxi drivers went on strike to protest Uber's policies and the government's failure to regulate ride sharing effectively. French authorities have tried to restrict Uber by proposing a minimum 15-minute wait for any person who requests a car, giving taxi drivers a head start.

How will new power players respond to regulatory challenges? For now, the most effective responses will involve a potent combination of old and new power—that is, a traditional

lobbying strategy combined with a capacity to mobilize network participants. Uber's recent hiring of David Plouffe, a mastermind of President Obama's new power electoral strategy, suggests that the company understands what it is up against.

Campaigning with New Power, Governing with Old

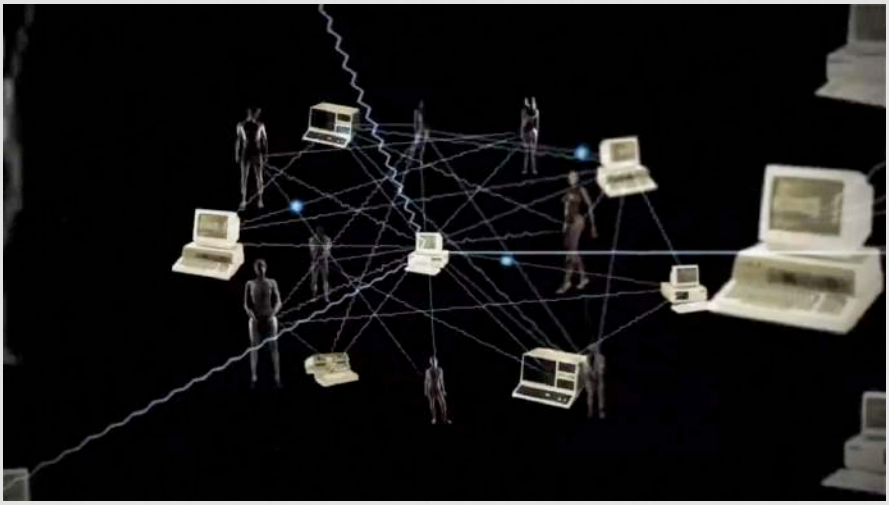
New power makes for great campaigns and stirring protests. Populist movements and uprisings of recent years, especially the Arab Spring, vividly demonstrate new power at work. But new power has not yet proved capable of effectively influencing the business of government. It surges but often dissipates quickly, leaving old power to reclaim the advantage.

The 2008 Obama campaign was a master class in how to use new power tools and how to tap into new power values ("Yes We Can!"). After the victory, however, things changed significantly. The campaign transitioned into government, but its massive grassroots base largely did not. The old power realities of government and the deep-rooted superstructure of rules and procedures were simply not designed for—and would not bend easily to accommodate—new power.

New power faces two big challenges in influencing government. First, old power is solidly entrenched and well protected. Second, the loose, unaffiliated nature of new power makes it hard to focus. New power is good at big statements, the coin of elections, but bad at small details, the coin of government. The Occupy movement flared up and then faded for this reason, lacking a clear strategic direction beyond its initial call to arms.

To truly transform government, new power will need to do more than change the short-term political dynamics—it must change the rules of the game. Early experiments, such as participatory budgeting, community activism initiatives like SeeClickFix.com, and Iceland's crowdsourced process of building a new constitution, are attempts in this direction, but none has yet proved capable of fundamentally shifting the operating system of government.

Movie 1.2 Connected - Participatory Revolution



Have you ever faked a restroom trip to check your email? Slept with your laptop? Or become so overwhelmed that you just un-plugged from it all? In this funny, eye-opening, and inspiring film, director Tiffany Shlain takes audiences on an exhilarating rollercoaster ride to discover what it means to be connected in the 21st century. by Tiffany Shlain & The Moxie Institute Films

Guarded Markets

Strategies to Crack Well-Guarded Markets

by David J. Bryce and Jeffrey H. Dyer

What's the smarter strategy: To break into an industry where, judging by the incumbents' performance, you can make only average profits but are likely to do so? Or to jump into a market where you might make above-average profits but are unlikely to do so? The right choice isn't obvious, but most companies prefer to enter industries where the existing players' profits are consistently higher than those of enterprises in other industries. Entrants know they'll have to take on powerful incumbents, but because of the large profit margins, they're drawn to those markets like bees to a honey pot.

Companies forget, however, that it's tough for new ventures to make money in profitable markets. If it weren't, many others would have already entered those industries, competition would be perfectly fierce, and everyone's profits would tumble.

As Harvard Business School's Michael Porter pointed out, incumbents earn relatively high profits only because of special circumstances, such as their bargaining power over suppliers and buyers, the lack of substitute products, favorable competitive conditions, or, crucially, barriers to entry. Unattractive markets are, well, unattractive, but attractive markets are a conundrum: You can look longingly at them, but you can't enter them easily, because of barriers erected by market leaders.

Sure, CEOs believe that they can buy their way into profitable markets. However, mergers and acquisitions are fraught with peril because corporate raiders end up paying for target companies' present and future profit streams. The premiums that buyers pay for acquisitions' stock average about 30%, and buyers' shareholders typically lose value in the process. That raises the question, Are there ways by which companies can profitably enter attractive markets?

Despite the wealth of research on corporate strategy, we couldn't find any answers. So we decided to study enterprises that successfully entered the most profitable industries in the United States—measured by incumbents' returns on assets—between 1990 and 2000.

We also analyzed unsuccessful entrants in order to contrast their strategies with those of the winners. Our four-year study left us with no doubt that money attracts money. In the decade we examined, the most profitable industries had almost five times as many entrants as did the average industry. Most of those companies found the going tough, though. Fresh entrants in the most attractive markets earned returns that were 30% lower than those earned by newcomers in other industries.

That said, when entrants in the top industries were profitable, they won big. Their returns were nearly seven times those of all entrants in the top industries—and almost four times the returns of the profitable entrants in less attractive markets. Just how did those companies manage that?

The Importance of Indirect Assault

When we dissected the strategies that companies have used to overcome entry barriers, one common theme stood out: indirect assault. Smart newcomers refuse to challenge incumbents on the latter's terms and turf. They don't duplicate existing business models; they don't compete for crowded distribution channels; and they don't go after mainstream customers—at least not at first. Almost without exception, the challengers take a page out of the military handbook: Never attack the enemy in its strongholds initially. Attack at its weakest points, gain competitive advantage, and later, if doing so meets your objectives, attack its strongholds. Successful entrants don't engage in frontal attacks, because market leaders can head them off by cornering key resources or will stop them in their tracks with price wars, ad blitzes, lawsuits, and other retaliatory tactics. However, when companies carve out toeholds by using strategies that incumbents either find difficult to respond to or choose to ignore, their chances of success rise exponentially.

When companies use strategies that incumbents either find difficult to respond to or choose to ignore, their chances of success rise exponentially.

Two recent battles in the soft drinks and video games industries underline the importance of mounting indirect assaults. Everyone knows that the carbonated soft drinks industry is extremely profitable. The three companies that dominate the industry—Coca-Cola, PepsiCo, and Cadbury Schweppes—enjoyed gross margins of more than 60% and an average return on assets of 17% between 1990 and 2000. These profits persist even though an entrant can build a soft drinks concentrate plant big enough to serve all of North America for less than $50 million. Moreover, with apologies to Coke lovers and Pepsi lovers, tests show that similar soft drinks, such as colas, aren't very different in taste. Even so, it has been virtually impossible for newcomers to break into the soft drinks industry because of three barriers: brands, bottling and distribution capabilities, and shelf space.

Against this backdrop, two European companies, Virgin Drinks and Red Bull, entered the U.S. soft drinks market in the late 1990s with vastly different strategies. In 1998, Virgin Drinks took Coca-Cola, PepsiCo, and Cadbury Schweppes head-on, launching its own cola, advertising heavily, and trying to get into all the retail outlets that stocked the leading brands. At Virgin Cola's U.S. launch, Virgin Group CEO Rich-

ard Branson drove a tank through a wall of cans in New York's Times Square to symbolize the war he wished to wage on rivals. However, the leaders' viselike grip on shelf space proved impossible for Virgin Drinks to break. In July 2000, the company's marketing vice president admitted to a trade publication that "there are people who are saying, 'We've been looking for years, and we can't find it [Virgin Cola].'" Although Virgin Drinks is still in the fray, it has never garnered more than a 1% share of the U.S. cola market.

Red Bull, by contrast, entered the U.S. soft drinks market in 1997 with a niche product: a carbonated energy drink retailing at $2 for an 8.3-ounce can—twice what you would pay for a Coke or a Pepsi. The company designed its cans as narrow, tall cylinders, so retailers could stack them in small spaces. It started by selling Red Bull through unconventional outlets such as bars, where bartenders mixed it with alcohol, and nightclubs, where 20-somethings gulped down the caffeine-rich drink so they could dance all night. After gaining a loyal following, Red Bull used the pull of high margins to elbow its way into the corner store, where it now sits in refrigerated bins within arm's length of Coke and Pepsi. In the United States, where Red Bull enjoyed a 65% share of the $650 million energy drink market in 2005, its sales are growing at about 35% a year. Red Bull is privately held, but all the signs suggest that it's profitable.

In like vein, compare the strategies that Microsoft and Jakks Pacific used to break into the enormously profitable video game industry. Microsoft's Xbox, launched in 2001, is a direct assault on industry leaders Sony and Nintendo. Five years and approximately $4.5 billion in losses later, the Xbox had a 15% share of the console market, compared with Sony's 69% share. Between 2002 and 2006, Nintendo and Sony earned operating profit margins of 20% and 8%, respectively, while Microsoft incurred a margin of –30%, according to our calculations. Despite losses that would have devastated most companies, Microsoft has stayed in the industry, thanks to the profits from its other businesses. Sure, the Xbox business may become profitable one day, but based on 2006 figures, even if Microsoft had achieved Sony's profitability level in 2006, it would need more than 12 years to cover its past losses.

By contrast, California-based toy and action figure manufacturer Jakks Pacific, whose Toymax division entered the video game industry at the same time as Microsoft, has avoided confronting Sony and

Nintendo. The company embeds video games into a $20 game controller that plugs into TV sets. It offers games based on characters, movies, and video games developed by well-known companies such as Atari, Disney, Electronic Arts, Hasbro, and World Wrestling Entertainment. Jakks Pacific's target segments are preteen kids and price-conscious adults. Although the quality of its games doesn't compare with that of the leaders', they're colorful, portable, and inexpensive. According to our estimates, between 2003 and 2005, the company's sales of plug-and-play games increased by about 25% a year, and its revenues more than doubled, from $316 million to $661 million. Its games division boasts operating profit margins of roughly 15%, and its operating profits rose from $11 million in 2003 to $97 million in 2005—profitability that Microsoft's Home and Entertainment Division would probably envy.

The Power of Combination

Indirect assault is the leitmotif of successful entries into attractive industries, especially when companies haven't developed technological innovations. However, working out how to mount such attacks is tough. Successful companies use three basic approaches. First, they leverage their existing assets and resources. They use their excess capacity, often combining it with partners' assets or resources, to lower the cost of entering new markets. For instance, a company may place a new product in shelf space it already owns or manufacture goods with machines that would otherwise be idle. Second, companies reconfigure their value chains by changing the activities or the sequence of activities they perform. They borrow elements from other industries or use technological advances to create value chains that differ from those of incumbents. When a company bypasses bricks-and-mortar retail outlets and sells its products through a Web site, for example, it is reconfiguring the industry's value chain. Third, enterprises create niches by developing offerings that appeal only to some customers. That can mean offering premium features at a price that only certain consumers are willing to pay or dropping features that some people don't care to pay for.

The three basic approaches may appear to be simple, even commonplace. The magic, however, lies in their combination. Successful companies mix and match the three approaches, deploying at least two of them simultaneously or sequentially. By creating powerful combination strategies, enter-

prises can defy half a century of economic logic and make money by entering highly profitable industries.

The three basic approaches to entering attractive markets may appear to be simple. The magic, however, lies in their combination.

Reconfigure the value chain and create a niche.

This is, arguably, the most powerful combination strategy. By reconfiguring value chains, entrants create low-cost business models; at the same time, by establishing niches, they stay off incumbents' radar screens. The disruption approach that Harvard Business School's Clayton Christensen described in The Innovator's Dilemma is one of the better-known examples of this genre. Innovators enter the market with inferior products that appeal mostly to price-sensitive buyers; incumbents ignore the threat, since mainstream customers don't want those products; and over time the products improve and take large chunks of the market from incumbents. Market leaders can't respond, because they find it difficult to replicate entrants' low-cost business models.

This combination strategy often allows newcomers to get over their teething troubles easily, because incumbents find it pointless to strike against them. For one thing, challengers' offerings appear different enough that incumbents may not realize that they have competition. For another, the entrants don't initially target existing players' best customers. Only in the long run do challengers enhance their capabilities and take away more profitable customers. Consider, for instance, the telecom services industry, which was highly profitable until deregulation led to overcapacity and a shakeout in the 1990s. It's still a tough market to get into because of government regulations and the amount of capital that the business demands. While telecom giants such as AT&T–Cingular, Sprint, and Verizon use fiber-optic cable networks and telephone instruments to provide consumers with plain old phone services, Skype lets people make inexpensive calls over the Internet. By using the Internet, microphones, and computers, the challenger has reconfigured the value chain dramatically. It targets cost-sensitive buyers who care little about the inconvenience or poor quality associated with using a computer as a telephone. At one stage, the telecom giants ignored the interloper, possibly viewing it as just another dot-com offering a software package with free downloads that would soon go bust. This gave Skype the time it needed to build

scale and credibility. Founded in August 2003, the upstart was picked up by eBay two years later for $2.6 billion. Skype reported revenues of $25 million in 2005, and by December 2006, the company claimed to have more than 100 million customers, which suggests that it may be turning into a dangerous rival faster than incumbents realize.

Companies needn't always use low-cost disruption to succeed with this combination strategy. Sometimes, reconfigured value chains can generate both higher costs and higher returns. For example, in 1992, Salt Lake City–based Usana Health Sciences entered the nutritional supplements niche of the pharmaceuticals industry. To take on incumbents such as GNC, Usana has reconfigured the value chain in two ways. First, it uses processes similar to those that pharmaceutical companies deploy in order to develop new products. Second, instead of selling through retail outlets, Usana has created a global network marketing organization of 140,000 distributors. That has made it difficult for incumbents to respond. Usana's sales have grown at about 15% per year to almost $400 million in 2006. With an average return on capital of nearly 50% between 2002 and 2004, the company ranked third on BusinessWeek's list of "hot growth companies" in 2005.

Leverage existing assets and reconfigure the value chain.

Fifteen years ago, Wal-Mart popularized this combination strategy. The company used its private label, Sam's Choice, and its shelf space to vault over the barriers that prevent companies from entering the soft drinks business. Realizing that it didn't have resources in product development and bottling, the retailer teamed up with Canada's Cott Corporation. A manufacturer of premium private-label products, Cott worked with Wal-Mart to develop a line of soft drinks that is an alternative to Coca-Cola and PepsiCo products. An important part of the duo's strategy was combining Cott's manufacturing operation with elements of Wal-Mart's distribution system to create a hub-and-spoke system, so they could get products into stores far cheaper than the incumbents could. Unlike the other manufacturers, Cott bottles Sam's Choice products centrally, which lowers costs. Instead of delivering to thousands of stores, Wal-Mart picks up the beverages and distributes them through its 35 distribution centers, which supply between 60 and 125 Wal-Mart stores each. The retailer doesn't sell Sam's Choice through grocery

store chains, vending machines, or soda fountains—the leaders' most popular channels. By avoiding the stiff competition for those outlets, Sam's Choice earns hefty margins within Wal-Mart's walls. These tactics also helped Wal-Mart prevent the counterstrategies that the incumbents would have deployed against a more direct attack. In 2004, Cott and Wal-Mart were named Beverage Forum Company of the Year and Beverage Forum Retailer of the Year, respectively. By December 2006, Sam's Choice had wrested about 5% of the U.S. soft drinks market from the incumbents.

While Wal-Mart launched a low-cost private label, Costco used the same combination strategy to create an upmarket offering. A warehouse club that sells premium brands such as Polo, Cartier, and Waterford Crystal, Costco entered the home furnishings market by leveraging its brand and retail concept. By locating Costco Home stores in its existing markets, often near Costco Warehouse stores, and letting Costco's 20-million-plus members become members of the home stores, the company also used its customer base effectively. Its value chain avoids the fat—extravagant showrooms, plentiful inventory, and huge commissions—that is usually associated with furniture retailing. For example, at a Costco Home store, the area covered per employee is three times that at an Ethan Allen store, demonstrating lower reliance on salespeople; the retailer doesn't spend much on advertising; and since its low prices help move products off the floor quickly, its inventory turnover rate is twice the industry average. These advantages give Costco a 15% to 25% cost advantage over incumbents such as Bassett Furniture, the Bombay Company, Ethan Allen, and Thomasville Furniture. The incumbents haven't copied Costco Home's moves, because they aren't familiar with the process of creating membership-only warehouses that offer premium products at a discount. This has given the newcomer time to consolidate its operations. While Costco was looking for $40 million in revenues from its pilot Costco Home store in 2006, industry magazine Furniture Today estimates the revenues from the first two stores at $108 million. Costco Home ranked 65th in U.S. furniture sales last year and earned profit margins that are comparable to those that Costco Warehouse earns.

Leverage existing assets and create a niche.

Companies can use the elements of this combination strategy, like the other pairs, either simultaneously or sequentially.

When Toys “R” Us entered the apparel industry in 1996 by opening its Babies “R” Us stores, for instance, it deployed both parts of the strategy at the same time. The retailer leveraged name recognition, store locations (most Babies “R” Us stores are situated next to Toys “R” Us stores), relationships with real estate developers, and its inventory management and distribution capabilities to go after the children’s product niche in the apparel industry. In contrast to Costco Home, Toys “R” Us didn’t alter the value chain; its supply chain and stores are similar to those of other retailers. However, by pursuing a niche that allowed it to leverage its existing resources, the company overcame opposition from well-entrenched rivals to become the largest baby products retailer in the world by 2006. Between 1996 and 2006, sales per Babies “R” Us store rose every year even as sales steadily declined at Toys “R” Us stores.

When newcomers establish niches before leveraging their assets, they can move into mainstream markets from secure beachheads. That’s what Skechers (also slang for “people who can’t sit still”) did in order to break into the shoe market. It started by offering a sport utility logger boot in 1993 and eased into the sneakers niche by serving a hip crowd with laceless pull-on, sling-back, and roller-skate sneakers. Once it had grown its organizational capabilities, Skechers leveraged them to expand into jogging and running shoes. Even when it moved into those markets, Skechers avoided taking on Nike, Reebok, and Adidas. It stayed out of retail chains like Foot Locker, which carry the Big Three, and didn’t pitch its shoes as performance sneakers. By 2005, Skechers’ sales grew to about $1 billion, and the company reported a net income of $45 million.

Incidentally, newcomers needn’t always have mainstream markets as their goal. If they do, they will run headlong into incumbents. Venturing out of a niche could also result in a loss of focus or the dilution of a carefully cultivated position on the fringe. However, when niches have been conquered and top management starts hunting for growth, most entrants will look to the mainstream.

Although companies usually deploy these strategies in pairs, a few have used all three approaches in tandem. Revisit Jakks Pacific’s strategy to enter the gaming market, for instance. First, in conjunction with several partners, the company leveraged brand capital from well-known TV programs and games to create new games. Second, it reconfigured the value chain by

embedding software in the controller, as opposed to taking a components-based approach, and by directly licensing content from game owners. Third, Jakks Pacific targeted niche audiences such as young children, who find it difficult to cope with games for Sony's Playstation 3 or Nintendo Wii. The three-pronged strategy explains why Jakks Pacific is thriving in the video game market, but we find that in most cases a two-pronged strategy works equally well.

Picking the Right Combination

The more indirectly a combination strategy attacks an incumbent, the more effective it is likely to be. How indirect it is will depend on the context—that is, on the entrant and the industry. To choose the right combination, would-be entrants must figure out what impact each underlying approach would have on incumbents. They can tailor combinations to their assets and markets by asking themselves a few questions about their ability to use each type of strategy.

Can we reconfigure the value chain?

Companies must rethink the traditional ways in which incumbents serve customers in order to reconfigure their value chains. They must ask themselves:

- Can we use new technologies, organizations, or countries to perform activities in this industry in ways that weren't possible until recently? For instance, companies can now source products from China and services from India; they can buy designs from shops such as Ideo and Design Continuum; they can market products through webcasts, podcasts, Google, chat rooms, and e-mail; and they can rely on long-distance payment methods such as PayPal. That's not what most incumbents have done.

- Can we apply a business model from another industry to this one? Netflix used that approach when it applied an Amazon-like model to DVD rentals.

- Can we modularize the existing value chain, either by recombining steps or by substituting ones from different value chains? Usana took this tack when it brought multilevel distribution to the nutritional supplements industry.

When newcomers reconfigure value chains, their costs usually fall below those of incumbents. That makes it possible for them to offer inexpensive, frills-free products, but occasionally, they leapfrog the

performance of established products. That's what Apple did when it created the iPod, which is a technologically superior MP3 player that relies on iTunes software for digital downloads. To be sure, newcomers violate the principle of indirect assault when they launch premium products, because those usually appeal to incumbents' best customers. The challenger must therefore ensure that existing players find it almost impossible to imitate its value chain. Five years after Apple launched the iPod, it still dominates the industry because it has imposed switching costs by forcing consumers to use iTunes.

Can we find a niche?

An entrant will be better able to create a niche if it can answer yes to the following questions:

- In this market, do customers care about a large number of features? If so, the entrant will be able to create products that boast new feature sets.
- Do customers vary significantly in their preferences? If they do, the entrant will be able to exploit the fact that there are several clusters of customers with similar tastes, but large differences between the clusters.
- Are there distinctive groups of customers who are not well served by current offerings? The simplest way to figure that out is to examine the established players' biggest customers and then look for potential customers who aren't like them.
- Are there rebel customers who, in an attempt to maintain a nonconformist identity, avoid mainstream products? Skechers' "aha" moment came when it identified the laceless-sneaker crowd as a niche with nonmainstream needs. Those customers avoided Nike, Reebok, and Adidas products, perceiving them as uncool.

Can we leverage our assets and resources?

Companies can tap underutilized resources to enter new markets only when the cost of doing so is relatively low. The resources can be tangible assets such as plant and equipment, distribution channels, retail outlets, and real estate. In fact, assets with high fixed costs are easy to leverage because the incremental cost of redeploying them is often low. Intangible resources such as brands, intellectual prop-

erty, and know-how in design, manufacturing, or distribution have few capacity constraints. Companies can utilize brands and know-how in particular with almost no incremental cost and without worrying too much that they will be depleted. There are limits, though. For instance, a brand can be used to sell many different products, but most people wouldn't want to munch on Kleenex potato chips or to earn an MBA from Sam's Choice University.

Finding related businesses that aren't obvious to everyone is difficult but not impossible. One admittedly haphazard approach is to cull lists of related industries from the North American Industry Classification System that the U.S. Census Bureau publishes. Other tools include databases that can be used to identify overlaps in companies' patent classifications. More sophisticated approaches are emerging, as well. For example, Wharton School professor Sidney Winter and one of the authors of this article, David Bryce, developed an index that shows the degree of relatedness between any two industries along dimensions such as technology, distribution, and market similarity.

For a company to lower its entry costs, its capacity in its existing market must have relevance to activities in the target market. Entrants must look for subtle similarities between the existing and target markets' customers, channels, inputs, processes, or technologies. For instance, McDonald's cannily anticipated that at least some of its customers may be interested in renting DVDs. In 2004, it placed DVD rental kiosks in 100 of its restaurants in the Denver area. With the swipe of a credit card, customers could rent DVDs for $1 a night. Once it had tested the idea, McDonald's created a subsidiary, Redbox, which set up kiosks in 800 McDonald's stores in six regional markets. The fast food giant has leveraged its excess capacity in stores, its numerous locations, and its reputation for quick service to break into the fiercely competitive DVD rental market. McDonald's faces stiff competition from Hollywood Video and Blockbuster, but it offers a lower-cost item, since customers can rent DVDs for one night, not just for blocks of time such as two or four days. Last year, McDonald's spun out the subsidiary, in which it retains a 40% equity stake. Redbox has attracted fresh investors such as Coinstar and is expanding rapidly through McDonald's restaurants and grocery store chains all over the United States.

Companies that enter an attractive industry often wonder if they can close the door on the way in. It's important to do so, as

Never go backward. Attempt, and do it with all your might.

Determination is power.

- Charles Simmons

Red Bull will vouch. Once energy drinks became popular and the market grew from $12 million in 1997 to $650 million in 2005, more than 150 me-too manufacturers entered the segment. One solution is for newcomers to go mainstream as soon as they have built the capabilities to battle incumbents. By doing so, they create brand recognition and gain market share and volume, making it more difficult for copycats to survive. In the process, entrants cultivate new sources of growth and profits while fast followers attack their initial strategies. For example, by entering the athletic shoe business as soon as it had established itself in the sneaker market, Skechers quickly moved ahead of would-be followers.

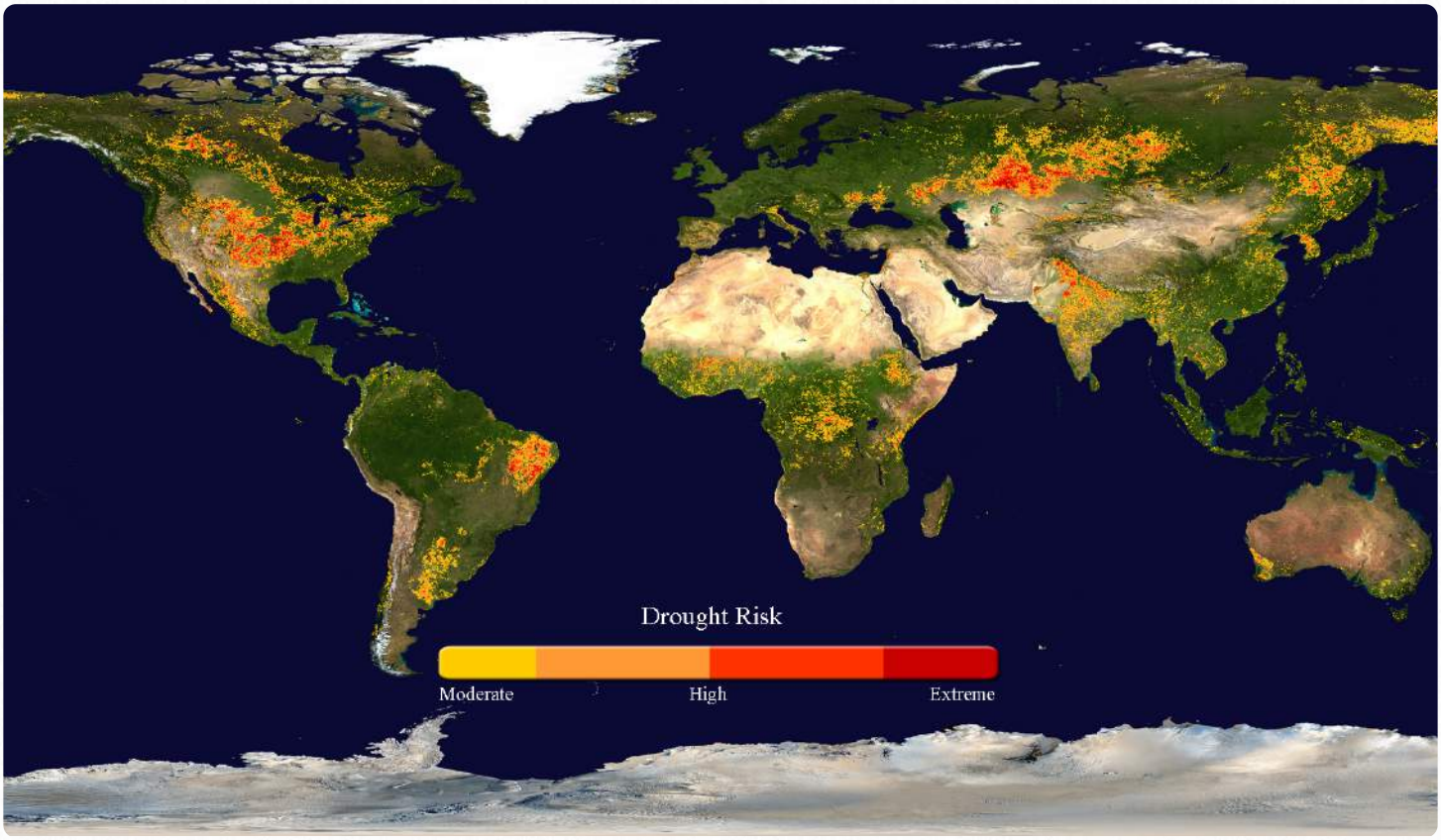
When entering an attractive industry, companies should try to close the door on the way in.

Entrants can also create barriers by securing scarce inputs or locations for themselves, investing preemptively in capacity, generating network effects, or developing cost advantages by racing down the experience curve. For example, JetBlue was the first airline to offer satellite TV to passengers. To prevent imitation, the airline bought LiveTV, the company that developed the technology. Until recently, any airline that wanted to offer satellite TV to passengers had to purchase it from JetBlue. Similarly, when JetBlue saw an opportunity to serve midsize cities with a new 100-seat Embraer jet, it purchased the Brazilian aircraft maker's manufacturing capacity for two years. Later, the airline signed a contract with Embraer that prevented it from selling the jet at a price lower than JetBlue had paid. Erecting fresh barriers won't guarantee that no other company can get in, but it does make it that much harder for the next generation of would-be competitors to storm attractive markets.

Movie 1.3 Humanity From Space - Modern World

Humanity from Space is an epic journey of discovery. Using the very latest mind-boggling data and astonishing CGI, the film traces the story of humankind's ascent from hunter-gatherer to dominant global species.

Managing Risk



Managing Risk in an Unstable World

by Ian Bremme

Countries in turmoil elbow one another off the front page at a dizzying pace: Lebanon follows Ukraine follows Sudan follows Argentina. Companies, meanwhile, fear unpredictable change, even as they seek profit from the opportunities change creates—a freshly privatized industry in Turkey, recently tendered oil blocks in Libya, a new pro-Western government in the former Soviet republic of Ukraine. To help weigh dangers against opportunities, corporations mulling foreign ventures routinely consult economic risk analysts. But basing global investment decisions on economic data without understanding the political

context is like basing nutrition decisions on calorie counts without examining the list of ingredients.

Reassuring data on countries' per capita income, growth, and inflation—the bread and butter of economic risk analysis—often obscures potential threats from other sources. Iran's parliament, for example, last year passed legislation that complicates foreign companies' abilities to plant stakes in that country's telecom sector. The 2003 revolution in Georgia altered the strategic calculus for investment in Caspian Sea energy development. The Kremlin's politically motivated prosecution of business tycoon Mikhail Khodorkovsky sent a chill through Russia's oil market. And Brazil's government is pressing both its agencies and its citizens to adopt open-source software, a policy that could inflict some nasty wounds on Microsoft and other technology companies.

These are examples of political risk, broadly defined as the impact of politics on markets. Political risk is influenced by the passage of laws, the foibles of leaders, and the rise of popular movements—in short, all the factors that might politically stabilize or destabilize a country. The significance of any given risk, of course, depends upon the context of the investment decision. A hedge fund manager worries about developments that could move markets tomorrow, while the leader of a corporation building an overseas chemical plant needs a longer view. Strategists evaluating emerging markets must be especially vigilant (in fact, an emerging market may be defined as a state in which politics matters at least as much as economics). But even those businesses active only in developed nations should factor political risk into their planning scenarios.

Most companies are already navigating the choppy waters of globalization, and none, presumably, are sailing blind. But corporate leaders may lack the sophisticated understanding this very complex subject requires. Political risk analysis is more subjective than its economic counterpart and demands that leaders grapple not just with broad, easily observable trends but also with nuances of society and even quirks of personality. And those hard-to-quantify factors must constantly be pieced into an ongoing narrative within historical and regional contexts.

This article will help corporate leaders become better appraisers of information about the myriad shifting influences on global investments. Armed with that understanding, business strategists can mini-

mize risks and seize opportunities far beyond their home shores.

Politics Is Everyone's Business

Corporations with investments in such opaque countries as Zimbabwe, Myanmar, and Vietnam have long understood how political risk affects their bottom lines. In fact, historically, some of the business world's best political risk analysis has come from multinational corporations, like Royal Dutch/Shell and American International Group (AIG), that have entire departments dedicated to the subject. But today, any company with exposure in foreign markets needs early, accurate information on political developments. There are four principle reasons for this.

First, international markets are more interconnected than ever before. Tremors following a market shock in Argentina are quickly felt in Brazil and Venezuela, but they also rumble through Thailand. In 1997, capital flight from Southeast Asia roiled markets around the world. If China's rapidly growing economy overshoots a soft landing and crashes into recession, the impact on Chile, Russia, India, and the United States will be measurable within hours. China's political decisions today will have dramatic long-term effects on its markets. Companies with exposure anywhere in the world that China does business ignore those decisions at their peril.

Second, for good or ill, the United States is making the world a more volatile place, and that has changed risk calculations everywhere. The attacks on the World Trade Center in New York put foreign affairs and security front and center of federal government policy. Washington has shown its willingness to aggressively preempt threats to American security and national interests. The U.S. military has demonstrated an unprecedented capability to respond to international shocks—and to create them.

Third, the offshoring trend is growing. Businesses shift some operations to countries where labor is cheap—but the labor is cheap for a reason. In countries such as India (an established offshoring destination) and Kenya (an emerging one), living conditions for the working classes can be harsh, and there is greater threat of unrest than in developed countries with their large, relatively prosperous middle classes. Offshoring presents other risks as well. The Chinese government, for example, is already cavalier about intellectual property rights and shows signs of becoming more so. Companies moving manufacturing and

other functions there may be hard-pressed to protect some of their most valuable intellectual assets.

Fourth, the world is increasingly dependent for energy on states troubled by considerable political risk—Saudi Arabia, Iran, Nigeria, Russia, and Venezuela among them. As global supply struggles to keep pace with rising demand, political instability in these oil-producing states can quickly produce shocks all over the world.

It is difficult to imagine a business that is not affected by at least one or two of these developments. And corporations' exposure will only grow as supply chains become more global and developing countries increasingly participate in international trade.

What Economics Can't Tell You

Economic risk analysis and political risk analysis address two fundamentally different questions. Economic risk analysis tells corporate leaders whether a particular country can pay its debt. Political risk analysis tells them whether that country will pay its debt. Two examples illustrate this distinction.

When 35-year-old Sergei Kiriyenko replaced Viktor Chernomyrdin as prime minister in March 1998, Russia's economy seemed to be emerging from post–Soviet era turmoil. Inflation had been reduced to single digits, the economy was growing, and the government appeared committed to a moderate reformist path. Economic analysts saw clear skies.

But political analysts recognized that an obstructionist parliament intended to block Kremlin attempts to tighten fiscal policy and streamline tax collection. They saw that an absence of consensus was producing incoherent monetary policies and that the absentee, alcoholic president wasn't going to enforce discipline on an increasingly chaotic policy-formulation process. When oil prices fell, political analysts underlined the country's lack of fiscal discipline as a cause for immediate concern.

In short, political analysts produced a darker—and more accurate—portrait of Russia's market instability in the period leading up to the financial crisis of 1998. When Russia ultimately defaulted on international debt and devalued the ruble, companies that had studied both economic and political risk weathered the storm with far fewer repercussions than those that had relied on economic analysis alone.

In other instances, political risk analysts have been able to detect the silver linings in economists' dark clouds. The value of Brazilian bonds and currency fell sharply in 2002 when it became clear that Luis Inacio Lula da Silva would be elected that country's president. In earlier campaigns, Lula had criticized the International Monetary Fund and Brazil's fiscal conservatives, whom he accused of widening the gap between rich and poor. Comparisons of Lula with Cuba's Fidel Castro and Venezuelan president Hugo Chávez spooked economic risk analysts, who feared that the election of Brazil's first "leftist" president would produce a politically driven market crisis.

But many political analysts considered such an outcome unlikely. In Lula they saw not an ideologue or a theoretician but a man who made his name as a tough, pragmatic labor negotiator. They observed in his campaign an inclusive, conciliatory electoral strategy. They heard in his speeches a determination not to allow Brazil to fall into the kind of financial crisis that had inflicted so much damage on Argentina. And so they argued that Lula's victory would be more likely to produce political and economic stability. If Lula won, they predicted, his government would enfranchise the poor. And he would keep his campaign promise to reserve an IMF-established percentage of tax revenue for the repayment of debt, instead of spending it on social programs and make-work projects.

The political analysts were right. Lula won the election and kept his promises of fiscal discipline. Within weeks, Brazilian bonds staged a dramatic recovery.

Strength Against Shocks

In both Russia and Brazil, political analysts focused on how a specific leadership change would affect the country's stability—the unit of measure for political risk. A nation's stability is determined by two things: political leaders' capacity to implement the policies they want even amidst shocks and their ability to avoid generating shocks of their own. A country with both capabilities will always be more stable than a country with just one. Countries with neither are the most vulnerable to political risk.

Shocks themselves are another important concept in political risk. They can be either internal (demonstrations in Egypt; a transfer of political power in Cuba) or external (thousands of refugees fleeing from North

Korea into China; the tsunami in Southeast Asia). The presence of shocks alone, however, is not a sign of instability. Saudi Arabia, for example, has produced countless shocks over the years but has so far ridden out the tremors. It will probably continue to do so, at least in the near term: The nation is built on political and religious fault lines, but its strong authoritarian control and deep pockets allow the Saudi elite to adapt to quite dramatic changes.

Saudi Arabia's relative stability is grounded in its capacity to withstand shocks; other countries depend more on their capacity not to produce them. Kazakhstan's political structure, for example, is less supple and adaptable than that of Saudi Arabia. But the country also stands much further from the epicenter of political earthquakes.

Clearly then, two countries will react differently to similar shocks, depending on how stable they are. Say an election is held and a head of state is chosen but the victory is challenged by a large number of voters, and the nation's highest judicial body must rule on a recount. That happened in the United States in 2000 without any significant implications for the stability of the country or its markets. When similar events erupted in Taiwan in 2003 and Ukraine in 2004, however, demonstrations closed city streets, civil violence threatened, and international observers speculated on the viability of those nations' economies.

The 2000 U.S. elections point to another complicating factor in political risk: the relationship between stability and openness. The United States is stable because it is open—information flows widely, people express themselves freely, and institutions matter more than personalities. Consequently, the nation weathered its election controversy without a Wall Street panic; investors knew the problem would be resolved and that the outcome would be broadly perceived as legitimate.

But other countries—such as North Korea, Myanmar, and Cuba—are stable because they are closed. What's more, the slightest opening could push the most brittle of these nations into dangerous territory. Twenty minutes' exposure to CNN would reveal to North Korean citizens how outrageously their government lies to them about life outside; the result might be significant unrest. And while there is considerable world pressure on closed countries to open up, the transition from a stable-because-closed state to a stable-because-open state is inevitably marked by instability. Some nations, for instance South Af-

rica, survive that transition. Others, like the Soviet Union, collapse.

Plotting where nations lie on the openness-stability spectrum, and in which direction they are heading, is tricky. And no country poses a greater challenge than China, which appears equally at home on two different points along this range. Politically, China is stable-because-closed; it is a police state with absolute control over public expression. For example, security forces severely restricted media coverage of the recent death of Zhao Ziyang, a relatively progressive politician, in order to prevent the kinds of uprisings sparked by the deaths of Chou En-lai in 1976 and Hu Yaobang in 1989. Economically, however, China is opening at a rapid clip, as diplomats and negotiators globe trot in search of new trade relationships to feed the country's growth.

Whether China's political system will follow its economic trend line or vice versa is a fascinating and hotly contested subject in the political analyst community.

When a country is politically closed but economically open, something has to give. Whether China's political system will follow its economic trend line or vice versa is a fascinating and hotly contested subject in the political analyst community.

Corporate executives, however, generally focus on more immediate concerns when assessing a country's ripeness for investment. Broadly speaking, decision makers must know three things: How likely is it that a shock will occur? If likely, when will it probably occur? And how high are the stakes if it does?

The greatest risk, not surprisingly, is when shocks are likely, imminent, and have widespread consequences. All three conditions exist in North Korea, which has remained stable only by resisting movement toward market economics and more open government. North Korea's stability is so dependent on Kim Jong Il and the country's military elite that any threat to their safety could destroy the regime and destabilize the entire region very quickly. And the stakes are high because the most valuable products North Korea has to sell—military and nuclear components—tend to produce political shocks.

In other nations, shocks are likely and expected to occur relatively soon, but the stakes for world markets are much lower. Fidel Castro, for example, is 78, and the fate of the revolution after his death is un-

clear. Castro's hard-line younger brother Raul might assume power, but he is also in his 70s; if he replaces Castro, political uncertainty will build until the next transfer of power. Similarly, if a reformer like Carlos Lage steps forward to begin a process of gradual opening, the release of long-repressed dissent could spark violence. So either outcome will probably produce instability. But because Cuba is not an exporter of nuclear technology, oil, or any other vital resource, the shock's effect on world markets will be minor.

Risk by the Numbers

Speculation on the outcomes of these and other scenarios appears in numerous publications, but corporations debating operational or infrastructure investments abroad need more objective, rigorous assessments than those found in the op-ed pages. Companies can either buy political risk services from consultants or, like Shell and AIG, develop the capacity in-house. Either way, a complete and accurate picture of any country's risk requires analysts with strong reportorial skills; timely, accurate data on a variety of social and political trends; and a framework for evaluating the impact of individual risks on stability.

The Analysts.

Politics never stops moving, and risk analysts must be able to follow a nation's story as it develops. Usually, that means being on the ground in that country. And in the case of a particularly opaque regime, it can mean being there a very long time. Some information is published in official reports or in the media, but analysts will gather most of their intelligence from primary sources: well-connected journalists in the local and foreign press, current and former midlevel officials, and think tank specialists.

Companies should bear in mind that political analysis is more subjective and consequently more vulnerable to bias than its economic counterpart. One danger is that analysts with their own political opinions may view their research through a particular philosophical scrim. In addition, political analysts will probably have subject-matter—as well as nation-specific—expertise that can color their reports. A Taiwan analyst with a background in security, for example, may overemphasize such risk variables as cross-strait tensions and the growing imbalance of military power between Taiwan and China. An Eastern Europe analyst studying social unrest may insist that demonstrations by pen-

sioners have the largest political impact on the government. As decision makers peruse analysts' reports, they should be alert for any potential bias and correct for it.

The Data.

Because of their very nature, political risk variables are more difficult to measure than economic variables (although in some countries, such as China and Saudi Arabia, even the reliability of government-produced economic data is open to question). Politics, after all, is influenced by human behavior and the sudden confluence of events, for which no direct calibrations exist. How do you assign numbers to such concepts as the rule of law?

To accurately quantify political risk, then, analysts need proxies for their variables. Instead of trying to measure the independence of a nation's judiciary, for example, analysts can determine whether judges in a particular country are paid a living wage, whether funded programs exist to inform them about new legislation, and whether—and how often—they are targeted for assassination. Political risk analysts also study the percentage of children who regularly attend school, how police and military salaries compare with criminal opportunities, and how much access to medical care is available in towns with populations of 10,000 to 50,000 people. They look at such statistics as the unemployment rate for people between the ages of 18 and 29 and determine how many of them are in prison. And, of course, they add economic variables to the mix: per capita income, balance of payments, and national debt.

Taken together, this often anecdotal information reveals much about a country's underlying sources of strength or vulnerability. Comparing data from neighboring countries provides a good sense of where shocks from unstable nations might rumble into stable ones. Comparing a single nation's data points over time tells the analyst whether that nation is becoming more stable or less so, and how quickly.

The Framework.

Different companies and consultancies will have different methods for measuring and presenting stability data. We at Eurasia Group have developed a tool that incorporates 20 composite indicators of risk in emerging markets. Distributed as part of a strategic relationship with Deutsche Bank, the Deutsche Bank Eurasia Group Stability Index (DESIX) scores risk variables according to both their structural and temporal components. Structural scores highlight

long-term underlying conditions that affect stability. They then serve as a baseline for temporal scores, which reflect the impact of policies, events, and developments that occur each month.

The indicators are organized into four equally weighted subcategories: government, society, security, and the economy. Ratings for all four subcategories are aggregated into a single composite stability rating, which is expressed as a number on a scale of zero to 100—from a failed state to a fully institutionalized, stable democracy. (See the exhibits "Political Risk at a Glance" and "Anatomy of India's Political Risk.")

Very often, the numbers that make up the stability rating are as interesting as the stability rating itself. Consider Turkey, whose March 2005 stability rating was 60, five points lower than Brazil's and two points higher than Russia's. Within that composite number, components are moving in opposite directions.

Specifically, Turkey's government rating rose as a consequence of the European Union agreement to open accession talks with Ankara in October 2005. Prime Minister Recep Tayyip Erdogan's administration now has greater incentive to continue reforms that strengthen the independence of Turkey's institutions, increase media freedom, and protect the rights of minority groups—such as Turkish Kurds—who might otherwise provoke unrest. Turkish membership in the EU would also bind the country more closely to European institutions, further increasing stability.

Yet Turkey's security rating is pushed lower by the continued presence of Kurdistan Workers' Party militants in northern Iraq. Ankara worries that the Kurds—empowered by the Iraqi elections—may try to regain control of the oil-rich northern Iraqi town of Kirkuk, which would provide the financial basis for an independent Kurdish state. A Kurdish state on Turkey's borders would likely fan separatist flames in that country's own Kurdish population.

Once You Know the Odds

How companies apply such analysis obviously depends upon their industry, strategy, and risk tolerance profile. Of necessity, companies in the energy industry, for example, have demonstrated a high tolerance for risk, relying on mitigation techniques to manage their exposure. By contrast, light manufacturers and midsize companies in industrial supply chains tend to

bide their time to see how situations evolve. And pharmaceutical corporations generally shy away from investment when presented with infrastructure or intellectual property risks.

Companies making extended commitments in unstable nations must give top priority to long-term risk—issues related to demographics and natural resources, for example—when making decisions. In May 2004, Japan's Sumitomo Chemical agreed to a $4.3 billion joint venture with Saudi Aramco to build a major petrochemical plant at Rabigh in Saudi Arabia. The plant isn't scheduled to open until 2008, so Sumitomo is particularly vulnerable to such pernicious demographic trends as the exodus of technical talent and the joblessness of young men.

Sumitomo's risk tolerance is already being tested by an Islamic extremist campaign of kidnapping and beheading foreigners who do business in the country. But while violence and corruption dominate headlines, such near-term risks are much exaggerated. (See the sidebar "Why Saudi Arabia Keeps Us Up at Night.") In fact, although Saudi Arabia—and China, too—may be risky bets for companies engaged in ventures that won't see profitability for a decade, in the short run there is money to be made. Among others, General Motors, Kodak, and a number of investment banks have already done so—though they've stumbled a bit in the process.

Once companies have determined that a particular investment is worth the danger, they can use traditional techniques to mitigate the risk—recruiting local partners, for example, or limiting R&D in nations with leaky intellectual property protection. In addition, a growing number of commercial and government organizations now offer insurance against political risks such as the expropriation of property, political violence, currency inconvertibility, and breach of contract. (Such insurance is expensive, however, because risks are so hard to assess.) Otherwise it's mostly a matter of hedging—locating a factory in Mexico as well as Venezuela, say, so as not to bet the entire Latin America strategy on a single opaque regime.

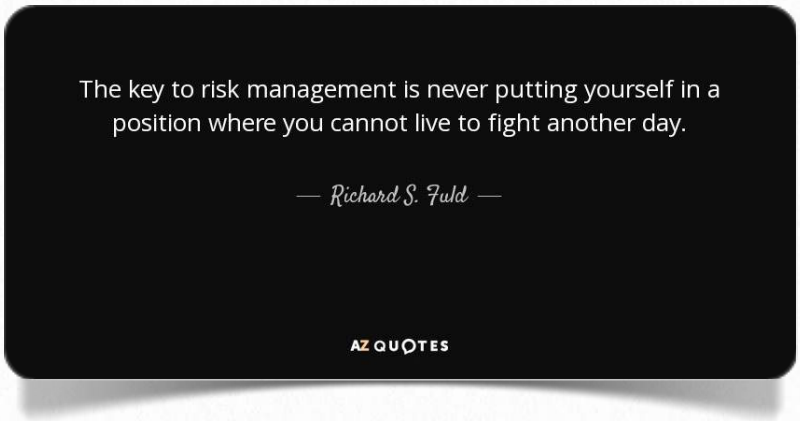
Finally, it is worth remembering that though instability translates into greater risk, risk is not always a bad thing. Political risk in underdeveloped countries nearly always carries an upside because such nations are so unstable that negative shocks can do little further damage. On the stability ladder, for example, Afghanistan and Cambodia simply don't have far to fall;

I can do things you cannot, you can do things I cannot; together we can do great things.

- Mother Teresa

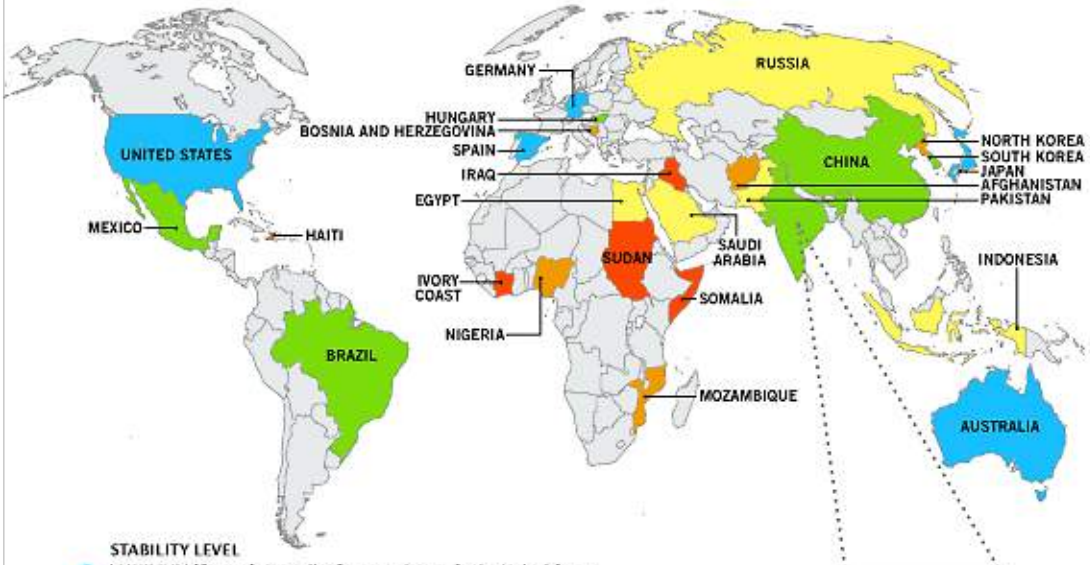
only favorable external conditions—such as debt relief from the developed world or loans from international institutions—could have much effect on their political stability. For some companies, that could make investments in such countries an attractive part of an enterprise risk portfolio.

Politics has always been inseparable from markets; the world's first transnational trade organizations were moved by the political waves of their time. Today, goods, services, information, ideas, and people cross borders with unprecedented velocity—and the trend is only intensifying. For company leaders seeking profit in places that are socially, culturally, and governmentally alien, the complementary insights of political and economic risk analysts are vital.



Political Risk at a Glance

Political risk measures the stability of individual countries based on factors grounded in government, society, security, and the economy. Emerging markets are generally in the moderate- to high-stability range. The map shows how some countries scored in March 2005.



STABILITY LEVEL

- MAXIMUM [80–100]: Australia, Germany, Japan, Spain, United States
- HIGH [60–79]: Brazil, China, Hungary, India, Mexico, South Korea
- MODERATE [40–59]: Egypt, Indonesia, Pakistan, Russia, Saudi Arabia
- LOW [20–39]: Afghanistan, Bosnia and Herzegovina, Mozambique, Nigeria, North Korea
- FAILED STATE [0–19]: Haiti, Iraq, Ivory Coast, Somalia, Sudan

Anatomy of India's Political Risk

National stability scores are plotted over time and comprise dozens of measurements, ranging from hard economic data on growth and investment to more amorphous assessments of youth disaffection and corruption. At the beginning of this year, India was hovering between moderate and high stability. (The numbers used to obtain each average have been rounded off.)

FACTORS AFFECTING STABILITY	STABILITY SCORES (0–100)			COMMENTS
	Jan 2005	Feb 2005	Mar 2005	
GOVERNMENT (such as strength of current government, rule of law, and level of corruption)	67	64	62	Political missteps by the government led to poor performance in state elections and strengthened opposition parties.
SOCIETY (such as social tension, youth disaffection, and health, education, and other services)	58	58	58	Low per capita income and literacy levels lead to a low human development index. Simmering social tensions keep the society score low.
SECURITY (such as level of globalization, geostrategic condition, and emergencies and disasters)	53	48	48	Peace talks with Pakistan and China have eased security fears. But a Maoist insurgency in Nepal and continuing Kashmir violence keep the score low.
ECONOMY (such as fiscal condition, growth and investment, and external sector and debt)	75	75	76	Economic growth and expanding trade keep the numbers healthy. The fiscal deficit remains a worry.
Cumulative National Stability Score	63	61	62	

Source: Deutsche Bank Eurasia Group Stability Index (DESIX), March 2005

Why China Keeps Us Up at Night

China bestrides the world of political risk like a colossus. Many experts tout it as the great investment opportunity of the new millennium, but it is also a great unknown. Among the questions political risk analysts are studying: Can China's explosive economic growth survive its corrupt and inefficient political system? Do the country's political leaders agree that preparations for a soft landing to avoid recession are necessary? Would reform that opens its political process make China more stable or less?

China's continued expansion depends on the central government's capacity to handle complex economic transitions and avoid instability. At the same time, the state must juggle huge security, demographic, and political challenges. Imminent agricultural, banking, and urban policy reforms will probably produce even more complex management problems for the country's dysfunctional bureaucracy.

China appears to be inching toward instability as reforms strain the relationships between national and regional leaders, increasing the probability of an economic shock followed by a political one. Complicating matters, China's bureaucracy lacks the administrative control necessary to modulate the pace of an economic slowdown.

Analysts of economic risk tend to base projections for China's growth rates on its past performance. But there are few countries for which past performance is so poor a predictor of future results. With a few notable exceptions, such as the 1989 protests in Tiananmen Square, social unrest in modern-day China has been rare. But the risk of popular unrest is going up as a result of widening income inequality, slowing—although still intense—economic growth, and continuing official abuse and corruption. The urban unemployed and migrant workers could stage protests; rural rebellion over land reclamations and onerous administrative fees could escalate. China's leaders might then clamp down on the media, religious groups, use of the Internet, and other forms of expression and communication. Faced with international criticism, the government could become more antagonistic and dogmatic about issues of concern to the United States and East Asia.

The probability of such events occurring in the short-term is low, but China's risk indicators suggest it is rising.

Why Saudi Arabia Keeps Us Up at Night

Saudi Arabia's stability is under fire from religious and secular forces. Islamic extremists hope to undermine the legitimacy of the royal family. Real unemployment is estimated to be between 20% and 25%; frustrated, jobless young men are flocking to mosques and schools where religious leaders thunder against the infidels. Western nations, meanwhile, are calling on the royals to move toward political liberalization. And the flight of expatriates will eventually take its toll on the Saudis' ability to diversify their economy.

Such volatility complicates financial deals—particularly those that take years to assemble—and extends the exposure to political risk over time.

But while companies with long-term investments must worry, short-term investors in Saudi Arabia have less cause for concern. That's because oil money stabilizes the political system, and the royal family can count on those revenues for years to come. Yes, oil supplies are a tempting target for terrorists; but the country's oil infrastructure is isolated from population centers, and redundancies in the pipeline system make it almost impossible to inflict lasting damage with a single blow. In addition, the national oil company has the technology, the trained engineers, and the spare capacity to continue producing significantly more than 9 million barrels per day. Finally, in light of concerns that foreign governments might freeze Saudi assets following September 11, 2001, a great deal of money flowed back into the kingdom, providing the House of Saud with more ready cash.

Clearly, any project in Saudi Arabia that needs a decade to show a profit is deeply problematic. But those willing to brave volatility in the near term may profit from opportunities that more risk-averse companies forgo.

Movie 1.4 The Whole World Is Drying Up

Droughts come and go and are supposedly natural, but NASA scientists published a report today that said a third of the planet's underground reservoirs are being rapidly depleted, likely due to agriculture, mining and overpopulation.

Supply Chain

Find the Weak Link in Your Supply Chain

by David Simchi-Levi

A big challenge in today's world of far-flung, complex supply chains is the limited understanding of the impact on your operations of unexpected disruption at one supplier's site. To address this issue, my colleagues William Schmidt of Cornell, Yehua Wei of Duke, and I developed a method to help prioritize the financial or operational impact of risk that lets companies focus their mitigation efforts on the most important suppliers and risk areas. The method was implemented successfully at Ford Motor Company — an effort we described in this HBR article. But since then, we encountered an important problem: Sup-

pliers tend to be optimistic about the information that they provide. In response, we have developed a remedy.

A central feature of the original model was time to recovery (TTR): the time it would take for a particular node — a supplier facility, a distribution center, or a transportation hub — to be restored to full functionality after a disruption. By combining suppliers' TTR information with the details of Ford's supply chain, product bill-of-material, volume, and profit margins by product line and pipeline inventory, our method identifies the risk exposure associated with a disruption in each site of Ford's network. This is done by simulating the firm's response to a disruption at a specific site for the duration of TTR.

The TTR values are determined by examining historical experience and surveying the firm's buyers or suppliers. But we then discovered that suppliers tend to be optimistic about their TTR since they know that a long TTR is not going to be accepted by the manufacturer. Therefore, we realized that we needed a way to identify bottleneck suppliers for which it's critical to obtain accurate TTR information and distinguish them from other suppliers where even plus or minus 30% error in TTR information will have very little impact on the supply chain.

or this purpose, we created a new metric that we call "time to survive" (TTS). It is the maximum duration that the supply chain can match supply with demand after a node disruption. To determine TTS associated with a specific node, we remove the node from the supply chain and calculate how long — using inventory in the pipeline and other available supply sources — we can serve customer demand without that node. If the TTS of a specific site is greater than its TTR, this site does not expose the firm to any risk since during the time the site is recovering from a disruption, the firm can still match supply with demand. On the other hand, if the TTS of a specific facility is smaller than its TTR, its disruption will expose the firm to financial and operational problems.

As you can see from the chart below (whose data is slightly modified or disguised to protect proprietary information), when the new metric was applied to Ford's supply chain, it revealed that some supplier sites had a TTS equal to just a few days. These are critical suppliers and a careful review of their TTR is necessary. By contrast, there were other suppliers with a very long TTS (greater than 50 weeks).

This is an opportunity to cut costs since, in many cases, a long TTS is achieved by building a lot of strategic inventory. Cutting inventory for these suppliers by 50%, for example, will have very little impact on its ability to respond to a disruption.

The new metric motivated the development of a model to assess the level of strategic inventory: inventory used to respond to a disruption anywhere in the supply chain. That is, TTS and TTR metrics can be combined to determine how much strategic inventory the firms needs and where to position this inventory so each site's TTS is greater than its TTR. This leads to a robust supply chain, one in which each node has a TTS greater than its TTR and thus a disrupted node will always recover before it exceeds its ability to apply the mitigation strategies the firm has in place.

Ford is monitoring risk exposure using our technology on an ongoing basis and making adjustments based on changes in the environment. For example, as inventory levels change in the supply chain, the risk exposure changes. When risk exposure is above a certain level, perhaps due to low inventory levels or delayed supply, our technology triggers an alert that requires procurement managers to review the drivers of the increase in risk.

Ford executives recently told us that they are using our method and technology for three levels of decisions:

- *Strategic:* To identify exposure to risk associated with parts and suppliers, prioritize and allocate resources effectively, develop mitigation strategies, and identify opportunities to reduce risk mitigation cost
- *Tactical:* To monitor changes in risk exposure on a daily or weekly basis
- *Operational:* To identify an effective way to allocate resources after a disruption.

As Ford has discovered, time to survive complements the time-to-recovery metric and makes it possible to develop a deeper understanding of how to manage supply-chain risks effectively. Together, they have allowed Ford to work with its suppliers on mitigation strategies and create a more robust supply chain.

Movie 1.5 Four Horseman - Resources

FOUR HORSEMEN is an award winning independent feature documentary which lifts the lid on how the world really works.

As we will never return to 'business as usual' 23 international thinkers, government advisors and Wall Street money-men break their silence and explain how to establish a moral and just society.

FOUR HORSEMEN is free from mainstream media propaganda -- the film doesn't bash bankers, criticise politicians or get involved in conspiracy theories. It ignites the debate about how to usher a new economic paradigm into the world which would dramatically improve the quality of life for billions.

Supply Disruptions

From Superstorms to Factory Fires

Managing Unpredictable Supply-Chain Disruptions

by David Simchi-Levi, William Schmidt, and Yehua Wei

Traditional methods for managing supply chain risk rely on knowing the likelihood of occurrence and the magnitude of impact for every potential event that could materially disrupt a firm's operations. For common supply-chain disruptions—poor supplier performance, forecast errors, transportation breakdowns, and so on—those methods work very well, using historical data to quantify the level of risk.

But it's a different story for low-probability, high-impact events—megadisasters like Hurricane Katrina in 2005, viral epidemics like the 2003 SARS outbreak, or major outages due to unforeseen events such as factory fires and political upheavals. Because historical data on these rare events are limited or nonexistent, their risk is hard to quantify using traditional models. As a result, many companies do not adequately prepare for them. That can have calamitous consequences when catastrophes do strike and can force even operationally savvy companies to scramble after the fact—think of Toyota following the 2011 Fukushima earthquake and tsunami.

To address this challenge, we developed a model—a mathematical description of the supply chain that can be computerized—that focuses on the impact of potential failures at points along the supply chain (such as the shuttering of a supplier's factory or a flood at a distribution center), rather than the cause of the disruption. This type of analysis obviates the need to determine the probability that any specific risk will occur—a valid approach since the mitigation strategies for a disruption are equally effective regardless of what caused it. Using the model, companies can quantify what the financial and operational impact would be if a critical supplier's facility were out of commission for, say, two weeks—whatever the reason. The computerized model can be updated easily and quickly, which is crucial since supply chains are in a continual state of flux.

In developing and applying our model at Ford Motor Company and other firms, we were surprised to find little correlation between how much a firm spends annually on procurement at a particular site and the impact that the site's disruption would have on company performance. Indeed, as the Ford case study described later in this article shows, the greatest exposures often lie in unlikely places.

In practice, that means that leaders using traditional risk-management techniques and simple heuristics (dollar amount spent at a site, for instance) often end up focusing exclusively on the so-called strategic suppliers for whom expenditures are very high and whose parts are deemed crucial to product differentiation, and overlooking the risks associated with low-cost, commodity suppliers. As a result, managers take the wrong actions, waste resources, and leave the organization exposed to hidden risk. In this article, we describe our model and how companies can use it to identify, manage, and reduce their exposure to supply chain risks.

Time to Recovery and the Risk Exposure Index

A central feature of our model is time to recovery (TTR): the time it would take for a particular node (such as a supplier facility, a distribution center, or a transportation hub) to be restored to full functionality after a disruption. TTR values are determined by examining historical experience and surveying the firm's buyers or suppliers (see the sidebar "Assessing Impact? Use a Simple Questionnaire"). These values can be unique for every node or can differ across a subset of the nodes.

Our model integrates TTR data with information on multiple tiers of supplier relationships, bill-of-material information, operational and financial measures, in-transit and on-site inventory levels, and demand forecasts for each product. Firms can represent their entire supply network at any level of detail—from individual parts to aggregations based on part category, supplier, geography, or product line. This allows managers to drill down into greater detail as needed and identify previously unrecognized dependencies. The model can account for disruptions of varying severity by running scenarios using TTRs of different durations.

To conduct the analysis, the model removes one node at a time from the supply network for the duration of the TTR. It then determines the supply chain response that would minimize the performance impact of the disruption at that node—for instance, drawing down inventory, shifting production, expediting transportation, or reallocating resources. On the basis of the optimal response, it generates a financial or operational performance impact (PI) for the node. A company can choose different measures of PI: lost units of production, revenue, or profit margin, for instance. The model analyzes all nodes in the network, assigning a PI to each. The node with the largest PI (in lost sales, for instance, or lost units of production) is assigned a risk exposure index (REI) score of 1.0. All other nodes' REI scores are indexed relative to this value (a node whose disruption would cause the least impact receives a value close to zero). The indexed scores allow the firm to identify at a glance the nodes that should get the most attention from risk managers.

At its core, the model uses a common mathematical technique—linear optimization—to determine the best response to a node's being disrupted for the duration of its TTR. The model accounts for existing and alternative sources of supply, transpor-

tation, inventory of finished goods, work in progress and raw material, and production dependencies within the supply chain.

Our approach provides a number of benefits. It:

Identifies hidden exposures.

The model helps managers identify which nodes in the network create the greatest risk exposure—often highlighting previously hidden or overlooked areas of high risk. It also allows the firm to compare the costs and benefits of various alternatives for mitigating impact.

Avoids the need for predictions about rare events.

The model determines the optimal response to any disruption that might occur within the supply network, regardless of the cause. Rather than trying to quantify the likelihood that a low-probability, high-risk event will strike, firms can focus on identifying the most important exposures and putting in place risk-management strategies to mitigate them.

Reveals supply chain dependencies and bottlenecks.

Companies can also use the analyses to make inventory and sourcing decisions that increase the robustness of the network. This includes taking into account the likely scramble among rival companies to lock in alternative sources if a supplier's disruption affects several firms. Such cross-firm effects of a crisis are often overlooked. Contracts with backup suppliers can be negotiated to give a company priority over others should a disruption with the primary supplier occur, which would decrease time to recovery and financial impact.

Promotes discussion and learning.

In the course of analyzing the supply chain in this way, managers engage in discussions with suppliers and internal groups about acceptable levels of TTR for critical facilities and share insights about best-practice processes to reduce recovery time. As a result, the impact of disruptions is minimized.

Prescriptive Actions

Our model provides organizations with a quantitative metric for segmenting suppliers by risk level. Using data generated by the model, we can categorize suppliers along two dimensions: the total amount of money that the company spends at each supplier site in a given year, and the performance impact on the firm associated with a disruption of each supplier node. Let's now take a look at the supplier segments and consider the risk-management strategies appropriate for each.

Obvious high risk.

Most companies focus their risk-management activities on suppliers for whom total spend and performance impact are both high. Typically, these are the suppliers of expensive components, such as car seats and instrument panels, that strongly affect customers' purchase decisions and experience. The cost of these "strategic components," as they're frequently called, often make up a large portion of the total manufacturing cost. Indeed, for many companies, they represent 20% of the suppliers but account for about 80% of a firm's total procurement expenditures. Because strategic components typically come from a single supplier, appropriate risk-mitigation strategies include strategic partnering with the suppliers to analyze and reduce their risk exposure, providing incentives to some suppliers to have multiple manufacturing sites in different regions, tracking suppliers' performance, and developing and implementing business continuity plans.

Low risk.

Suppliers with low total spend and low financial impact do not require intense risk-management investment. In our experience, most companies effectively manage the minimal risks from disruptions of these supplier sites by investing in excess inventory or negotiating long-term contracts with a penalty clause for nonperformance.

Hidden risk.

Many companies, however, are subject to considerable exposure from "hidden risk" suppliers. Here, total spend is low but the financial impact of a disruption is high. Even the savviest managers are prone to equating total spend with performance impact: They rightly identify strategic components as carrying high levels of supply chain risk, but fail to consider that low-

spend suppliers, often of commodity goods, may represent outsize risks. Traditional risk-assessment exercises overlook these components because they are perceived as adding little value to the firm's products. But the reality is that markets for commodity goods are typically dominated by only a few manufacturers, leaving purchasers susceptible to disruptions. For example, in the automotive industry, a carmaker's total spend on suppliers of O-rings or valves is typically quite low, but if the supply is disrupted, the carmaker will have to shut down the production line. Thus, it is critical to ensure that an adequate supply is available. That can often be accomplished using the strategies that apply to the other segments: investing in excess inventory, requiring suppliers to operate multiple production sites, or implementing dual-sourcing strategies.

System flexibility allowed Pepsi Bottling Group to rapidly respond to a supply disruption caused by a fire at a chemical plant near one of its suppliers.

Alternatively, companies can use flexibility to deal with hidden supply risks. For example, system flexibility (the ability to quickly change the production mix of plants) allowed Pepsi Bottling Group to rapidly respond to a supply disruption caused by a fire at a chemical plant near one of its suppliers. Similarly, product-design flexibility (in this case, the use of standardized components) enabled Nokia to recover quickly from a disruption of its supply of radio frequency chips caused by a fire at a supplier's factory. Finally, process flexibility (achieved in this case by adjusting workforce skills and processes) allowed Toyota to quickly restore the supply of brake-fluid-proportioning valves (P-valves) after a major disruption.

Case Study: Ford Motor Company

We used our methodology to analyze Ford's exposure to supply chain disruptions. Working together with Keith W. Combs, Steve J. Faraci, Oleg Y. Gusikhin, and Don X. Zhang, managers in Ford's purchasing and R&D groups, we looked at two scenarios: In the first, the supplier's production facility is disrupted for two weeks. In the second, the supplier's tooling must be replaced, halting operations at its facility for eight weeks. (Details have been altered to mask sensitive Ford data.)

Ford has a multitier supplier network with long lead times from some suppliers, a complex bill-of-materials structure, buffer inventory, and components that are shared

across multiple product lines. Approximately 61% of the supplier sites would have no impact on Ford's profits if they were disrupted. By contrast, about 2% of the supplier sites would, if disrupted, have a significant impact on Ford's profits. The supplier sites whose disruption would cause the greatest damage are those from which Ford's annual purchases are relatively small—a finding that surprised Ford managers. Indeed, many of those suppliers had not previously been identified by the company's risk managers as high-exposure suppliers. (See the exhibit "Impact of Supplier Disruptions on Ford's Profits" for an analysis of 1,000 Ford supplier sites.)

Using the model, Ford was able to identify the supplier sites that required no special risk-management attention (those with short TTR and low financial impact) and those that warranted more-thorough disruption-mitigation plans. The results from the analysis allowed Ford to evaluate alternative steps it might take to defuse high-impact risks and to better prioritize its risk mitigation strategies. For example, managers learned that the risk-exposure-index scores associated with certain suppliers are highly sensitive to the amount of inventory the firm carries. For that reason, Ford put processes in place to monitor the inventory related to those suppliers on a daily basis.

In March 2012, the auto industry was rocked by a shortage of a specialty resin called nylon 12, used in the manufacture of fuel tanks, brake components, and seat fabrics. The key supplier, Evonik, had experienced a devastating explosion in its plant in Marl, Germany. It took Evonik six months to restart production, during which time the downstream production facilities of Ford and other major automakers were severely disrupted. Had Ford managers used our framework prior to this disruption, they would have detected the risk exposure and associated production bottleneck and proactively worked with Evonik to fast-track its plans to bring online a new plant in Singapore, currently slated to begin production in 2015.

Ford's supply chain, like those of many other companies, has become increasingly globalized, complex, and extended. This has had the effect of introducing more potential points of failure that Ford must recognize and manage. Using our model, it can rapidly quantify its supply chain exposure and identify effective strategies to mitigate the impact should disruptions occur. Our approach to managing supply chain risks allows managers to avoid guessing

It is our duty to select the best and most dependable theory that human intelligence can supply, and use it as a raft to ride the seas of life. - *Plato*

the likelihood of infrequent, high-impact events and instead concentrate on evaluating their organization's vulnerability to disruptions, regardless of their cause and where they strike. The method is quantitative, produces a risk exposure measure that is easy to understand, and supports a supplier segmentation process that results in supply networks that are much more resilient.

Assessing Impact? Use a Simple Questionnaire

The first step in assessing the risk associated with a particular supplier is to calculate time to recovery (TTR) for each of its sites under various disruption scenarios. Companies can develop a simple survey to collect key data, including:

1. Supplier
    - Site location (city, region, country)

2. Parts from this site
    - Part number and description
    - Part cost
    - Annual volume for this part
    - Inventory information (days of supply) for this part
    - Total spend (per year) from this site

3. End product
    - OEM's end product(s) that uses this part
    - Profit margin for the end product(s)

4. Lead times from supplier site to OEM sites
    - Days

5. Time to recovery (TTR)
    - The time it would take for the site to be restored to full functionality
        - if the supplier site is down, but the tooling is not damaged
        - if the tooling is lost

6. Cost of loss
    - Is expediting components from other locations possible? If so, what is the cost?
    - Can additional resources (overtime, more shifts, alternate capacity) be organized to satisfy demand? If so, what is the cost?

7. Supplier risk assessment
    - Does the supplier produce only from a single source?
    - Could alternate vendors supply the part?
    - Is the supplier financially stable?
    - Is there variability in performance (lead time, fill rate, quality)?

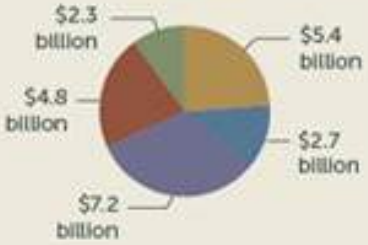
8. Mitigation strategies for this supplier-part combination
        - Alternate suppliers
        - Excess inventory
        - Other

Supply-Chain Interference: Cargo Theft, Piracy and Disruption In 2013

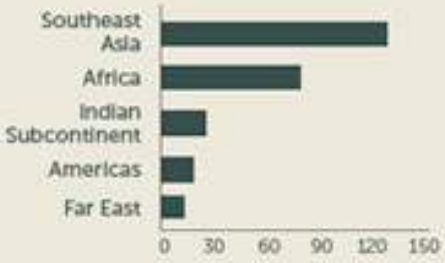
Incidents of piracy and cargo theft are resulting in billions of dollars of losses in countries and regions across the globe. In 2013, the International Chamber of Commerce's International Maritime Bureau recorded 264 piracy attacks, and BSI reported $22.4 billion in losses worldwide due to cargo theft.

Estimated Total Losses by Region

$22.4 billion



Piracy Incidents By Region



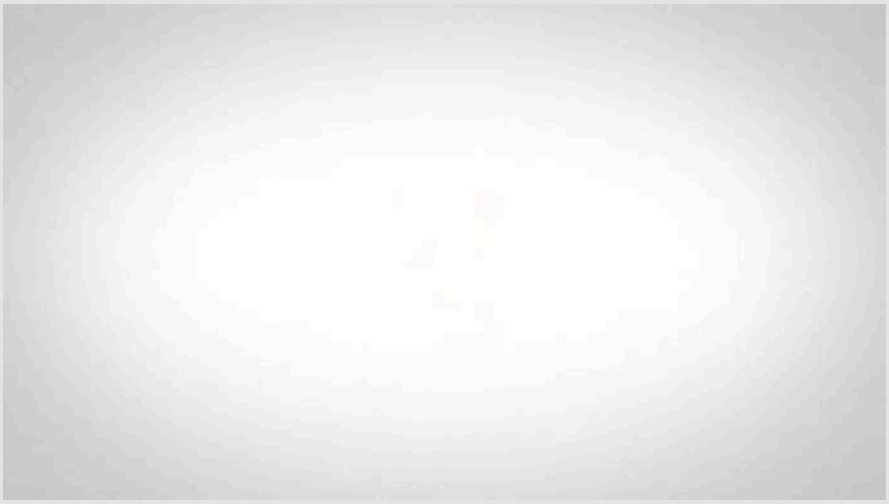
Piracy Attacks: Top 7 Countries

Note: "Attacks" refers to actual and attempted.

JOC

Source: BSI, International Chamber of Commerce's International Maritime Bureau
Design: Diana Denton, JOC Group Inc.

Movie 1.6 Why 38 Million People Can't Go Home



We know what a refugee is – but what's an internally displaced person (IDP)? A new report by the Norwegian Refugee Council paints a bleak picture of a rising displaced population.

MOD5

Ecological Farming

CLASS DAY TWO

It's the emerging markets that have been exploited by smaller-sized companies. Now, when a market gets to a certain size, Cisco gets interested.

- Stephen Kamman

The Right Entry Point for Emerging Markets

by Scott Anthony

I recently participated in a spirited panel discussion with Bruce Brown, Procter & Gamble's Chief Technology Officer, and Erich Joachimsthaler, Vivaldi Partners' managing director and CEO. The topic — part of a series on innovation sponsored by Singapore's Economic Development Board and coordinated by Harvard Business Review — was "What's the Right Entry Point for Emerging Markets: Target Customers at the Bottom or the Middle of the Pyramid?"

I kicked off the discussion by arguing that many companies ought to start in the middle. After all, the World Bank estimates that the number of middle class consumers in emerging markets will jump from 420 million today to more than 1.2 billion by 2030. In Asia alone, spending in that market tier will surge during that time period from $5 trillion to $30 trillion.

Reaching this vast middle won't be easy, I said. First, it will take more than introducing compelling products and services to mastering intricate business models. Success can require experimenting with new ways to market, distribute, offer post-sales support, and more. You also need to re-think how you organize. Global giants have to increasingly ask emerging markets branches to go from acting as local distributors to serving as local developers. This shift is easier said than done. It requires rethinking reporting relationships, talent management, rotational assignments, compensation, and more.

Joachimsthaler's perspective was that while the numbers sounded enticing, the middle class is no monolith. Companies need to understand those markets at a granular level, and rec-

ognize that winning in those markets will be harder than they think. He described Tata's seemingly stalled efforts to create a low-cost "people's car" in India. Joachimsthaler's opinion is that the aspirational nature of an automobile means people don't want to buy something known as being "the cheapest."

Brown said P&G's size and stated strategy to expand its market to encompass 5 billion consumers worldwide means it has to look at all tiers of the market. He described how P&G's strategy is to win through branded products that offer consistent "delight" to consumers. He noted that consumers in emerging markets can sometimes be more demanding than consumers in more established markets, and that P&G carefully considers whether it should "go it alone" or partner with or buy local companies to build necessary capabilities. He described P&G's Gillette Guard product as a success story — a low-cost razor that is driving growth in India and related markets.

The full Webinar is available here. You'll see we did our best to answer questions from the audience, but we couldn't get to every question. So, what follows is my attempt to answer a few of the most interesting unanswered audience questions.

With short turnaround cycles to changing consumer habits, do companies sometimes compromise on market research in order to gain competitive advantage against its competitors?

It depends on what "compromise on market research" means. Sometimes the best form of market research is getting out in the market and starting the process of fast-cycle iteration. In many markets, gone are the days where you would carefully optimize a product launch following stage rounds of carefully crafted market research. The world simply moves too fast these days. That doesn't mean launching without learning — it just might mean balancing more towards qualitative research, or using in-market analogies to help support launch strategies.

Does the quality of a product or service changes depending on culture? Or is there an absolute measure we all should follow?

I always start with the assumption that quality is a relative concept. You certainly do see obvious differences in perception in certain categories. For example, the standard of female beauty in many Western markets is tan skin, so people buy bronzers and related products. In some Asian markets the standard is almost translucent skin, so supermarkets are packed with skin whiteners. One theme that carried through the panel discussion is the importance of having true on-the-ground local knowledge, which is a necessary to understand these differences.

How should companies hedge against the practice of copying your products as you go into those markets?

A version of this question came up, and my answer was to always be one step ahead of fast-followers by having a robust pipeline that kept people on their toes. The other part of the equation (which I didn't mention) was to use an integrated business model as a hedge. IKEA is a great example of this. Copying the furniture IKEA makes isn't that hard; copying the entire end-to-end experience IKEA offers is tremendously difficult. It's yet another reason why business model innovation is so incredibly important.

How do you deal with local competitors who may have more insights into consumer needs as well as insights into culturally more attractive solutions such as Chinese herbal actives?

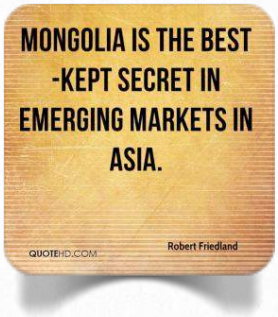
The ability to understand the nuances of a local market is certainly an important asset. Some companies actively seek to partner with or acquire companies to get this skill. For example, in 2008 Johnson & Johnson's consumer arm purchased Beijing Dabao Cosmetics Co., Ltd, who has a number of strong local personal and skincare brands. Many food and beverage companies have recognized that it makes far more sense to acquire locally loved brands than to try to displace them. Acquisitions and partnerships are an important tool for companies seeking to crack into emerging markets.

Does an investor investing at the bottom of the pyramid have to sacrifice returns, as opposed to investing in the middle or the top of the pyramid?

While people have long pointed companies to the so-called fortune at the bottom of the pyramid, the reality is it's just awfully hard for at least some companies to build profitable businesses given market realities. That doesn't mean that people haven't succeeded or won't continue to succeed; it just means that people have to go beyond saying "If we can just figure out a way to get $1 from each Chinese [Indian, Indonesian, Brazilian, Nigerian] consumer …"? Getting that $1 is brutally hard. There are a lot of social reasons to serve these markets of course, so ignoring them isn't the answer either. It is just going in with eyes wide open.

Considering an emerging market such as Brazil, when participating in a B2B category with commodity products, should a new player in this market put focus on offering the lowest price or try to establish a new momentum with focus on added value products?

I would very much view this as an "and" proposition. If you have sustainable cost advantages because of superior production processes, global scale, unique ability to manage the supply chain, and so on, then push the pricing angle as much as possible. At the same time seek to really understand the target customer and how your product fits into their business model. Typically there are lots of opportunities to help them with inventory management, distribution risk, demand generation, and all the other challenges facing companies in emerging markets. As the old baseball legend Yogi Berra once said, "When you see a fork in the road, take it."



Movie 2.1 The Tainted Forest by Reveal

A conflict between residents and timber companies is brewing in Oregon over a little-known practice: the aerial spraying of potentially harmful herbicides.

Strategies That Fit

Strategies That Fit Emerging Markets

by Tarun Khanna, Krishna G. Palepu and Jayant Sinha

CEOs and top management teams of large corporations, particularly in North America, Europe, and Japan, acknowledge that globalization is the most critical challenge they face today. They are also keenly aware that it has become tougher during the past decade to identify internationalization strategies and to choose which countries to do business with. Still, most companies have stuck to the strategies they've traditionally deployed, which emphasize standardized approaches to new markets while sometimes experimenting with a

few local twists. As a result, many multinational corporations are struggling to develop successful strategies in emerging markets.

Part of the problem, we believe, is that the absence of specialized intermediaries, regulatory systems, and contract-enforcing mechanisms in emerging markets—"institutional voids," we christened them in a 1997 HBR article—hampers the implementation of globalization strategies. Companies in developed countries usually take for granted the critical role that "soft" infrastructure plays in the execution of their business models in their home markets.

But that infrastructure is often underdeveloped or absent in emerging markets. There's no dearth of examples. Companies can't find skilled market research firms to inform them reliably about customer preferences so they can tailor products to specific needs and increase people's willingness to pay. Few end-to-end logistics providers, which allow manufacturers to reduce costs, are available to transport raw materials and finished products. Before recruiting employees, corporations have to screen large numbers of candidates themselves because there aren't many search firms that can do the job for them.

Because of all those institutional voids, many multinational companies have fared poorly in developing countries. All the anecdotal evidence we have gathered suggests that since the 1990s, American corporations have performed better in their home environments than they have in foreign countries, especially in emerging markets. Not surprisingly, many CEOs are wary of emerging markets and prefer to invest in developed nations instead. By the end of 2002—according to the Bureau of Economic Analysis, an agency of the U.S. Department of Commerce—American corporations and their affiliate companies had $1.6 trillion worth of assets in the United Kingdom and $514 billion in Canada but only $173 billion in Brazil, Russia, India, and China combined. That's just 2.5% of the $6.9 trillion in investments American companies held by the end of that year. In fact, although U.S. corporations' investments in China doubled between 1992 and 2002, that amount was still less than 1% of all their overseas assets.

Many companies shied away from emerging markets when they should have engaged with them more closely. Since the early 1990s, developing countries have been the fastest-growing market in the world for most products and services. Companies can lower costs by setting up

manufacturing facilities and service centers in those areas, where skilled labor and trained managers are relatively inexpensive. Moreover, several developing-country transnational corporations have entered North America and Europe with low-cost strategies (China's Haier Group in household electrical appliances) and novel business models (India's Infosys in information technology services). Western companies that want to develop counterstrategies must push deeper into emerging markets, which foster a different genre of innovations than mature markets do.

If Western companies don't develop strategies for engaging across their value chains with developing countries, they are unlikely to remain competitive for long. However, despite crumbling tariff barriers, the spread of the Internet and cable television, and the rapidly improving physical infrastructure in these countries, CEOs can't assume they can do business in emerging markets the same way they do in developed nations. That's because the quality of the market infrastructure varies widely from country to country. In general, advanced economies have large pools of seasoned market intermediaries and effective contract-enforcing mechanisms, whereas less-developed economies have unskilled intermediaries and less-effective legal systems. Because the services provided by intermediaries either aren't available in emerging markets or aren't very sophisticated, corporations can't smoothly transfer the strategies they employ in their home countries to those emerging markets.

Successful companies develop strategies for doing business in emerging markets that are different from those they use at home and often find novel ways of implementing them, too.

During the past ten years, we've researched and consulted with multinational corporations all over the world. One of us led a comparative research project on China and India at Harvard Business School, and we have all been involved in McKinsey & Company's Global Champions research project. We have learned that successful companies work around institutional voids. They develop strategies for doing business in emerging markets that are different from those they use at home and often find novel ways of implementing them, too. They also customize their approaches to fit each nation's institutional context. As we will show, firms that take the trouble to understand the institutional differences between countries are likely to choose the best markets to enter, select

optimal strategies, and make the most out of operating in emerging markets.

Why Composite Indices Are Inadequate

Before we delve deeper into institutional voids, it's important to understand why companies often target the wrong countries or deploy inappropriate globalization strategies. Many corporations enter new lands because of senior managers' personal experiences, family ties, gut feelings, or anecdotal evidence. Others follow key customers or rivals into emerging markets; the herd instinct is strong among multinationals. Biases, too, dog companies' foreign investments. For instance, the reason U.S. companies preferred to do business with China rather than India for decades was probably because of America's romance with China, first profiled in MIT political scientist Harold Isaacs's work in the late 1950s. Isaacs pointed out that partly as a result of the work missionaries and scholars did in China in the 1800s, Americans became more familiar with China than with India.

Companies that choose new markets systematically often use tools like country portfolio analysis and political risk assessment, which chiefly focus on the potential profits from doing business in developing countries but leave out essential information about the soft infrastructures there. In December 2004, when the McKinsey Global Survey of Business Executives polled 9,750 senior managers on their priorities and concerns, 61% said that market size and growth drove their firms' decisions to enter new countries. While 17% felt that political and economic stability was the most important factor in making those decisions, only 13% said that structural conditions (in other words, institutional contexts) mattered most.

Just how do companies estimate a nation's potential? Executives usually analyze its GDP and per capita income growth rates, its population composition and growth rates, and its exchange rates and purchasing power parity indices (past, present, and projected). To complete the picture, managers consider the nation's standing on the World Economic Forum's Global Competitiveness Index, the World Bank's governance indicators, and Transparency International's corruption ratings; its weight in emerging market funds investments; and, perhaps, forecasts of its next political transition.

Such composite indices are no doubt useful, but companies should use them as the

basis for drawing up strategies only when their home bases and target countries have comparable institutional contexts. For example, the United States and the United Kingdom have similar product, capital, and labor markets, with networks of skilled intermediaries and strong regulatory systems. The two nations share an Anglo-Saxon legal system as well. American companies can enter Britain comfortable in the knowledge that they will find competent market research firms, that they can count on English law to enforce agreements they sign with potential partners, and that retailers will be able to distribute products all over the country. Those are dangerous assumptions to make in an emerging market, where skilled intermediaries or contract-enforcing mechanisms are unlikely to be found. However, composite indices don't flash warning signals to would-be entrants about the presence of institutional voids in emerging markets.

In fact, composite index–based analyses of developing countries conceal more than they reveal. (See the exhibit "The Trouble with Composite Indices.") In 2003, Brazil, Russia, India, and China appeared similar on several indices. Yet despite the four countries' comparable standings, the key success factors in each of those markets have turned out to be very different. For instance, in China and Russia, multinational retail chains and local retailers have expanded into the urban and semi-urban areas, whereas in Brazil, only a few global chains have set up shop in key urban centers. And in India, the government prohibited foreign direct investment in the retailing and real estate industries until February 2005, so mom-and-pop retailers dominate. Brazil, Russia, India, and China may all be big markets for multinational consumer product makers, but executives have to design unique distribution strategies for each market. That process must start with a thorough understanding of the differences between the countries' market infrastructures. Those differences may make it more attractive for some businesses to enter, say, Brazil than India.

How to Map Institutional Contexts

As we helped companies think through their globalization strategies, we came up with a simple conceptual device—the five contexts framework—that lets executives map the institutional contexts of any country. Economics 101 tells us that companies buy inputs in the product, labor, and capital markets and sell their outputs in the products (raw materials and finished

goods) or services market. When choosing strategies, therefore, executives need to figure out how the product, labor, and capital markets work—and don't work—in their target countries. This will help them understand the differences between home markets and those in developing countries.

In addition, each country's social and political milieu—as well as the manner in which it has opened up to the outside world—shapes those markets, and companies must consider those factors, too.

The five contexts framework places a superstructure of key markets on a base of sociopolitical choices. Many multinational corporations look at either the macro factors (the degree of openness and the sociopolitical atmosphere) or some of the market factors, but few pay attention to both.

We have developed sets of questions that companies can ask to create a map of each country's context and to gauge the extent to which businesses must adapt their strategies to each one. (See the sidebar "Spotting Institutional Voids.") Before we apply the framework to some developing countries, let's briefly touch on the five contexts.

Political and Social Systems.

As we've discussed, every country's political system affects its product, labor, and capital markets. In socialist societies like China, for instance, workers cannot form independent trade unions in the labor market, which affects wage levels. A country's social environment is also important. In South Africa, for example, the government's support for the transfer of assets to the historically disenfranchised native African community—a laudable social objective—has affected the development of the capital market. Such transfers usually price assets in an arbitrary fashion, which makes it hard for multinationals to figure out the value of South African companies and affects their assessments of potential partners.

The thorny relationships between ethnic, regional, and linguistic groups in emerging markets also affects foreign investors. In Malaysia, for instance, foreign companies should enter into joint ventures only after checking if their potential partners belong to the majority Malay community or the economically dominant Chinese community, so as not to conflict with the government's long-standing policy of transferring some assets from Chinese to Malays. This policy arose because of a perception that

the race riots of 1969 were caused by the tension between the Chinese haves and the Malay have-nots. Although the rhetoric has changed somewhat in the past few years, the pro-Malay policy remains in place.

Executives would do well to identify a country's power centers, such as its bureaucracy, media, and civil society, and figure out if there are checks and balances in place. Managers must also determine how decentralized the political system is, if the government is subject to oversight, and whether bureaucrats and politicians are independent from one another. Companies should gauge the level of actual trust among the populace as opposed to enforced trust. For instance, if people believe companies won't vanish with their savings, firms may be able to raise money locally sooner rather than later.

Openness.

CEOs often talk about the need for economies to be open because they believe it's best to enter countries that welcome direct investment by multinational corporations—although companies can get into countries that don't allow foreign investment by entering into joint ventures or by licensing local partners. Still, they must remember that the concept of "open" can be deceptive. For example, executives believe that China is an open economy because the government welcomes foreign investment but that India is a relatively closed economy because of the lukewarm reception the Indian government gives multinationals. However, India has been open to ideas from the West, and people have always been able to travel freely in and out of the country, whereas for decades, the Chinese government didn't allow its citizens to travel abroad freely, and it still doesn't allow many ideas to cross its borders. Consequently, while it may be true that multinational companies can invest in China more easily than they can in India, managers in India are more inclined to be market oriented and globally aware than managers are in China.

The more open a country's economy, the more likely it is that global intermediaries will be allowed to operate there. Multinationals, therefore, will find it easier to function in markets that are more open because they can use the services of both the global and local intermediaries. However, openness can be a double-edged sword: A government that allows local companies to access the global capital market neutralizes one of foreign companies' key advantages.

The two macro contexts we have just described—political and social systems and openness—shape the market contexts. For instance, in Chile, a military coup in the early 1970s led to the establishment of a right-wing government, and that government's liberal economic policies led to a vibrant capital market in the country. But Chile's labor market remained underdeveloped because the government did not allow trade unions to operate freely. Similarly, openness affects the development of markets. If a country's capital markets are open to foreign investors, financial intermediaries will become more sophisticated. That has happened in India, for example, where capital markets are more open than they are in China. Likewise, in the product market, if multinationals can invest in the retail industry, logistics providers will develop rapidly. This has been the case in China, where providers have taken hold more quickly than they have in India, which has only recently allowed multinationals to invest in retailing.

Product Markets.

Developing countries have opened up their markets and grown rapidly during the past decade, but companies still struggle to get reliable information about consumers, especially those with low incomes. Developing a consumer finance business is tough, for example, because the data sources and credit histories that firms draw on in the West don't exist in emerging markets. Market research and advertising are in their infancy in developing countries, and it's difficult to find the deep databases on consumption patterns that allow companies to segment consumers in more-developed markets. There are few government bodies or independent publications, like Consumer Reports in the United States, that provide expert advice on the features and quality of products. Because of a lack of consumer courts and advocacy groups in developing nations, many people feel they are at the mercy of big companies.

Labor Markets.

In spite of emerging markets' large populations, multinationals have trouble recruiting managers and other skilled workers because the quality of talent is hard to ascertain. There are relatively few search firms and recruiting agencies in low-income countries. The high-quality firms that do exist focus on top-level searches, so companies must scramble to identify middle-level managers, engineers, or floor supervisors. Engineering colleges, business schools, and training institutions have proliferated,

but apart from an elite few, there's no way for companies to tell which schools produce skilled managers. For instance, several Indian companies have sprung up to train people for jobs in the call center business, but no organization rates the quality of the training it provides.

Capital Markets.

The capital and financial markets in developing countries are remarkable for their lack of sophistication. Apart from a few stock exchanges and government-appointed regulators, there aren't many reliable intermediaries like credit-rating agencies, investment analysts, merchant bankers, or venture capital firms. Multinationals can't count on raising debt or equity capital locally to finance their operations. Like investors, creditors don't have access to accurate information on companies. Businesses can't easily assess the creditworthiness of other firms or collect receivables after they have extended credit to customers. Corporate governance is also notoriously poor in emerging markets. Transnational companies, therefore, can't trust their partners to adhere to local laws and joint venture agreements. In fact, since crony capitalism thrives in developing countries, multinationals can't assume that the profit motive alone is what's driving local firms.

Several CEOs have asked us why we emphasize the role of institutional intermediaries and ignore industry factors. They argue that industry structure, such as the degree of competition, should also influence companies' strategies. But when Harvard Business School professor Jan Rivkin and one of the authors of this article ranked industries by profitability, they found that the correlation of industry rankings across pairs of countries was close to zero, which means that the attractiveness of an industry varied widely from country to country. So although factors like scale economies, entry barriers, and the ability to differentiate products matter in every industry, the weight of their importance varies from place to place. An attractive industry in your home market may turn out to be unattractive in another country. Companies should analyze industry structures—always a useful exercise—only after they understand a country's institutional context.

Applying the Framework

When we applied the five contexts framework to emerging markets in four countries—Brazil, Russia, India, and China—the

differences between them became apparent. (See the exhibit "Mapping Contexts in Brazil, Russia, India, and China.") Multinationals face different kinds of competition in each of those nations. In China, state-owned enterprises control nearly half the economy, members of the Chinese diaspora control many of the foreign corporations that operate there, and the private sector brings up the rear because entrepreneurs find it almost impossible to access capital. India is the mirror image of China. Public sector corporations, though important, occupy nowhere near as prominent a place as they do in China. Unlike China, India is wary of foreign investment, even by members of the Indian diaspora. However, the country has spawned many private sector organizations, some of which are globally competitive. It's difficult to imagine a successful business in China that hasn't had something to do with the government; in India, most companies have succeeded in spite of the state.

Brazil mixes and matches features of both China and India. Like China, Brazil has floated many state-owned enterprises. At the same time, it has kept its doors open to multinationals, and European corporations such as Unilever, Volkswagen, and Nestlé have been able to build big businesses there. Volkswagen has six plants in Brazil, dominates the local market, and exports its Gol model to Argentina and Russia. Brazil also boasts private sector companies that, like Indian firms, go head-to-head in the local market with global firms. Some Brazilian companies, such as basic materials company Votorantim and aircraft maker Embraer, have become globally competitive.

Russia is also a cross between China and India, but most of its companies are less competitive than those in Brazil. A few multinationals such as McDonald's have done well, but most foreign firms have failed to make headway there. There are only a few strong private sector companies in the market, such as dairy products maker Wimm-Bill-Dann and cellular services provider VimpelCom. The Russian government is involved, formally and informally, in several industries. For instance, the government's equity stake in Gazprom allows it to influence the country's energy sector. Moreover, administrators at all levels can exercise near veto power over business deals that involve local or foreign companies, and getting permits and approvals is a complicated chore in Russia.

One level deeper, the financial markets in Brazil, Russia, India, and China vary, too. In Brazil and India, indigenous entrepre-

neurs, who are multinationals' main rivals, rely on the local capital markets for resources. In China, foreign companies compete with state-owned enterprises, which public sector banks usually fund. The difference is important because neither the Chinese companies nor the banks are under pressure to show profits. Moreover, financial reporting in China isn't transparent even if companies have listed themselves on stock exchanges. State-owned companies can for years pursue strategies that increase their market share at the expense of profits. Corporate governance standards in Brazil and India also mimic those of the West more closely than do those in Russia and China. Thus, in Russia and China, multinationals can't count on local partners' internal systems to protect their interests and assets—especially their intellectual property.

The Three Strategy Choices

When companies tailor strategies to each country's contexts, they can capitalize on the strengths of particular locations. Before adapting their approaches, however, firms must compare the benefits of doing so with the additional coordination costs they'll incur. When they complete this exercise, companies will find that they have three distinct choices: They can adapt their business model to countries while keeping their core value propositions constant, they can try to change the contexts, or they can stay out of countries where adapting strategies may be uneconomical or impractical. Can companies sustain strategies that presume the existence of institutional voids? They can. It took decades to fill institutional voids in the West.

Adapt your strategies.

To succeed, multinationals must modify their business models for each nation. They may have to adapt to the voids in a country's product markets, its input markets, or both. But companies must retain their core business propositions even as they adapt their business models. If they make shifts that are too radical, these firms will lose their advantages of global scale and global branding.

Multinationals may have to adapt to the voids in a country's product markets, its input markets, or both. But companies must retain their core business propositions even as they adapt their business models.

Compare Dell's business models in the United States and China. In the United States, the hardware maker offers consum-

ers a wide variety of configurations and makes most computers to order. Dell doesn't use distributors or resellers, shipping most machines directly to buyers. In 2003, nearly 50% of the company's revenues in North America came from orders placed through the Internet.

The cornerstone of Dell's business model is that it carries little or no inventory. But Dell realized that its direct-sales approach wouldn't work in China, because individuals weren't accustomed to buying PCs through the Internet. Chinese companies used paper-based order processing, so Dell had to rely on faxes and phones rather than online sales. And several Chinese government departments and state-owned enterprises insisted that hardware vendors make their bids through systems integrators. The upshot is that Dell relies heavily on distributors and systems integrators in China. When it first entered the market there, the company offered a smaller product range than it did in the United States to keep inventory levels low. Later, as its supply chain became more efficient, it offered customers in China a full range of products.

Smart companies like Dell modify their business model without destroying the parts of it that give them a competitive advantage over rivals. These firms start by identifying the value propositions that they will not modify, whatever the context. That's what McDonald's did even as it comprehensively adapted its business model to Russia's factor markets. In the United States, McDonald's has outsourced most of its supply chain operations. But when it tried to move into Russia in 1990, the company was unable to find local suppliers. The fast-food chain asked several of its European vendors to step up, but they weren't interested. Instead of giving up, McDonald's decided to go it alone. With the help of its joint venture partner, the Moscow City Administration, the company identified some Russian farmers and bakers it could work with. It imported cattle from Holland and russet potatoes from America, brought in agricultural specialists from Canada and Europe to improve the farmers' management practices, and advanced the farmers money so that they could invest in better seeds and equipment.

Then the company built a 100,000 square-foot McComplex in Moscow to produce beef; bakery, potato, and dairy products; ketchup; mustard; and Big Mac sauce. It set up a trucking fleet to move supplies to restaurants and financed its suppliers so that they would have enough working capi-

tal to buy modern equipment. The company also brought in about 50 expatriate managers to teach Russian employees about its service standards, quality measurements, and operating procedures and sent a 23-person team of Russian managers to Canada for a four-month training program. McDonald's created a vertically integrated operation in Russia, but the company clung to one principle: It would sell only hamburgers, fries, and Coke to Russians in a clean environment—fast. Fifteen years after serving its first Big Mac in Moscow's Pushkin Square, McDonald's has invested $250 million in the country and controls 80% of the Russian fast-food market.

Change the contexts.

Many multinationals are powerful enough to alter the contexts in which they operate. The products or services these companies offer can force dramatic changes in local markets. When Asia's first satellite TV channel, Hong Kong–based STAR, launched in 1991, for example, it transformed the Indian marketplace in many ways. Not only did the company cause the Indian government to lose its monopoly on television broadcasts overnight, but it also led to a booming TV-manufacturing industry and the launch of several other satellite-based channels aimed at Indian audiences. By the mid-1990s, satellite-based TV channels had become a vibrant advertising medium, and many organizations used them to launch products and services targeted at India's new TV-watching consumer class.

The entry of foreign companies transforms quality standards in local product markets, which can have far-reaching consequences. Japan's Suzuki triggered a quality revolution after it entered India in 1981. The automaker's need for large volumes of high-quality components roused local suppliers. They teamed up with Suzuki's vendors in Japan, formed quality clusters, and worked with Japanese experts to produce better products. During the next two decades, the total quality management movement spread to other industries in India. By 2004, Indian companies had bagged more Deming prizes than firms in any country other than Japan. More important, India's automotive suppliers had succeeded in breaking into the global market, and several of them, such as Sundram Fasteners, had become preferred suppliers to international automakers like GM.

Companies can change contexts in factor markets, too. Consider the capital market in Brazil. As multinationals set up subsidiaries in those countries, they needed global-

quality audit services. Few Brazilian accounting firms could provide those services, so the Big Four audit firms—Deloitte Touche Tohmatsu, Ernst & Young, KPMG, and PricewaterhouseCoopers—decided to set up branches there. The presence of those companies quickly raised financial-reporting and auditing standards in Brazil.

In a similar vein, Knauf, one of Europe's leading manufacturers of building materials, is trying to grow Russia's talent market. During the past decade, the German giant has built 20 factories in Russia and invested more than $400 million there. Knauf operates in a people-intensive industry; the company and its subsidiaries have roughly 7,000 employees in Russia. To boost standards in the country's construction industry, Knauf opened an education center in St. Petersburg in 2003 that works closely with the State Architectural and Construction University. The school acts both as a mechanism that supplies talent to Knauf and as an institution that contributes to the much-needed development of Russian architecture.

Indeed, as firms change contexts, they must help countries fully develop their potential. That creates a win-win situation for the country and the company. Metro Cash & Carry, a division of German trading company Metro Group, has changed contexts in a socially beneficial way in several European and Asian countries. The Düsseldorf-based company—which sells everything to restaurants from meats and vegetables to napkins and toothpicks—entered China in 1996, Russia in 2001, and India in 2003. Metro has pioneered business links between farmers and small-scale manufacturers in rural areas that sell their products to small and midsize urban companies.

For instance, Metro invested in a cold chain in China so that it could deliver goods like fish and meats from rural regions to urban locations. That changed local conditions in several important ways. First, Metro's investment induced farmers in China to invest more in their agricultural operations.

Metro also lobbied with governments for quality standards to prevent companies from selling shoddy produce to hapless consumers. By shifting transactions from roadside markets to computerized warehouses, the company's operations brought primary products into the tax net. Governments, which need the money to invest in local services, have remained on the company's side. That's a good thing for Metro since, in developing markets, the jury is always out on foreign companies.

Stay away.

It may be impractical or uneconomical for some firms to adapt their business models to emerging markets. Home Depot, the successful do-it-yourself U.S. retailer, has been cautious about entering developing countries. The company offers a specific value proposition to customers: low prices, great service, and good quality. To pull that off, it relies on a variety of U.S.-specific institutions. It depends on the U.S. highways and logistical management systems to minimize the amount of inventory it has to carry in its large, warehouse-style stores. It relies on employee stock ownership to motivate shop-level workers to render top-notch service. And its value proposition takes advantage of the fact that high labor costs in the United States encourage home owners to engage in do-it-yourself projects.

Home Depot made a tentative foray into emerging markets by setting up two stores in Chile in 1998 and another in Argentina in 2000. In 2001, however, the company sold those operations for a net loss of $14 million. At the time, CEO Robert Nardelli emphasized that most of Home Depot's future growth was likely to come from North America. Despite that initial setback, the company hasn't entirely abandoned emerging markets. Rather, it has switched from a greenfield strategy to an acquisition-led approach. In 2001, Home Depot entered Mexico by buying a home improvement retailer, Total Home, and the next year, it acquired Del Norte, another small chain. By 2004, the company had 42 stores in Mexico. Although Home Depot has recently said that it is exploring the possibility of entering China, perhaps by making an acquisition, it doesn't have retail operations in any other developing countries.

Home Depot must consider whether it can modify its U.S. business model to suit the institutional contexts of emerging markets. In a country with a poorly developed capital market, for example, the company may not be able to use employee stock ownership as a compensation tool. Similarly, in a country with a poorly developed physical infrastructure, Home Depot may have difficulty using its inventory management systems, a scenario that would alter the economics of the business. In markets where labor costs are relatively low, the target customer may not be the home owner but rather contractors who serve as intermediaries between the store and the home owner. That change in customer focus may warrant an entirely different marketing and merchandising strategy—one that Home Depot isn't convinced it should deploy yet.

While companies can't use the same strategies in all developing countries, they can generate synergies by treating different markets as part of a system. For instance, GE Healthcare (formerly GE Medical Systems) makes parts for its diagnostic machines in China, Hungary, and Mexico and develops the software for those machines in India. The company created this system when it realized that the market for diagnostic machines was small in most low-income countries. GE Healthcare then decided to use the facility it had set up in India in 1990 as a global sourcing base. After several years, and on the back of borrowed expertise from GE Japan, the India operation's products finally met GE Healthcare's exacting standards. In the late 1990s, when GE Healthcare wanted to move a plant from Belgium to cut costs, the Indian subsidiary beat its Mexican counterpart by delivering the highest quality at the lowest cost. Under its then-CEO, Jeff Immelt, GE Healthcare learned to use all its operations in low-income countries—China, Hungary, Mexico, and India—as parts of a system that allowed the company to produce equipment cheaply for the world market.

While companies can't use the same strategies in all developing countries, they can generate synergies by treating different markets as part of a system.

Parent company GE has also tapped into the talent pool in emerging markets by setting up technology centers in Shanghai and Bangalore, for instance. In those centers, the company conducts research on everything from materials design to molecular modeling to power electronics. GE doesn't treat China and India just as markets but also as sources of talent and innovation that can transform its value chain. And that's how multinational companies should engage with emerging markets if they wish to secure their future.

Spotting Institutional Voids

Managers can identify the institutional voids in any country by asking a series of questions. The answers—or sometimes, the lack of them—will tell companies where they should adapt their business models to the nation's institutional context.

Political and Social System

1. To whom are the country's politicians accountable? Are there strong political groups that oppose the ruling party? Do elections take place regularly?

2. Are the roles of the legislative, executive, and judiciary clearly defined? What is the distribution of power between the central, state, and city governments?

3. Does the government go beyond regulating business to interfering in it or running companies?

4. Do the laws articulate and protect private property rights?

5. What is the quality of the country's bureaucrats? What are bureaucrats' incentives and career trajectories?

6. Is the judiciary independent? Do the courts adjudicate disputes and enforce contracts in a timely and impartial manner? How effective are the quasi-judicial regulatory institutions that set and enforce rules for business activities?

7. Do religious, linguistic, regional, and ethnic groups coexist peacefully, or are there tensions between them?

8. How vibrant and independent is the media? Are newspapers and magazines neutral, or do they represent sectar-ian interests?

9. Are nongovernmental organizations, civil rights groups, and environmental groups active in the country?

10. Do people tolerate corruption in business and government?

11. What role do family ties play in business?

12. Can strangers be trusted to honor a contract in the country?

Openness

1. Are the country's government, media, and people receptive to foreign investment? Do citizens trust companies and individuals from some parts of the world more than others?

2. What restrictions does the government place on foreign investment? Are those restrictions in place to facilitate the growth of domestic companies, to protect state monopolies, or because people are suspicious of multinationals?

3. Can a company make greenfield investments and acquire local companies, or can it only break into the market by entering into joint ventures? Will that company be free to choose partners based purely on economic considerations?

4. Does the country allow the presence of foreign intermediaries such as market research and advertising firms, retailers, media companies, banks, insurance companies, venture capital firms, auditing firms, management consulting firms, and educational institutions?

5. How long does it take to start a new venture in the country? How cumbersome are the government's procedures for permitting the launch of a wholly foreign-owned business?

6. Are there restrictions on portfolio investments by overseas companies or on dividend repatriation by multinationals?

7. 7. Does the market drive exchange rates, or does the government control them? If it's the latter, does the government try to maintain a stable exchange rate, or does it try to favor domestic products over imports by propping up the local currency?

8. What would be the impact of tariffs on a company's capital goods and raw materials imports? How would import duties affect that company's ability to manufacture its products locally versus exporting them from home?

9. Can a company set up its business anywhere in the country? If the government restricts the company's location choices, are its motives political, or is it inspired by a logical regional development strategy?

10. Has the country signed free-trade agreements with other nations? If so, do those agreements favor investments by companies from some parts of the world over others?

11. Does the government allow foreign executives to enter and leave the country freely? How difficult is it to get work permits for managers and engineers?

12. Does the country allow its citizens to travel abroad freely? Can ideas flow into the country unrestricted? Are people permitted to debate and accept those ideas?

Product Markets

1. Can companies easily obtain reliable data on customer tastes and purchase behaviors? Are there cultural barriers to market research? Do world-class market research firms operate in the country?

2. Can consumers easily obtain unbiased information on the quality of the goods and services they want to buy? Are there independent consumer organizations and publications that provide such information?

3. Can companies access raw materials and components of good quality? Is there a deep network of suppliers? Are there firms that assess suppliers' quality and reliability? Can companies enforce contracts with suppliers?

4. How strong are the logistics and transportation infrastructures? Have global logistics companies set up local operations?

5. Do large retail chains exist in the country? If so, do they cover the entire country or only the major cities? Do they reach all consumers or only wealthy ones?

6. Are there other types of distribution channels, such as direct-to-consumer channels and discount retail channels, that deliver products to customers?

7. Is it difficult for multinationals to collect receivables from local retailers?

8. Do consumers use credit cards, or does cash dominate transactions? Can consumers get credit to make purchases? Are data on customer creditworthiness available?

9. What recourse do consumers have against false claims by companies or defective products and services?

10. How do companies deliver after-sales service to consumers? Is it possible to set up a nationwide service network? Are third-party service providers reliable?

11. Are consumers willing to try new products and services? Do they trust goods from local companies? How about from foreign companies?

12. What kind of product-related environmental and safety regulations are in place? How do the authorities enforce those regulations?

Labor Markets

1. How strong is the country's education infrastructure, especially for technical and management training? Does it have a good elementary and secondary education system as well?

2. Do people study and do business in English or in another international language, or do they mainly speak a local language?

3. Are data available to help sort out the quality of the country's educational institutions?

4. Can employees move easily from one company to another? Does the local culture support that movement? Do recruitment agencies facilitate executive mobility?

5. What are the major postrecruitment-training needs of the people that multinationals hire locally?

6. Is pay for performance a standard practice? How much weight do executives give seniority, as opposed to merit, in making promotion decisions?

7. Would a company be able to enforce employment contracts with senior executives? Could it protect itself against executives who leave the firm and then compete against it? Could it stop employees from stealing trade secrets and intellectual property?

8. Does the local culture accept foreign managers? Do the laws allow a firm to transfer locally hired people to another country? Do managers want to stay or leave the nation?

9. How are the rights of workers protected? How strong are the country's trade unions? Do they defend workers' interests or only advance a political agenda?

10. Can companies use stock options and stock-based compensation schemes to motivate employees?

11. Do the laws and regulations limit a firm's ability to restructure, downsize, or shut down?

12. If a company were to adopt its local rivals' or suppliers' business practices, such as the use of child labor, would that tarnish its image overseas?

Capital Markets

1. How effective are the country's banks, insurance companies, and mutual funds at collecting savings and channeling them into investments?

2. Are financial institutions managed well? Is their decision making transparent? Do noneconomic considerations, such as family ties, influence their investment decisions?

3. Can companies raise large amounts of equity capital in the stock market? Is there a market for corporate debt?

4. Does a venture capital industry exist? If so, does it allow individuals with good ideas to raise funds?

5. How reliable are sources of information on company performance? Do the accounting standards and disclosure regulations permit investors and creditors to monitor company management?

6. Do independent financial analysts, rating agencies, and the media offer unbiased information on companies?

7. How effective are corporate governance norms and standards at protecting shareholder interests?

8. Are corporate boards independent and empowered, and do they have independent directors?

9. Are regulators effective at monitoring the banking industry and stock markets?

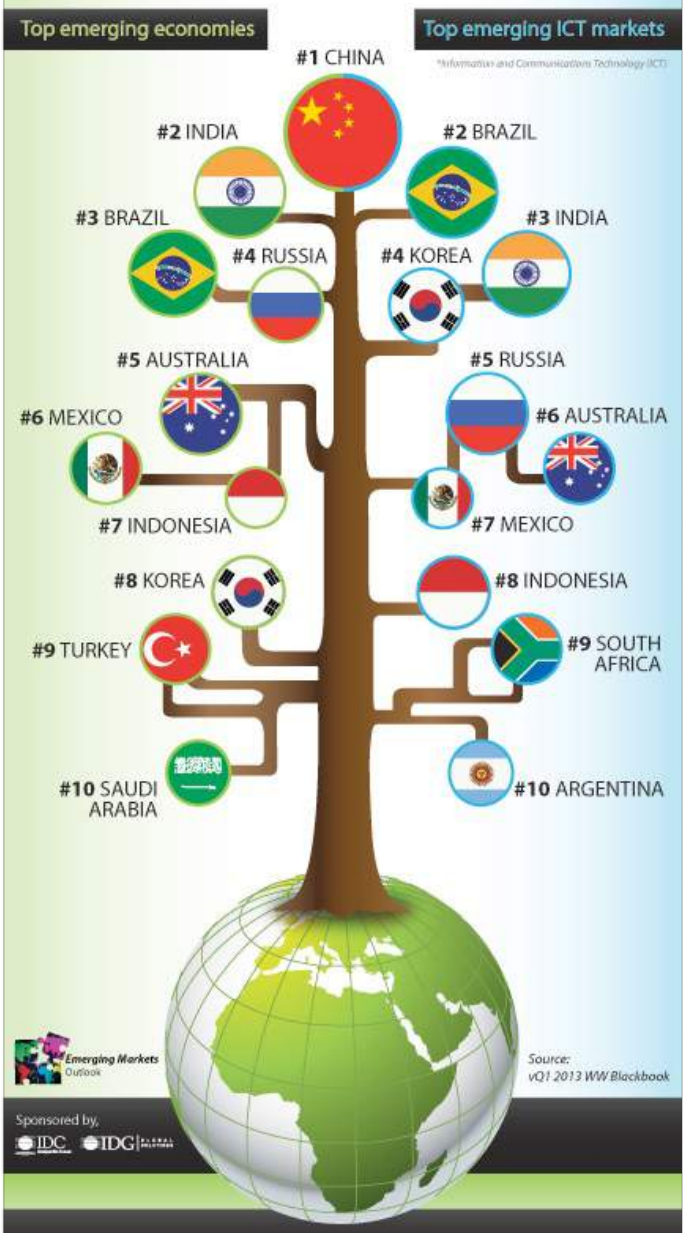
10. How well do the courts deal with fraud?

11. Do the laws permit companies to engage in hostile takeovers? Can shareholders organize themselves to remove entrenched managers through proxy fights?

12. Is there an orderly bankruptcy process that balances the interests of owners, creditors, and other stakeholders?

Six Emerging Markets That Will Rival the US by 2017

By **2017**, ICT spending from the top **6 big emerging markets** will **rival** the **US**.



Today...

There are 1 billion mobile phone users in **China.**

India adds over a million new mobile phone users each month.

South Korea has the highest penetration of 4G/LTE smart-phones shipped in the world.

Indonesia leads the world in market penetration of 3G/4G tablets.

Movie 2.2 Sustainable Human - Take Back The Land

“Take Back The Land” features environmental activist Vandana Shiva as she discusses the crises of our time and the two most important actions we can take to solve them.

Emerging Giants

Emerging Giants: Building World-Class Companies in Developing Countries

by Tarun Khanna and Krishna G. Palepu

In 2003, just months after Mahindra & Mahindra launched a smartly designed sport-utility vehicle called the Scorpio, CNBC India, BBC World's Wheels program, and others were heaping Car of the Year awards on the SUV. That was no mean achievement: The made-in-India automobile won top honors ahead of global best sellers such as the Mercedes-Benz E-Class and Toyota Camry sedans. To M&M, which manufactures tractors in several countries as well as vehicles targeted at India's semi-urban and rural markets, the awards signaled that it could finally take the world's automakers head-on. Even as the Scorpio suc-

cessfully battles multipurpose vehicles like Toyota's Innova and GM's Chevy Tavera at home, M&M has started marketing the SUV in South Africa and Spain. Clearly, the $1.73 billion Indian company is on the road to becoming a player in the global automobile industry.

M&M isn't the only company from an emerging market that is making the world sit up and take notice.

Over the past two-plus decades, waves of liberalization have all but washed away protectionist barriers in developing countries. As those nations integrated themselves into the world economy, multinational corporations from North America, Western Europe, Japan, and South Korea stormed in. Many local companies lost market share or sold off businesses as a result, but some fought back. They held their own against the onslaught, restructured their businesses, exploited new opportunities, and built world-class companies that today are giving their global rivals a run for their money.

Some emerging giants compete in several countries—for instance, Brazil's AmBev (which in 2004 merged with Belgium's Interbrew to form InBev); Chile's S.A.C.I. Falabella; China's Baosteel, Galanz, and Lenovo groups and Huawei Technologies; India's Dr. Reddy's Laboratories, Infosys, NIIT, Ranbaxy, Satyam, Tata Group, and Wipro; Israel's Teva Pharmaceuticals; Mexico's Cemex; the Philippines' Jollibee Foods; and South Africa's SABMiller. Others operate mainly at home—for example, China's Wahaha Group; India's Bharti Tele-Ventures and ITC Limited; and Turkey's Koç and Doğuş business groups.

What strategies did these globally competitive businesses deploy to overcome the myriad obstacles that their home environments pose? Why and how did some of them move from their dominant positions at home to establish an international presence? Must every emerging-market company follow suit? What sequence of steps should wannabe giants take to build stronger businesses at home or to enter markets overseas?

Six years ago, we decided to study several companies in developing countries as they created global businesses and emerged on the world stage. Academics such as Harvard Business School's Louis T. Wells, Jr. (who in 1983 popularized the term "Third World multinationals") and MIT's Alice H. Amsden (who in 2000 called firms in emerging markets "companies that rise from the rest") have studied similar busi-

nesses. Our focus, however, wasn't on the role that economic policy plays in creating globally competitive companies but on strategies and business models. That's important; several countries have opened up to foreign competition over the years, which has recast the challenges companies in emerging markets face: Survival is tougher, but the opportunities are more enticing than ever. We identified 134 major companies in ten emerging markets—Argentina, Brazil, Chile, China, India, Indonesia, Mexico, Poland, South Africa, and Turkey—and analyzed data on each company, from its strategies to its stock market performance. The patterns, you'll find, are intriguing.

Blunting the Multinationals' Edge

At first glance, Western, Japanese, and South Korean companies appear to hold near-insurmountable advantages over businesses in newly industrializing countries. They not only possess well-known brand names, efficient innovation processes and management systems, and sophisticated technologies but also have access to vast reservoirs of finance and talent. Western European and American companies, for instance, can raise large sums of money at a low cost because of their well-established financial markets. They can hire talent easily because the labor markets on both continents work well. Most developing countries lack the soft infrastructure that makes markets work efficiently, as we have pointed out in previous Harvard Business Review articles. (See, for instance, "Why Focused Strategies May Be Wrong for Emerging Markets" July–August 1997.) Because of institutional voids—the absence of specialized intermediaries, regulatory systems, and contract-enforcing mechanisms—corporations in emerging markets cannot access capital or talent as easily or as inexpensively as European and American corporations can. That often makes it tough for businesses in developing countries to invest in R&D or to build global brands.

Nevertheless, these companies can overcome such disadvantages, for three reasons. First, when multinational companies from the developed world explore business opportunities in emerging markets, they must confront the same institutional voids that local companies face. However, executives from multinational companies are used to operating in economies with well-developed institutional infrastructures and are therefore ill equipped to deal with such voids. Western organizations, for in-

stance, rely on data from market research firms to tailor their products and marketing strategies to compete in different markets. They also count on supply chain partners to make and deliver products to customers inexpensively. When these companies attempt to move into countries that don't have sophisticated market researchers or reliable supply chain partners, they find it difficult to deploy their business models. By contrast, the managers at local companies know how to work around institutional voids because they've had years of experience doing so. Their familiarity with the local context allows them to identify and meet customers' needs effectively. Moreover, business groups such as India's Tata Group, the Philippines' Ayala Group, and Turkey's Koç Group have created mechanisms for raising capital and developing talent. They can, for instance, raise money from the local stock market by trading on their reputations. These groups can also spread the cost of training executives in-house by deploying their managers across businesses. Such mechanisms allow many local companies to compete effectively with foreign giants.

Second, once companies from emerging markets have demonstrated a degree of success, they, too, can tap capital and talent markets in developed countries. Like American and European companies, they can raise money by, say, listing themselves on the New York Stock Exchange or on Nasdaq. Emerging giants often become investors' darlings, making it easy for them to sell equity shares or bonds. In the talent market, intermediaries from developed countries that are trying to fill the gaps in the soft infrastructure in emerging markets help local businesses become more competitive. In recent years, American and European business schools have launched education programs in developing countries. This has allowed emerging-market companies to retrain their existing managers and to hire people with the same skills that executives in multinational companies possess.

Third—and this is often downplayed by executives—multinational companies are reluctant, sometimes rightly so, to tailor their strategies to every developing market in which they operate. They find it costly and cumbersome to modify their products, services, and communications to suit local tastes, especially since the opportunities in developing countries tend to be relatively small and risky. Further, their organizational processes and cost structures make it difficult for them to sell products and services at optimal price points in emerging markets; they often end up occupying

small, superpremium niches. Local companies don't suffer from those constraints, particularly since they operate in just a few geographic markets. In fact, we've found that once emerging-market companies improve the quality of their products and services, they are able to cater to customers at home as well as, if not better than, multinational companies.

Market Structures in Developing Countries

The structure of markets in developing countries helps local companies counter their multinational rivals. Most product markets comprise four distinct tiers: a global customer segment that wants products of global quality and with global features—that is, offerings with the same quality and attributes that goods in developed countries have—and is willing to pay global prices for them; a "glocal" segment that demands products of global quality but with local features (and local soul) at less-than-global prices; a local segment that wants local products with local features at local prices; and a bottom-of-the-pyramid segment, as Michigan University's C.K. Prahalad calls it, that can afford to buy only the most inexpensive products. The markets for talent and capital in developing countries are usually structured along the same lines, as we explain in the exhibit "The Four-Tiered Structure of Markets."

Because of the institutional voids in developing countries, multinational companies find it difficult to serve anything but the market's global tier. In product markets, the lack of market research makes it tough for multinational companies to understand customers' tastes, and the paucity of distribution networks makes it impossible for them to deliver products to customers in the hinterland. In talent markets, they don't have enough knowledge about the local talent pool to design policies that will attract and motivate employees at the glocal, local, and bottom-of-pyramid tiers. Therefore, when a developing country opens up, multinational companies rush into the global tier, and local companies dominate the local tier. There are immense opportunities in the bottom tier, but companies have to use radically different strategies to crack it open. Over time, the glocal tier becomes the battleground between local and foreign corporations. Since glocal customers demand global products with local features, several emerging-market companies have used their knowledge of local markets to serve customers better than multinational

firms have been able to, as we shall see in the following pages.

Companies' successes depend on their ability to exploit their competitive advantages. Since emerging giants both circumvent institutional voids and tailor their strategies to local markets better than multinational companies do, they initially take on foreign competitors by capitalizing on their ability to navigate their home turf. They do that by using one of three strategies.

Exploit Understanding of Product Markets

Many emerging-market companies have become world-class businesses by capitalizing on their knowledge of local product markets. They've kept multinational rivals at bay by judiciously adapting to the special characteristics of customers and business ecosystems at home. These emerging giants have also exploited similarities between geographically proximate developing markets to grow across borders.

Many emerging-market companies have kept multinational rivals at bay by adapting to the special characteristics of customers and business ecosystems at home.

Product markets often turn out to be unique because customers' needs and tastes are idiosyncratic. Local companies are the first to realize that and to build businesses around distinctive national characteristics. For instance, Jollibee Foods thrives because it realizes that Filipinos like their burgers to have a particular soy and garlic taste; Nandos is growing in South Africa by providing cooked chicken that suits local palates; and Pollo Campero is doing the same in Guatemala. Over the past ten years, these companies have profitably battled American giants like McDonald's and KFC. They have also used their understanding of local preferences to cater to the tastes of the diaspora from their home markets. Jollibee serves Filipino communities in Hong Kong, the Middle East, and California; Nandos has expanded into the United Kingdom and Malaysia; and Pollo Campero sells to Latino communities in Ecuador, El Salvador, Honduras, Mexico, Nicaragua, and Peru, as well as parts of the United States.

Haier became a leader in China's white goods market, in the teeth of competition from GE, Electrolux, and Whirlpool, mainly because it was able to develop products tailored to the needs of Chinese consumers. For example, when Haier discovered that customers in rural China were using

the company's washing machines to clean vegetables like sweet potatoes, the company modified its product designs to accommodate that need. The humid weather in Chinese cities such as Shanghai and Shenzhen requires people to change clothes frequently, so Haier created a tiny washing machine that cleans a single set of clothes. Because the model uses less electricity and water than a regular washing machine does, it has become an instant hit in China's coastal cities. Haier's strategy compels the company to manufacture a large variety of products, but the company exploits its expert knowledge of the Chinese market—knowledge that is hard for multinational companies to obtain—by developing a product for every need.

Haier has also painstakingly created a distribution and service network that covers not only urban markets on the east coast of China but also markets in semi-urban and rural China. In a country where reliable after-sales service and national distribution aren't common, Haier's investments in those two areas have yielded formidable sources of competitive advantage. Product markets often turn out to be hard to penetrate because companies need specialized infrastructures, distribution channels, or delivery systems to meet customers' needs. Most multinational companies, we find, are ill equipped to pioneer the development of such systems.

Interestingly, Haier took care to cement its leadership at home before venturing abroad. By 1991, the company had become China's biggest manufacturer of refrigerators, but it wasn't until 1995 that Haier set up its first joint venture, in Indonesia. It then quickly moved into the Philippines, Malaysia, and Yugoslavia over the next two years. Germany became the first Western market for Haier-branded refrigerators in 1997, and two years later, Haier entered the United States, setting up a design center in Boston, a marketing operation in New York, and a manufacturing facility in South Carolina. In the U.S. market, the Chinese giant has focused on entering price-sensitive segments and on learning how to establish partnerships with American retailers such as Best Buy, Home Depot, and Wal-Mart. In 2005, research firm Euromonitor International reported that Haier had a 26% share of the U.S. market for compact refrigerators (the kind found in college dormitories and hotel rooms) and a 50% share of the market for low-end wine cellars. Haier's ability to develop products for small segments has stood it in good stead overseas: In July 2006, Wal-Mart's

Web site listed 59 Haier products, many aimed at college students.

Emerging giants tend to avoid head-to-head competition with foreign companies; they focus on niche opportunities that allow them to capitalize on their existing strengths.

Haier's travels epitomize the globalization journey that emerging giants make when they embrace opportunities in product markets. They instinctively turn to other emerging markets when they initially venture abroad because they have the capabilities to respond to opportunities in such countries. Because of their knowledge of products and cost bases, however, they aren't content with operating only in developing countries. When they enter advanced markets, they tend to avoid head-to-head competition with foreign companies; they focus on niche opportunities that allow them to capitalize on their existing strengths. This approach helps emerging giants gradually stretch their capabilities even as they learn how to operate in developed markets. The experience helps them enlarge their footprints in advanced countries and compete more effectively with multinational giants when their home markets mature. For instance, Haier's experience in Europe and the United States will benefit the company as Western retailers such as Carrefour and Wal-Mart become important distribution channels in China.

Build on Familiarity with Resource Markets

Some emerging-market companies have gained competitive advantage by exploiting their knowledge about local factors of production—the markets for talent and capital—thereby serving customers both at home and abroad in a cost-effective manner.

Consider Indian information technology majors such as Tata Consultancy Services, Infosys Technologies, Wipro, and Satyam Computer Services, all of which have excelled in recent years at catering to the global demand for software and services. This is partly because India's education system produces many engineers and technical graduates; local companies hire these people at salaries much lower than those that engineers in developed markets earn. Since institutional voids pervade the talent market in India, however, it is very difficult for foreign companies to capitalize on the same human resources. Multinational software service providers, such as Accenture and EDS, have a hard time sorting talent in a market where the level of people's skills and the quality of educa-

tional institutions vary wildly. In fact, as talent becomes scarcer in urban centers like Bangalore and Delhi, Indian companies will maintain their advantage, because they know how to lure people from India's second-tier cities better than multinational companies do.

Transnational giants also find it tough to operate in an economy with a poor physical infrastructure and to cope with the Indian regulatory apparatus. India's software companies recognized the possibility of providing services to overseas customers at least a decade before Western companies acknowledged the feasibility of hiring Indian software professionals. Consequently, the Indian firms gained experience early, which has kept them ahead of their foreign rivals. Recently, some Indian companies have also been able to tap the global capital and talent markets, nullifying more of their overseas rivals' inherent advantages.

Some companies have exploited their knowledge of local factors of production and supply chains to build world-class businesses. Taiwan-based Inventec, for instance, is among the world's largest manufacturers of notebook computers, PCs, and servers, many of which it makes in China and supplies to Hewlett-Packard and Toshiba. It also makes cellular telephones and portable music players for other multinational companies. Inventec's customers benefit from the low costs of manufacturing products in China without having to invest in factories there. They are also able to use China's talented software and hardware professionals, who can design products quickly in an industry where product life cycles are notoriously short. Inventec has mastered the challenges associated with sourcing electronic components from around the world, assembling them into quality products at a low cost, and shipping them to multinational companies in a reliable fashion. Recently, Inventec started selling computers in Taiwan and China under its own brand name. The computers have a Chinese operating system and software, so Inventec doesn't compete directly with its customers—yet.

Likewise, Bunge, the world's largest processor of oilseeds, has created a supply chain that links Brazil's farmers to consumers all over the world. Bunge's savvy trading organization tracks the supply of and demand for oilseeds, which lets executives decide when to buy oilseeds; when and where to crush them; and when and where to transport oil and oil meal for consumer, agricultural, and industrial use. Bunge charters approximately 100 ships; it leases

warehouses and crushing plants all over the world; and it even takes equity positions in ports. That infrastructure allows the company to respond quickly to changes in customer requirements and helps it cope with logistics problems, such as those caused by Hurricane Katrina in 2005. Finally, the $24 billion company feeds supply and demand data to Brazil's farmers, along with advice about everything from fertilizers to harvesting techniques, so they can plant the most profitable kinds of oilseeds. Bunge's sales grew by 235% between 1997 and 2004, from $7.4 million to $25.1 million. Its net income has risen by about 425% over the same period, from $83 million to $469 million.

Businesses that are built around raw materials are usually global from their inception, either because they serve customers in advanced markets or because they are part of a global value chain. As they grow, these emerging giants expand their footprints in three ways. First, they look for customers in advanced markets that they can serve from their home bases. Second, as factor markets at home become saturated and thus more expensive, these businesses look for other developing countries that offer similar resources. Finally, these companies move up the value chain, selling branded products or offering solutions to niche segments. That's exactly what India's information technology leaders are doing. After establishing themselves as reliable providers of IT services in North America, they moved into Latin America and Asia. By setting up operations in developing countries such as China and Russia, they have started exploiting the large pools of talent in those countries. They have also acquired small consulting firms in the United States and Europe, thereby enhancing their ability to develop high-end solutions for customers.

Treat Institutional Voids as Business Opportunities

The third way to build emerging giants is for private sector businesses to fill institutional voids. Only governments can set up certain institutions, but companies can own and profitably operate many kinds of intermediaries in product and factor markets.

Many institutional intermediaries facilitate the flow of information in markets; these include newspaper publishers and database vendors. Some intermediaries enhance the credibility of the claims sellers make—for instance, accounting firms, quality-certification firms, and accredita-

tion agencies. Others analyze information and advise buyers and sellers; these include rating agencies, product-rating companies such as JD Power and Associates, and publications that rank universities and professional schools. Private sector institutions can also facilitate transactions, either by aggregating and distributing goods and services or by creating forums where buyers and sellers can conduct their own transactions. The aggregators—venture capitalists, private-equity firms, and banks in the financial market; retailers in the product market; and, to some extent, universities in the talent market—help buyers and sellers find each other. Stock exchanges, online auction sites, and job sites on the Internet serve as forums where transactions can take place in the financial, product, and talent markets, respectively.

Multinational companies enjoy an edge in the intermediaries business because they bring expertise, credibility, and experience to the table. However, emerging-market companies can take them on for three reasons. First, many intermediaries are people intensive, so running them requires familiarity with the local language and culture. Second, intermediaries are information intensive, and it takes local expertise to access scattered information and analyze data of variable quality. Third, governments consider some institutions, such as media, banking, and financial services, to be of national importance. They often prohibit multinational companies from setting up those institutions or force them to collaborate with local companies.

Resource markets can be separated into the four tiers we discussed earlier—one global and three local. Multinational companies are suited to serve as intermediaries in the global tier, but local firms are better able to cater to the other tiers. For example, multinational banks serve large blue-chip customers in emerging markets because evaluating those companies' creditworthiness is relatively straightforward. Those businesses produce high-quality financial statements, get them audited by globally reputable accountants, and, if their shares are listed overseas, follow international accounting norms. However, evaluating the credit of small and medium enterprises is tough: There's so little data on them. Domestic banks, with their local knowledge and informal connections, cater to this segment better than foreign banks do. In Turkey, for example, the likes of Citibank skim the top of the corporate market whereas local banks, like Garanti Bank Turkey and Akbank, cater to Turkish businesses better than the multinational banks do.

Several emerging giants have learned to play the role of market institutions. Consider Old Mutual, an insurance company that realized that South Africa lacked mutual funds and other long-term investment products. Old Mutual responded by creating insurance policies for poor people that had the features of savings accounts. By marketing the policies to millions of South Africans, the company became a large financial services firm. When the South African economy integrated itself with the world market in the early 1990s, Old Mutual moved into other African countries, such as Botswana, Kenya, Malawi, Namibia, and Zimbabwe, and listed itself on the Johannesburg and London stock exchanges.

To take another example, Agora is one of Poland's most successful media companies. It publishes Poland's biggest newspaper, Gazeta Wyborcza (GW), which commands 43% of the national readership and has a 62% share of national newspaper advertising revenues. The paper started in April 1989 as an organ for the Solidarity political movement, but after Solidarity's victory in Poland's elections in June 1989, Agora's founders made the newspaper an independent organization. Agora filled the information void in Poland by providing not only news coverage but also a vehicle for advertising. Since GW's readers are educated, live in urban areas, and have plenty of disposable income, the newspaper's advertisers include travel agencies, automakers, cellular phone companies, pension funds, and so on. The company trades on the Warsaw and London stock exchanges, which has enabled it to raise capital to fund its growth. In 1993, the company sold approximately 20% of its shares to Cox Enterprises, an American media company. The alliance enabled Agora to get expertise and capital from Cox.

China's Emerge Logistics is another company that has exploited an institutional void in an emerging market to create a profitable business. Although China has plenty of eight-lane highways, delivering goods isn't easy because the transportation system is underdeveloped. No trucking firm operates nationally; in fact, the average Chinese trucking company owns only one or two vehicles. In addition, separate government bodies regulate air, rail, road, and river transport, and several levels of government impose tolls on vehicles. These factors add to companies' costs and hinder them from distributing products. Emerge Logistics, one of China's few third-party logistics services providers, helps multinational companies sell products all over the country by capitalizing on its un-

derstanding of the disjointed transportation system and the baffling bureaucracy. Operating from a warehouse an hour away from Shanghai, Emerge Logistics takes foreign companies all the way through the delivery process—from filing import applications before goods enter the country to collecting payments from customers. The company coordinates the transfer of goods among different modes of transportation and takes orders from Chinese customers for its clients' products. By doing the billing itself, Emerge Logistics also facilitates direct sales by Western multinational companies to Chinese customers.

Exploiting institutional opportunities often doesn't create a launchpad for globalization. That doesn't mean these businesses stay small, however. In markets such as Brazil, China, India, and Russia, institutional businesses can become quite large even if they focus only on the domestic market. In smaller emerging markets, companies that try to fill institutional voids can grow by exploiting adjacent opportunities. A print media company, for instance, can expand into electronic media; a bank can diversify into asset management and investment banking; and a privately owned business school can set up a medical, law, or technology school. Doing so often paves the way for these businesses to go global at a later stage.

The Importance of Execution and Governance

Identifying the right growth strategy is critical for building a world-class business, but execution and governance determine whether companies in emerging markets can realize their potential. While that may be true about building great companies anywhere, our research suggests that excellent execution and good governance are particularly valuable in newly industrializing countries. Financial and talent resources in emerging markets are scarce, but companies that can execute well end up getting more out of them. And since resource providers cannot rely on the enforcement of contracts in emerging markets, good governance—organizational mechanisms that ensure that a company lives up to its commitments to investors, customers, employees, and business partners—allows an organization to acquire a reputation that is invaluable in its dealings with constituents. It can, for instance, access the best resources at the lowest cost.

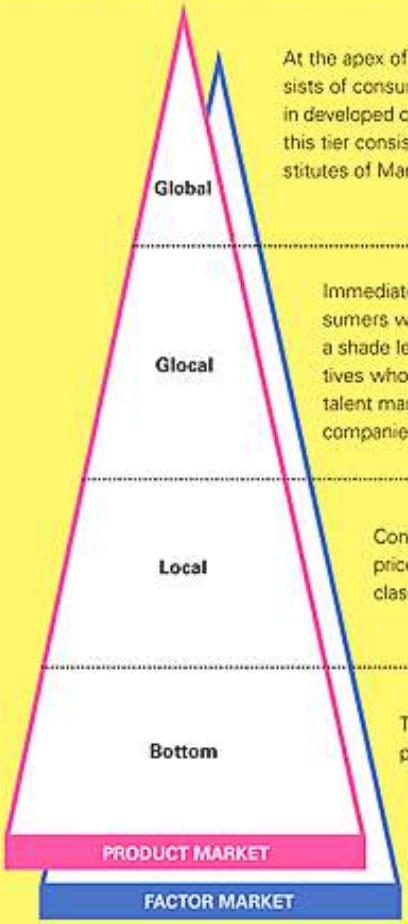
The manner in which emerging-market companies achieve good governance varies greatly. Countries put different weights

on the extent to which a governance system should protect shareholders, employees, and other constituents. The laws regarding corporate governance differ across nations, with greater similarities among those that share economic links such as trading connections. Governance practices vary even more. However, only companies that zealously protect the interests of shareholders and employees, and ensure that both receive competitive returns on investment, become emerging giants.

Is it better to be more global? The answer may appear to be yes. Well-managed companies do spread their wings over time and enter many geographic markets. There is a correlation between global scope and performance. But executives shouldn't confuse that with a causal relationship. What is important is whether global scope results in competitive advantage rather than being the result of advantage derived in some other fashion. Our research shows that there's more than one way to skin the proverbial cat: Some emerging giants operate in several countries, but others sell only at home. In fact, look at the United Nations Conference on Trade and Development's list of top 50 emerging-market companies, and you'll see that the correlation between size and degree of globalization in these businesses (as measured by market value) is, at 0.4, low. Moreover, the financial performance of world-class companies that have diversified across countries isn't superior to the performance of those that haven't. Emerging giants can thus be successful even if they don't have global footprints.

The Four-Tiered Structure of Markets

In developing countries, the markets for finished goods (products) and raw materials (factors of production) can be broken up into four distinct components.



At the apex of the market pyramid is the **global tier**. In the product market, this section consists of consumers who want offerings to have the same attributes and quality that products in developed countries have and are willing to pay global prices for them. In the talent market, this tier consists of top-notch managers, such as newly minted graduates from the Indian Institutes of Management, who demand global-level salaries.

Immediately below that is the **glocal tier**. In the product market, this tier consists of consumers who demand customized products of near-global standard and are willing to pay a shade less than global consumers do. An example would be Chinese and Indian executives who prefer to stay in a Shangri-La or Taj hotel rather than at a Four Seasons. In the talent market, this section consists of high-quality managers who will work only for local companies even if the pay is a little less than it would be at multinational corporations.

Consumers in the **local tier** are happy with products of local quality and at local prices. In the talent market, managers in this section will put up with less-than-world-class working conditions as long as they are paid higher-than-average salaries.

The **bottom** of the market consists of people who can afford only the least expensive products.

Multinational corporations typically compete for consumers and talent only in the global tier. Meanwhile, smart local companies, which dominate the local tier, move into the glocal tier and also create breakthrough products for the bottom segment as economies liberalize. These businesses often become emerging giants.

Movie 2.3 Cowspiracy

It follows the story of Kip, a passionate environmentalist and filmmaker, who is discovering the biggest secret that even the most powerful environmental organizations are too scared to talk about.

New Models

New Business Models in Emerging Markets

by Matthew Eyring, Mark W. Johnson, and Hari Nair

Right now more than 20,000 multinationals are operating in emerging economies. According to the Economist, Western multinationals expect to find 70% of their future growth there—40% of it in China and India alone. But if the opportunity is huge, so are the obstacles to seizing it. On its 2010 Ease of Doing Business Index, the World Bank ranked China 89th, Brazil 129th, and India 133rd out of 183 countries. Summarizing the bank's conclusions, the Economist wrote, "The only way that companies can prosper in these markets is to cut costs relentlessly and accept profit margins close to zero."

Yes, the challenges are significant. But we couldn't disagree more with that opinion. We have seen the opportunities of the future on a street corner in Bangalore, in a small city in central India, in a village in Kenya—and they don't require companies to forgo profits. On the surface, nothing could be more prosaic: a laundry, a compact fridge, a money-transfer service. But look closely at the businesses behind these offerings and you will find the frontiers of business model innovation. These novel ventures reveal a way to help companies escape stagnant demand at home, create new and profitable revenue streams, and find competitive advantage.

That may sound overly optimistic, given the difficulty Western companies have had entering emerging markets to date. But we believe they've struggled not because they can't create viable offerings but because they get their business models wrong. Many multinationals simply import their domestic models into emerging markets. They may tinker at the edges, lowering prices—perhaps by selling smaller sizes or by using lower-cost labor, materials, or other resources. Sometimes they even design and manufacture their products locally and hire local country managers. But their fundamental profit formulas and operating models remain unchanged, consigning these companies to selling largely in the highest income tiers, which in most emerging markets aren't big enough to generate sufficient returns.

What's often missing from even the savviest of these efforts is a systematic process for reconceiving the business model. For more than a decade, through research and our work in both mature and emerging markets, we have been developing our business model innovation and implementation process (see "Reinventing Your Business Model," HBR December 2008, and "Beating the Odds When You Launch a New Venture," HBR May 2010). At its most basic level, the process consists of three steps: Identify an important unmet job a target customer needs done; blueprint a model that can accomplish that job profitably for a price the customer is willing to pay; and carefully implement and evolve the model by testing essential assumptions and adjusting as you learn.

Start in the Middle

Established companies entering emerging markets should take a page from the strategy of start-ups, for which all markets are new: Instead of looking for additional outlets for existing offerings, they should iden-

tify unmet needs—"the jobs to be done" in our terminology—that can be fulfilled at a profit. Emerging markets teem with such jobs. Even the basic needs of their large populations may not yet have been met. In fact, the challenge lies less in finding jobs than in settling on the ones most appropriate for your company to tackle.

Emerging markets teem with "jobs to be done." Even the basic needs of their large populations may still be unmet.

Many companies have already been lured by the promise of profits from selling low-end products and services in high volume to the very poor in emerging markets. And high-end products and services are widely available in these markets for the very few who can afford them: You can buy a Mercedes or a washing machine, or stay at a nice hotel, almost anywhere in the world. Our experience suggests a far more promising place to begin: between these two extremes, in the vast middle market. Consumers there are defined not so much by any particular income band as by a common circumstance: Their needs are being met very poorly by existing low-end solutions, because they cannot afford even the cheapest of the high-end alternatives. Companies that devise new business models and offerings to better meet those consumers' needs affordably will discover enormous opportunities for growth.

Take, for example, the Indian consumer durables company Godrej & Boyce. Founded in 1897 to sell locks, Godrej is today a diversified manufacturer of everything from safes to hair dye to refrigerators and washing machines. In workshops we conducted with key managers in the appliances division, refrigerators emerged as a high-potential area: Because of the cost both to buy and to operate them, traditional compressor-driven refrigerators had penetrated only 18% of the market.

The first thing these managers wanted to know, naturally enough, was "Could Godrej provide a cheaper, stripped-down version of our higher-end refrigerator?" We asked them to consider instead the key needs of those with poor or no refrigeration. Did they know what those consumers really wanted? In a word, no. A small team was assigned to conduct detailed observations, open-ended interviews, and video ethnography to illuminate the job to be done for that untapped market.

The semiurban and rural people the team observed typically earned 5,000 to 8,000 rupees (about $125 to $200) a month, lived in single-room dwellings with four or five

family members, and changed residences frequently. Unable to afford conventional refrigerators in their own homes, they were making do with communal, usually second-hand ones.

The shared fridges weren't meeting these people's needs very well, but not for the reasons one might expect. The observers found that they almost invariably contained only a few items. Their users tended to shop daily and buy small quantities of vegetables and milk. Electricity was unreliable, putting even the little food they did want to preserve at risk. What's more, although they wanted to cool their drinking water, making ice wasn't a job for which these people would "hire" a refrigerator.

The team concluded that what this group needed to do was to stretch one meal into two by preserving leftovers and to keep drinks cooler than room temperature—a job markedly different from the one higher-end refrigerators do, which is to keep a large supply of perishables on hand, cold or frozen. Clearly, there was no reason to spend a month's salary on a conventional refrigerator and pay steep electricity prices to get the simpler job done. And just as clearly, the solution wasn't a cheaper conventional fridge. Here was an opportunity to create a fundamentally new product for the underserved middle market.

It's easier to reach people who are already spending money to get jobs done.

Targeting this market has two great advantages. First, it's easier to upgrade the solution to a job people are already trying to do than to create sufficient customer demand where none yet exists—as would-be vendors of purified water and other seemingly essential offerings have found to their dismay. Second, it's easier to reach people who are already spending money to get their jobs done. That's essentially what Ratan Tata did with the $2,500 Nano. He didn't ask, "How can I get people who've never bought any form of transportation to buy a car?" He asked, "How can I produce a better alternative for people who hire motor scooters to transport their families?" The goal is to redirect existing demand by offering a clear path from an unsatisfactory solution to a better one.

Offer Unique Benefits for Less

To redirect demand, your customer value proposition (CVP) must solve a problem more effectively, simply, accessibly, or affordably than the alternatives. In developing

markets, we have found, the components of a CVP that matter most are affordability and access. Let's look at each in turn.

Affordability.

Western companies know that they need to come up with lower-cost offerings in emerging markets, but they too often limit themselves to providing less for less. In 2001, for instance, a 300 ml bottle of Coke cost 10 rupees—a day's wages, on average, and a luxury the company estimated only 4% of the population could afford. To reach the other 96%, it introduced a 200 ml bottle and cut the price in half, shaving margins to make Coke more competitive with common alternatives such as lemonade and tea.

In our experience, though, a far more robust approach to creating an affordable emerging market offering is to trade off expensive features and functions that people don't need for less-expensive ones they do need. To get that right requires a clear understanding of the context in which the offering will be sold—which calls for further fieldwork, preferably of a collaborative rather than a merely observational kind. This is good product-development advice in any market. In fact, it applies to indigenous players operating close to home, like Godrej, as well as to Western companies confronting the unfamiliar.

Godrej's team designed and built a prototype cooling unit from the ground up and tested it in the field with consumers. Then, in February 2008, more than 600 women in Osmanabad, a city in India's Marathwada region, gathered to participate in a cocreation event. Working with the original prototypes and several others that had followed, they collaborated with Godrej on every aspect of the product's design. They helped plan the interior arrangements, made suggestions for the lid, and provided insights on color (eventually settling on candy red).

The result was the ChotuKool ("little cool"), a top-opening unit that, at 1.5 x 2 feet and with a capacity of 43 liters, has enough room for the few items users want to keep fresh for a day or two. With only 20 (rather than the usual 200) parts, it has no compressor, cooling tubes, or refrigerant. Instead it uses a chip that cools when a current is applied and a fan like those that prevent desktop computers from overheating. Its top-opening design keeps most of the cold air inside when the lid is opened. It uses less than half the energy of a conventional refrigerator and can run on a battery during the power outages that are com-

mon in rural villages. At just 7.8 kilograms, it's highly portable, and at $69, it costs half what the most basic refrigerator does. Because it's the right size for the job, easier to move, and more reliable in a power outage than a conventional fridge, it surpasses the higher-end offering on the performance measures that matter most to these consumers.

Access.

It's not surprising that portability is important to potential ChotuKool customers, given that they move frequently. And because populations in emerging markets tend to be dispersed, obtaining goods and services can be more difficult than in the West. This creates opportunities for companies that solve challenges of access.

In Kenya, for example, banking services are scarce and transferring money is complicated and expensive. Without access to traditional services, many people must use unsafe alternatives such as hawala—an unregulated network of brokers operating on the honor system—or transport cash by bus. The UK-based Vodafone solved this problem by developing a secure, low-cost mobile money-transfer service. Called M-PESA (M for "mobile" and PESA from the Swahili word for "money"), the system is operated by Safaricom, Kenya's leading mobile network.

Customers register free with an authorized M-PESA agent—typically a Safaricom dealer, but sometimes a gas station, food market, or other local shop. Once registered, they can deposit or withdraw cash at the agent or transfer money electronically to any mobile phone user, even if the recipient is not a Safaricom subscriber. They can also buy Safaricom airtime for themselves or other subscribers. Customers pay a flat fee of about US 40 cents for person-to-person transfers, 33 cents for withdrawals under $33, and 1.3 cents for balance inquiries. Vodafone (which owns a significant stake in Safaricom) manages individual customer accounts on its server, and Safaricom deposits its customers' balances in pooled accounts in two regulated banks, so their full value is backed by highly liquid assets.

Since its launch, in March 2007, the service has acquired more than 9 million customers—40% of Kenya's adult population. As of June 2010, the Economist reported, M-PESA customers could conduct transactions at some 17,900 retail outlets, more than half of them in rural areas. That figure dwarfs the total number of bank branches,

post offices, and Post Banks—which is only about 840 nationwide.

Spurred by the success of its original offerings, the service has expanded to include bill payment, business-to-customer payments such as paychecks and microfinance loan disbursements, delivery of humanitarian aid, and international money transfers. After just three years M-PESA accounted for 9% of Safaricom's total revenue. More important, it has become the engine driving the company's profits, which have shifted dramatically from voice to data traffic. Vodafone has launched similar services in Tanzania, Afghanistan, and South Africa and plans to introduce them in Egypt, Fiji, and Qatar as well.

Failure to address the access challenge is an important reason that so many companies have little success adapting their current models to emerging markets. Time and again, the increased volume they hope will offset slimmer profit margins doesn't in fact result in profits, because the costs of serving far-flung customers in infrastructure-poor developing countries are just too high. But companies that, like Vodafone, devise novel approaches may find them to be widely applicable in many markets.

Integrate the Elements

Business models can be conceived in a variety of ways. Our approach focuses on the basics and also on factors that make it difficult to move from an existing model to a new one—margin requirements, overhead, and "resource velocity" (the capacity to generate a given volume of business within a specific time frame). It has four parts: the customer value proposition, a profit formula, key processes, and key resources the company must use to deliver the CVP repeatedly and at scale. Creating competitive advantage lies in integrating these elements to produce value for both the customer and the company. That's easy to say but devilishly hard to do. Mapping the traditional functions of your company to these broad categories will show you how much you'd have to change to integrate those functions into a new business model (see the exhibit "Building a New Model").

Once you've devised a CVP for your proposed offering, consider the basis on which you compete—differentiation or price. Offerings that compete on differentiation require that you ask, "What do I have to do to produce this?" which leads you counterclockwise around the model, looking first at what resources and processes are needed, the cost of which (both fixed

and variable) will determine what price can deliver the desired profit margin. That's what Whole Foods did when it created a new market for organic foods. Costs drove prices.

For offerings that compete on the basis of price, you move clockwise around the model, again starting with the CVP, but next setting the price, devising a rough cost structure, and then determining what processes and resources (often radically different from those in your current model) are needed to meet your price requirements. Because affordability is so critical in emerging markets, the decision journey is almost invariably clockwise. Innovators start with a revenue model—"We think we can sell this offering to X number of people at price Y"—and then devise the cost structure required to deliver a certain unit margin. Becoming profitable at that margin means operating at a certain resource velocity, which in turn drives decisions about how to organize operations, what materials to use, and other questions.

More often than not, this exercise reveals that a company can't meet its profit goals in emerging markets merely by reducing variable costs in its current profit formula and that a viable model will require changes to fixed costs or overhead as well. That's what Ratan Tata discovered when he set out to produce his $2,500 car. He couldn't just send the car down the production line and somehow spend less to make it. He needed to reduce fixed costs by designing a car with far fewer parts and changing assembly methods and other key processes. Implementing models that require changes in overhead, margins, or resource velocity tends to be problematic for incumbent companies, which is why it's not surprising that start-ups so often have the edge in bringing to market offerings that require new ways to turn a profit. An open mind is perhaps the most important asset anyone can bring to emerging markets. We learned that lesson when we set out to solve a basic but knotty cleaning problem for a vast group of frustrated consumers.

An open mind is perhaps the most important asset anyone can bring to emerging markets.

Village Laundry Service—which was founded by our company and uses the Chamak brand—was aimed squarely at the emerging middle market. In India people who can't afford a washing machine but want an alternative to laborious washing by hand after a long day's work have unappealing choices: They can patronize a

dhobi (a traditional washing person), or they can take their clothes to a neighborhood laundry or dry-cleaning establishment. The dhobis are cheap, but they use any available water, which can be unhygienic. They slap the clothes against rocks to clean them, which wears down the fabrics, and they don't compensate customers for damage. Turnaround time is five to seven days. A laundry or dry cleaner can do the job in four or five days, generally returns the clothes in good shape, and makes amends if something goes wrong. A laundry may or may not use clean water, however, and both are far more expensive than a dhobi.

In early 2009 we ventured into several parts of India, from urban slums to rural villages, conducting interviews and immersing ourselves in the lives of the people who faced this frustrating choice. What, exactly, was the job to be done? What sort of laundry service would these customers hire? We discovered several things: The job wasn't to make it affordable for them to clean their clothes the way rich people did; it was to replicate the advantage of a home washer and dryer at a price they could afford. It wouldn't be sufficient to get the clothes back in four days—they'd have to be ready within 24 hours, and at a price well below the laundry's or dry cleaner's. *And they'd have to be easy to pick up at a nearby location.*

With those requirements clearly in mind, we examined all parts of the business model to come up with an inventive way of extending access while keeping costs low. We immediately realized that it would be hard to create a profitable business that placed many traditional self-service laundries across a town, because demand was unpredictable and up-front capital investment and rental deposits would be high.

Our solution: Portable seven-foot-square kiosks, each holding an efficient front-loading washer and a dryer, which can be placed wherever there is heavy foot traffic. Customers drop off their clothes to be washed, dried, and ironed, all within 24 hours. The kiosk's small footprint minimizes rents, and its independent water supply, delivered through a fixed contract, is both less expensive and more reliable than the public utility connection. Covered with ads for the Chamak brand, the kiosks also serve as billboards, reducing the need for paid advertising. We keep transaction costs low through an innovative point-of-sale system, made up of a cell phone linked to a Bluetooth printer and report server, which prints receipts, tracks orders, and captures data on business volume.

After much experimentation, we developed standard procedures for staffing and running the kiosks, including tests to gauge potential operators' aptitude and commitment; simple picture-based operating instructions (much like those used in fast-food restaurants) to ensure consistent service; and a scorecard for traffic level, customer satisfaction, marketing effectiveness, and other variables, allowing us to predict the chances of success at each location and to make operations replicable and scalable.

It is this innovative marriage of a novel solution with all the other elements of the business model that makes Chamak's services affordable and profitable. The model allows the company to charge 40 rupees (about $1) per kilogram of clothing—little more than what dhobis charge and significantly less than what professional laundries and dry cleaners do (sometimes 90 rupees per garment). Village Laundry Service currently has 5,000 customers patronizing some 20 booths in Mumbai, Bangalore, and Mysore. The company expects to reach breakeven in late 2011. Of course, as with any new business, how Village Laundry Service performs over the long term will depend on a number of hard-to-predict factors.

From Blueprint to Operating Business

Testing and implementing the business model blueprint in emerging markets is as much an art as a science. Having a cadre of global "experts" study the market for months and create a plan that is then handed over to the local team for execution simply doesn't work. Quick adjustments based on early lessons learned on the ground trump the best and most detailed strategic plan developed before the fact.

M-PESA succeeded in part because Kenya's banking regulator permitted Safaricom to test various business models from the very beginning. Safaricom made the most of the opportunity. It started in 2004 by experimenting with 500 customers and a system designed to allow them to repay microloans. As the company market-tested this concept, it discovered a more-compelling value proposition—namely, a way for urban workers to transfer funds to friends and family members in rural areas. That fundamental insight was the basis on which subsequent services were built, and since M-PESA's commercial launch, its simple but powerful branding message has been "Send money home."

This doesn't mean that expertise is unimportant when launching a new business in an emerging market. But we've found that agile functional expertise is the most critical kind, because the uncertainties in emerging markets are so great. A broad network of resources—including responsive advertising agencies, companies that can produce prototypes on demand, financial service advisers who understand local regulatory guidelines, and a healthy bench of local entrepreneurs to execute the plan—is essential.

The ability to conduct rapid experiments inexpensively and use what you learn from them to hone the business model is essential to success. It allows you to make course corrections before you commit to major operational or strategic investments. Recently a company we incubated was looking to launch a men's grooming business but was uncertain about demand. Rather than commission an expensive 10-city quantitative research study, we rented a small air-conditioned truck and created a mini hair salon on wheels, outfitted with a barber's chair, scissors and other implements, and a mirror. For two weeks we drove the truck around the streets of Bangalore to gauge demand and test various pricing scenarios at various locations. The experiment, which cost all of $3,000, provided essential answers that no survey could have and demonstrated the business potential for an affordable and convenient Supercuts-like business for men. The company changed from a roving barbershop model to a kiosk-based model and is considering offering additional services, such as facials and skin lightening, that many customers desire.

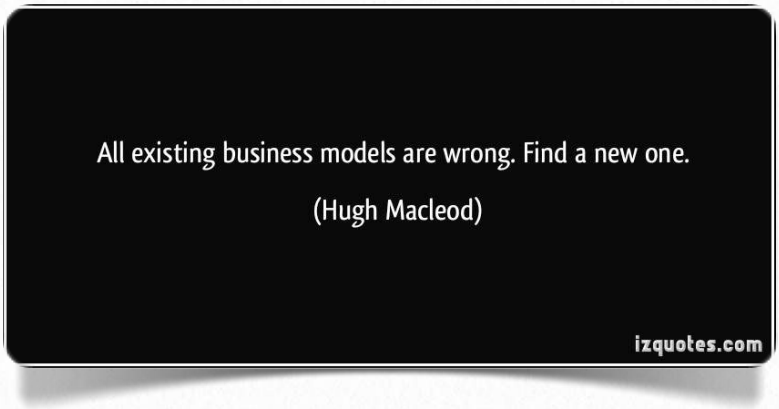
Ultimately, the potential for such business model innovations, as for many other disruptive innovations, may extend far beyond the markets for which they were created. G. Sunderraman, the vice president of corporate development at Godrej, sees the ChotuKool as a new growth platform. Unit sales are projected to reach 10,000 in the first year and 100,000 by the end of the second. If Godrej considered the ChotuKool to be simply a no-frills refrigerator for the middle market, it might be content with a moderate penetration rate. But the company's managers regard it as a new product category, based on new technology, that has the potential to perform jobs for people at many income levels. In areas with frequent power outages, the owners of conventional refrigerators might want an inexpensive and reliable backup. Small shops, offices, and manufacturing sites might use it to maintain a supply of cool drinks. Higher-income customers—per-

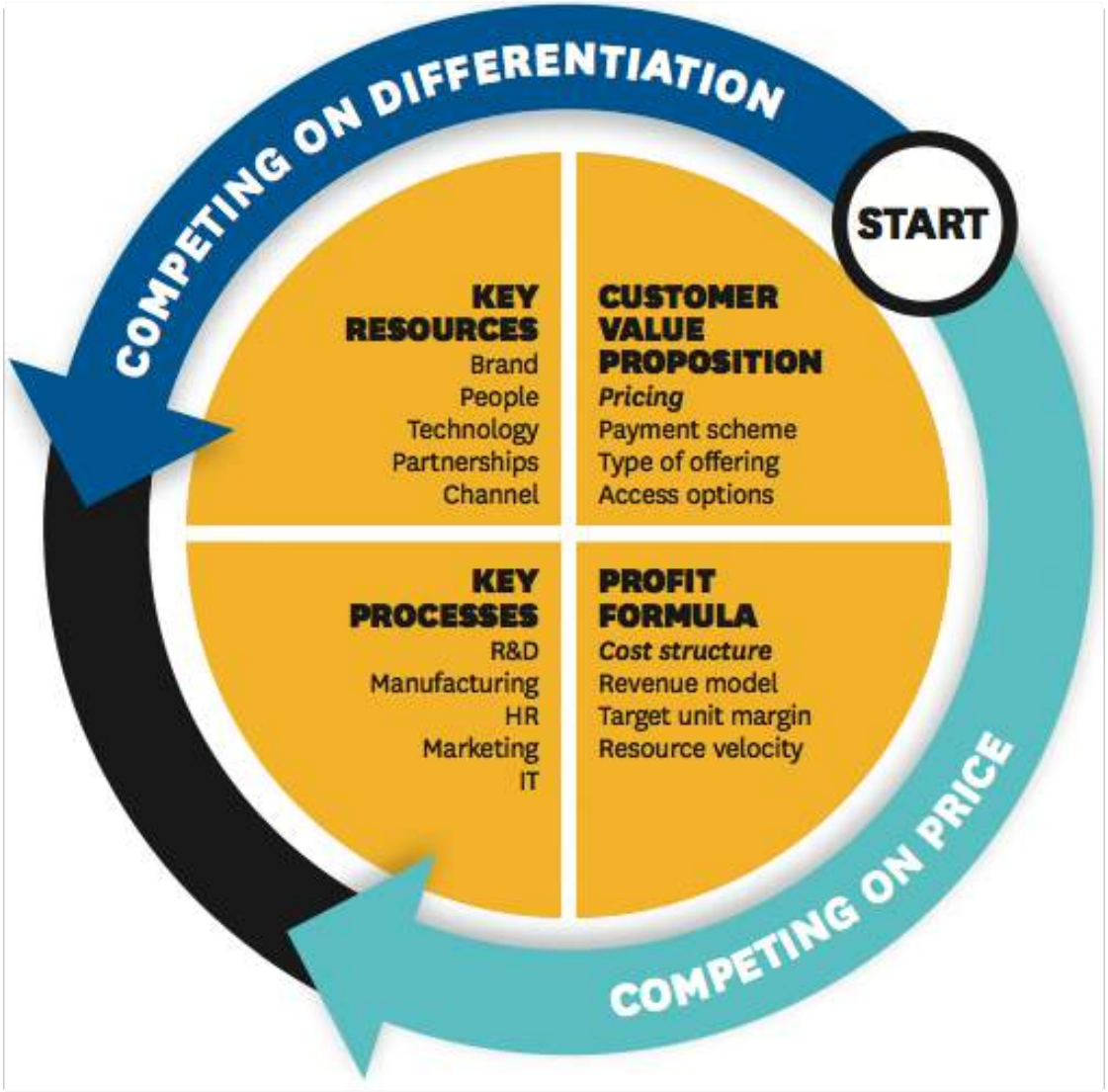
You cannot 'business model' your way out of a shitty product.

- Tim O'Neil

haps in developed economies as well—might use it in their bedrooms, their cars, or their boats. When the technology improves, Godrej believes, it can enter mainstream markets as ChotuKool changes consumers' expectations about refrigerator prices and performance and addresses a need that previously went unmet.

Many companies view emerging markets as one large foothold market, and in this they are right. Classic disruptive innovation theory holds that, ideally, innovations should first be introduced in markets where the alternatives fall short on some dimension (typically price) or are utterly unavailable. Emerging markets fit that bill in spades. They are excellent arenas for trying out product innovations far from competitors' prying eyes. But we are convinced that a much greater opportunity lies in viewing these markets not as one vast lab for product R&D but as unique environments filled with poorly done jobs that could be creatively addressed with business model R&D. Creating new business models will give your company a more enduring competitive advantage.




COMPETING ON DIFFERENTIATION
START
KEY RESOURCES
Brand
People
Technology
Partnerships
Channel
CUSTOMER VALUE PROPOSITION
Pricing
Payment scheme
Type of offering
Access options
KEY PROCESSES
R&D
Manufacturing
HR
Marketing
IT
PROFIT FORMULA
Cost structure
Revenue model
Target unit margin
Resource velocity
COMPETING ON PRICE

Movie 2.4 Out to Pasture: The Future of Farming?

Out to Pasture contrasts industrial-style confined animal production with farms that raise food animals outdoors in diversified operations, striving to be sustainable.

Hidden Risks

The Hidden Risks in Emerging Markets

by Witold J. Henisz and Bennet A. Zelner

When a firm with a value-generating technological or managerial capability invests abroad, its shareholders and the host country's citizens both stand to benefit. But no matter how good the apparent fit between what foreign companies offer and what host countries need, success is far from assured. Elections and other political events, economic crises, and changing societal attitudes can disrupt the best-laid plans in both emerging and advanced economies. The interplay of these forces—and the implications for the political choices that multinational firms make—will become especially prominent as national gov-

ernments chart an uncertain course toward stabilization following the global financial meltdown.

Issues such as taxation of executive compensation, the proper scope of financial regulation, and international M&A have come to the foreground in the wake of the crisis, and stark international differences in opinions and policies on these matters are already evident. The differences will only become more pronounced as discussions about the appropriate near-term policy response to the crisis give way to debates about who should pay and how much. Politicians will struggle to balance popular demands to punish those perceived as responsible against fears of stymied innovation and the flight of human and financial capital. Broader domestic economic concerns—for example, protectionist sentiment in response to the realignment of economic power in favor of emerging nations such as China and India—will inevitably affect the debate as well. The multinational firms best able to anticipate and manage the related risks and opportunities will have the strongest competitive edge.

Historically, the biggest risks faced by foreign investors were in developing countries with immature or volatile political systems. The chief concern was "expropriation risk," the possibility that host governments would seize foreign-owned assets. Today, this risk has largely disappeared. Stronger international law and the symbiotic nature of growth in emerging and developed economies reduced asset seizures to nearly zero during the 1980s. However, as interest in emerging markets has soared, host countries have learned, according to George Chifor at the University of Windsor in Canada, "that more value can be extracted from foreign enterprises through the more subtle instrument of regulatory control rather than outright seizures." The risk that a government will discriminatorily change the laws, regulations, or contracts governing an investment—or will fail to enforce them—in a way that reduces an investor's financial returns is what we call "policy risk."

Although the data on policy risk are less clear-cut than the hard numbers on direct seizures, press mentions of policy risk (using terms such as "political risk," "political uncertainty," "policy risk," "policy uncertainty," "regulatory risk," and "regulatory uncertainty") indicate that it has risen dramatically as seizure risk has fallen. Press mentions of actual seizures have also increased somewhat since 2001, but that does not reflect a broad-based resurgence in seizures.

Other recent data are consistent with the finding that policy risk has increased greatly. A 2001 PriceWaterhouseCoopers study concluded that an opaque policy-making environment is equivalent to at least a 33% increase in taxation. A World Bank study in 2004 revealed that 15% to 30% of the contracts covering $371 billion of private infrastructure investment in the 1990s were subject to government-initiated renegotiations or disputes. And a 2009 survey by the Multilateral Investment Guarantee Agency and the Economist Intelligence Unit found that multinational enterprises considered breach of contract, restrictions on the transfer and convertibility of profits, civil disturbance, government failure to honor guarantees, and regulatory restrictions all to be more significant risks than the potential seizure of assets.

Unfortunately, the traditional financial and contractual mechanisms that firms use to assess and mitigate business risks have limited value. Therefore, investors must develop proactive political-management strategies that lessen government officials' incentives to divert investors' returns. In this article, we explore the experiences of multinational investors as they confront these issues in a variety of industries and countries, and we offer best-practice guidelines for assessing the political landscape and for modeling political decision making. As with the management of any risk or uncertainty, political mastery can become a source of competitive advantage in addition to a means of avoiding losses.

Political mastery can become a source of competitive advantage and a means of avoiding losses.

It's Hard to Hedge Policy Risk

Firms engaged in international business often use some combination of legal contracts, insurance, and trade in financial instruments to protect the income streams from their investments against currency or price swings. These approaches, however, offer little protection against policy risk.

For starters, legal contracts are useful only if they are enforced, and shifting laws and regulations can render them void. In the 1990s many Southeast Asian governments wooing private power investors offered contracts that insulated the investors from risks related to lower-than-expected demand, fuel supplies, exchange rates, currency conversions, regulations, and political force majeure. The Asian financial crisis in 1997 brought those investors' favorable treatment into sharp relief as currency val-

ues, share prices, and electricity demand all plummeted. Political officials had to choose between honoring the contracts, at the risk of compromising their own popular support, and renegotiating them in order to maintain that support. In the end, many career-minded public officials in Southeast Asia chose to renegotiate or cancel scores of contracts.

Even when contracts can be legally enforced, experience shows that inventive politicians can circumvent them, through a wide variety of means other than changing laws. For example, in 1998, when U.S.-based AES Corporation—then the world's largest independent power company—acquired the Georgian electricity distribution company Telasi, high-priced lawyers constructed an ironclad set of guarantees that allowed AES-Telasi to pass the costs of policy and other risks on to Georgian consumers. One analyst remarked to us, "If you believed the contract, AES was guaranteed a 20% return on its investment." The Georgian government actually never interfered formally with AES-Telasi's ability to pass costs on to consumers. However, the venture was doomed by public officials' inaction—for instance, their failure to terminate supply to nonpaying industrial consumers, to supply fuel to AES-Telasi, and to keep the government's own account current—and by the government's demand for tax payments on electricity for which the company had never been paid. The result was that AES's "guaranteed" 20% return became a shareholder loss of $300 million.

Insurance offers limited protection against policy risk because a firm's exposure is largely determined by its own ability to manage the policy-making process. In the words of one insurer: "I prefer to focus on what my assured [customer] can bring to a risk. My reasoning is that if you back the right assured, you can usually keep problems from occurring in the first place—and if they do happen, you have an excellent chance of mitigating your loss." Yet it is very difficult for insurers to know who the "right assured" is, and the firms with the greatest risk exposure are often those most likely to seek insurance in the first place. As a result, underwriters price their products extremely high, offer very short-term coverage, or don't offer any coverage at all.

Financial hedges have limited value for similar reasons. Instruments for hedging against risks in specific emerging markets—such as exchange-rate, market, and credit risks—are ubiquitous because multiple parties are willing to participate. The

project- and firm-specific nature of policy risk, however, renders conventional hedging strategies infeasible.

Some of the more-inventive instruments are based on the average risk premium associated with existing companies in a given country—but they give false comfort. Because the baseline risk premiums are those of firms that are actively participating in a given market (and that often have their risk-mitigation strategies in place), new entrants are likely to face far greater exposure. In fact, foreign investors who focus on constructing financial hedges at the expense of developing their own risk-mitigation strategies may increase their exposure. It is therefore not surprising that, despite the ability to calculate residual risk premiums, no financial institutions have used such premiums to price an instrument that pays out money when a policy risk is realized.

The New Risk-Management Playbook

Given the difficulty of constructing hedges against policy risk through contracts, insurance, or financial risk-management tools, foreign investors must accept the responsibility for directly managing the risk themselves. For many companies, that means rewriting the playbook. Instead of looking for immediate ways to improve operations, managers have to move beyond the quick cost-benefit analyses that they usually undertake and think more about how they can frame and shape public debate. And they must learn how to apply political pressure, either individually or as part of a coalition.

Investing in goodwill.

In the developed world, managers spend a great deal of time and energy on improving efficiency. When companies move into less developed markets, they often expect huge, instant efficiency gains from exploiting the technologies, business models, and practices that they have managed to hone in their home markets. Unfortunately, the political costs of such practices may outweigh those gains.

Consider the 1997 Christmas blackout in large parts of Brazil, including Rio de Janeiro. The then recently privatized electric utility Light (in which AES held a 13.75% stake) faced record-high outdoor temperatures that week, and it was already struggling with poorly maintained equipment that had deteriorated before privatization. However, the press and the public focused on the 40% reduction in personnel, com-

bined with the utility company's record profits, to paint a picture of an exploitative foreign investor. The negative sentiment toward foreign firms in general and AES in particular contributed to the awarding of a 900-megawatt energy-supply contract the following spring to a joint venture led by Brazilian firms (Votorantim Group, Bradesco Group, and Camargo Corrêa) rather than consortia led by AES and British Gas.

A smarter approach was used by Italian state-owned oil company Eni. After the 1998 devaluation of the real, when many companies put their investment plans on hold or even exited Brazil, Eni's then-CEO, Franco Bernabe, visited Rio de Janeiro to announce a $500 million investment. He proclaimed: "Now is the time to show that Petrobras [the state-owned oil company] has long-term friends." Eni and Petrobras have collaborated closely ever since.

Framing the debate.

When companies enter new countries, they often engage in extensive PR campaigns that amount to little more than advertisements for the brand and specific commercial ventures. Instead, firms need to master the art of political spin. Presenting a venture as "fair," "equitable," or "growth enhancing" is often a simpler and more powerful means of securing political support than providing a cost-benefit analysis. The precise meaning attributed to such labels varies depending on a firm's market position. New entrants garner support for policies that favor them over incumbents by citing the abuse of monopoly power. Conversely, dominant firms appeal to "fairness" by arguing that smaller entrants cannot survive without the government's helping hand.

Instead of engaging in PR campaigns that amount to little more than advertisements for the brand, companies need to master the art of political spin.

This type of debate played out in the South Korean wireless market. LG Telecom—the third entrant, behind the much larger SK Telecom and Korea Telecom—made repeated calls for "asymmetric" government regulation of the market leaders in order to "level the playing field." As the Korea Times reported, "The defining question is whether the government will back new entrants in the name of encouraging fair competition, or limit the pool to experienced players." LG ultimately prevailed: In May 2001 the South Korean government announced that it would "guarantee a market share of at least 20% for a third major telecom operator through asym-

metric regulation on Korea Telecom and SK Telecom."

Finding political pressure points.

The network of relationships in a society greatly influences policy outcomes, especially in countries with weak legal systems. To turn these networks to their advantage, international investors must identify and engage local politicians' power bases. Once again, Eni has shown the way, this time in Kazakhstan. Through its subsidiary Agip KCO, Eni has adopted a business model that responds to the former Soviet republic's economic and social needs. The company favors Kazakh over non-Kazakh suppliers, and it conducts knowledge-transfer, training, and development seminars for them. At least 60% of local employees are Kazakh citizens. The company also funds the construction of various public works, including the national library, the prime minister's residence, schools, computer labs, and multifamily housing units for the poor. As a result, many Kazakh officials now have a stake in Eni's success.

For the vast majority of organizations—which do not possess enough leverage to influence the full range of relevant actors on their own—a crucial component of an effective strategy is to assemble a coalition of interests. In the South Korean wireless battle, LG Telecom benefited from the influence of upstream suppliers. The major Korean carriers wanted to shift to the globally favored WCDMA standard for the newest generation of cellular service, but domestic champion Samsung had developed a global leadership position in the competing CDMA2000 technology. Under pressure from Samsung, the government insisted that one of the new 3G licenses be awarded to LG Telecom in return for its promise to adopt CDMA2000.

An international investor's home government can also be a powerful channel of influence. Observers in central Europe have noted the lobbying success of the German and French governments on behalf of national champions in countries seeking EU membership. However, the use of "foreign influence" may create a perception of meddling, can stoke nationalism, and is generally less likely to have a lasting impact. There's also the risk that your home government will sacrifice your needs in order to gain traction on another issue.

Taking these pages out of the political playbook requires building the sorts of capabilities in intelligence gathering and analysis that are familiar to politicians, spies, and journalists. Managers must begin by under-

standing the attitudes, opinions, and positions of relevant actors toward their firm, the industry in which the firm operates, and any specific actions that the firm might take to influence outcomes on the playing field.

Tapping the Right Flow of Data

Traditionally, managers who have undertaken political analyses in a host country have directly consulted employees, local business partners, and supply chain partners. The information-gathering process varies in intensity and structure, ranging from surveying radio and newspaper stories to conversing with locals to using computerized contact-management systems. Some firms rely almost exclusively on informal chats, whereas others favor more-formal Delphi (iterative expert survey) methods. (Also see the sidebar "Why Country Risk Ratings Don't Work.")

Although these sources provide valuable conventional input, they can require more time and money than such small, subjective, potentially biased snapshots might merit. Moreover, given the availability of multiple real-time indicators and metrics in functional areas such as finance, marketing, and human resources, CEOs and boards of directors increasingly demand similar real-time data on the preferences of key players. This human intelligence can be effectively and continuously incorporated into enterprise risk-management models and frameworks.

To broaden their perspectives, more and more companies are reaching out to nonbusiness organizations that can help them anticipate and preempt consumer concerns about environmental, health, and safety issues. For example, after a bruising experience over the disposal of its Brent Spar oil-drilling platform in 1995, Royal Dutch Shell now routinely includes Greenpeace in substantive environmental discussions. Some companies also consult professional experts, ranging from well-positioned ex-government officials operating on retainer; to the stringers who write for the Economist Intelligence Unit, Stratfor, and Oxford Analytica; to global political consultancies, such as Political Risk Services or Eurasia Group. Although employees, suppliers, and activists may have access to better information, they lack the specialized training that these advisers bring to the table.

Of increasing importance is the vast amount of information emanating from third-party sources—primarily the main-

stream news media, but also bloggers and other observers—that routinely monitor the policy-making process in various countries. The large volume and relatively unfocused nature of the material make it hard to synthesize, digest, and act upon effectively, even if a company has substantial resources for this activity. However, with information-extraction software, it's now possible to identify the relevant political and social actors on a given issue and their intensity of interest in it.

One approach, known as data mining, relies on the coincident location of words to derive information about key players' preferences. For example, the occurrence of "Russia," "AES-Telasi," and "protest" in the same sentence implies a negative sentiment in the relationship between Russia and the electricity investor AES-Telasi. Another tool, called natural language parsing (NLP) software, facilitates more-refined sentence-level inferences by syntactically distinguishing among subjects, verbs, and objects, thereby identifying the orientation of actions or preferences. Consider this possible sentence: "The Union of Consumers of Georgia is outraged by the AES-Telasi American company proposal to increase the tariff on electric energy." NLP software would recognize the precise grammatical relationship among "Union of Consumers of Georgia," "is outraged by," and "AES-Telasi…proposal"—pointing to a strong negative sentiment toward the U.S. company. NLP software can also gauge the intensity of sentiment. If the verb phrase in the sentence had been "objects to" instead of "is outraged by," the software would have recognized that the sentiment of the Union of Consumers of Georgia toward AES was negative, but less so.

In 2003 Greenpeace activists in Hungary protested against the use of cyanide technology at the Rosia Montana gold mine in Romania.

Similarly, information-extraction tools can readily and objectively highlight shifts in an actor's preferences over time. For example, a coalition of local and international activists sharply contested the plan by Canadian mining company Gabriel Resources to develop the Rosia Montana gold mine in Romania. The exhibit "Are the Locals Hostile to You?" plots the frequency in the worldwide media of sentences mentioning statements or actions against the mine by nongovernmental organizations through 2007, relative to the total number of sentences in articles about the mine during the same period. The data show that NGOs were relatively indifferent to the issue until mid-2002, when negative reports increased sharply.

The "Tummy Test" and Other Models

With data about political actors and their level of interest in hand, managers must then synthesize that information into a model of the policy-making process. At the informal end of the synthesis spectrum is the "tummy test," in which a decision maker who has spoken with or been briefed about relevant sources draws upon his or her own knowledge of similar cases to make an educated guess about the likely policy outcome. The accuracy of this technique clearly varies enormously according to the skill set of the decision maker and the relevance of his or her past experience to the current situation. To improve the accuracy of such judgments, managers can also involve specialized consultancies that draw upon a more diverse set of experiences from multiple firms and industries in the target country or a comparable one.

A sophisticated extension of the tummy test is the "war room," in which managers come together for a one-off meeting or a series of brainstorming sessions. Sessions may be scheduled regularly or triggered by a shock or event that requires a strategic response. "Influence maps" are used to depict each politically relevant actor as a bubble arrayed in space according to the player's position on a given issue, with the size of the bubble proportional to the player's power. Linkages across actors or clusters of actors can be indicated by either location or connecting lines. Although no formal analytic tools are used, the maps can help guide discussion of action scenarios: What happens if we target actor X? What if we break the link between X and Y? What if we try to reduce Z's power? The insights produced by this approach are, of course, only as good as the information brought into the room and the quality of the team assembled.

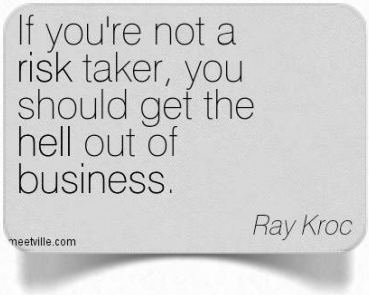
The most formal tool for modeling the policymaking process is the dynamic expected utility model, which is based on game theory. It assumes that, in each of several time periods, every actor (an individual or an organization) with a vested interest in an issue has a choice of three possible alternatives: proposing a policy, opposing a proposed policy, or doing nothing. Each actor chooses the alternative that maximizes his, her, or its expected utility in each period. The selection depends on the direction and intensity of the actor's preferences, the salience of the issue, the cost of proposing or opposing a policy, and similar information about other actors. The combined actions of all the actors result in a likely policy outcome. The sensitiv-

ity of the outcome to various assumptions and parameters can then be calculated, helping to identify which actors are so pivotal that a change in their preferences, power, or salience would have a large impact on policy.

Models like this are widely used by the intelligence community and by specialist consulting groups such as Mesquita & Roundell, Sentia Group, the Probity Group, and Commetrix. A growing number of multinational corporations are also adopting these tools. A large British company, for example, used such a model to decide how to influence the climate change debate in the European Union. Analysts first identified which actors were most commonly cited in the press and whom these actors referenced in their speeches and writings. The analysts then constructed a network of key "influencers" and modeled various points of entry into this system to identify the target areas and the messages that would maximize their effect on the climate change debate.

Although the integration of automated data collection, dynamic expected utility modeling, and influence-map visualizations remains in its infancy, the potential applications are broader than the management of policy risk alone. Marketing research, financial analysis, operations, and human resources all could benefit from a richer analysis of the best ways to affect stakeholders' opinions.

Of course, the risks of investment may simply be too great to justify entry into certain political zones. But in many cases investors who explicitly recognize the dynamism of the environment and implement appropriate strategies to address it will find the risks quite manageable. By combining data-mining and modeling technologies with traditional approaches, as we've described, they can start the journey forward, moving from "tummy tests" toward an analytically oriented, defensible system for managing policy risk that will greatly expand their investment options. At its heart, this system will always retain elements of tacit knowledge and experience, and not all managers and firms will be able to master its intricacies. But those that do will find it a powerful source of competitive advantage.



Movie 2.5 Cowspiracy - Livestock & Methane Gas

Animal agriculture is the leading cause of deforestation, water consumption and pollution, is responsible for more greenhouse gases than the transportation industry, and is a primary driver of rainforest destruction, species extinction, habitat loss, topsoil erosion, ocean “dead zones,” and virtually every other environmental ill. Yet it goes on, almost entirely unchallenged.

Cost of Capital

Do You Know Your Cost of Capital?

by Michael T. Jacobs and Anil Shivdasani

With trillions of dollars in cash sitting on their balance sheets, corporations have never had so much money. How executives choose to invest that massive amount of capital will drive corporate strategies and determine their companies' competitiveness for the next decade and beyond.

And in the short term, today's capital budgeting decisions will influence the developed world's chronic unemployment situation and tepid economic recovery.

Although investment opportunities vary dramatically across companies and industries, one would expect the process of evaluating financial returns on investments to be fairly uniform. After all, business schools teach more or less the same evaluation techniques. It's no surprise, then, that in a survey conducted by the Association for Financial Professionals (AFP), 80% of more than 300 respondents—and 90% of those with over $1 billion in revenues—use discounted cash-flow analyses. Such analyses rely on free-cash-flow projections to estimate the value of an investment to a firm, discounted by the cost of capital (defined as the weighted average of the costs of debt and equity). To estimate their cost of equity, about 90% of the respondents use the capital asset pricing model (CAPM), which quantifies the return required by an investment on the basis of the associated risk.

But that is where the consensus ends. The AFP asked its global membership, comprising about 15,000 top financial officers, what assumptions they use in their financial models to quantify investment opportunities. Remarkably, no question received the same answer from a majority of the more than 300 respondents, 79% of whom are in the U.S. or Canada.

That's a big problem, because assumptions about the costs of equity and debt, overall and for individual projects, profoundly affect both the type and the value of the investments a company makes. Expectations about returns determine not only what projects managers will and will not invest in, but also whether the company succeeds financially.

Say, for instance, an investment of $20 million in a new project promises to produce positive annual cash flows of $3.25 million for 10 years. If the cost of capital is 10%, the net present value of the project (the value of the future cash flows discounted at that 10%, minus the $20 million investment) is essentially break-even—in effect, a coin-toss decision. If the company has underestimated its capital cost by 100 basis points (1%) and assumes a capital cost of 9%, the project shows a net present value of nearly $1 million—a flashing green light. But if the company assumes that its capital cost is 1% higher than it actually is, the same project shows a loss of nearly $1 million and is likely to be cast aside.

Nearly half the respondents to the AFP survey admitted that the discount rate they use is likely to be at least 1% above or below the company's true rate, suggesting that a lot of desirable investments are be-

ing passed up and that economically questionable projects are being funded. It's impossible to determine the precise effect of these miscalculations, but the magnitude starts to become clear if you look at how companies typically respond when their cost of capital drops by 1%. Using certain inputs from the Federal Reserve Board and our own calculations, we estimate that a 1% drop in the cost of capital leads U.S. companies to increase their investments by about $150 billion over three years. That's obviously consequential, particularly in the current economic environment.

Let's look at more of the AFP survey's findings, which reveal that most companies' assumed capital costs are off by a lot more than 1%.

The Investment Time Horizon

The miscalculations begin with the forecast periods. Of the AFP survey respondents, 46% estimate an investment's cash flows over five years, 40% use either a 10- or a 15-year horizon, and the rest select a different trajectory.

Some differences are to be expected, of course. A pharmaceutical company evaluates an investment in a drug over the expected life of the patent, whereas a software producer uses a much shorter time horizon for its products. In fact, the horizon used within a given company should vary according to the type of project, but we have found that companies tend to use a standard, not a project-specific, time period. In theory, the problem can be mitigated by using the appropriate terminal value: the number ascribed to cash flows beyond the forecast horizon. In practice, the inconsistencies with terminal values are much more egregious than the inconsistencies in investment time horizons, as we will discuss.

The Cost of Debt

Having projected an investment's expected cash flows, a company's managers must next estimate a rate at which to discount them. This rate is based on the company's cost of capital, which is the weighted average of the company's cost of debt and its cost of equity.

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Estimating the cost of debt should be a no-brainer. But when survey participants

were asked what benchmark they used to determine the company's cost of debt, only 34% chose the forecasted rate on new debt issuance, regarded by most experts as the appropriate number. More respondents, 37%, said they apply the current average rate on outstanding debt, and 29% look at the average historical rate of the company's borrowings. When the financial officers adjusted borrowing costs for taxes, the errors were compounded. Nearly two-thirds of all respondents (64%) use the company's effective tax rate, whereas fewer than one-third (29%) use the marginal tax rate (considered the best approach by most experts), and 7% use a targeted tax rate.

This seemingly innocuous decision about what tax rate to use can have major implications for the calculated cost of capital. The median effective tax rate for companies on the S&P 500 is 22%, a full 13 percentage points below most companies' marginal tax rate, typically near 35%. At some companies this gap is more dramatic. GE, for example, had an effective tax rate of only 7.4% in 2010. Hence, whether a company uses its marginal or effective tax rates in computing its cost of debt will greatly affect the outcome of its investment decisions. The vast majority of companies, therefore, are using the wrong cost of debt, tax rate, or both—and, thereby, the wrong debt rates for their cost-of-capital calculations.

The Risk-Free Rate

Errors really begin to multiply as you calculate the cost of equity. Most managers start with the return that an equity investor would demand on a risk-free investment. What is the best proxy for such an investment? Most investors, managers, and analysts use U.S. Treasury rates as the benchmark. But that's apparently all they agree on. Some 46% of our survey participants use the 10-year rate, 12% go for the five-year rate, 11% prefer the 30-year bond, and 16% use the three-month rate. Clearly, the variation is dramatic. When this article was drafted, the 90-day Treasury note yielded 0.05%, the 10-year note yielded 2.25%, and the 30-year yield was more than 100 basis points higher than the 10-year rate.

In other words, two companies in similar businesses might well estimate very different costs of equity purely because they don't choose the same U.S. Treasury rates, not because of any essential difference in their businesses. And even those that use the same benchmark may not nec-

essarily use the same number. Slightly fewer than half of our respondents rely on the current value as their benchmark, whereas 35% use the average rate over a specified time period, and 14% use a forecasted rate.

The Equity Market Premium

The next component in a company's weighted-average cost of capital is the risk premium for equity market exposure, over and above the risk-free return. In theory, the market-risk premium should be the same at any given moment for all investors. That's because it's an estimate of how much extra return, over the risk-free rate, investors expect will justify putting money in the stock market as a whole.

The estimates, however, are shockingly varied. About half the companies in the AFP survey use a risk premium between 5% and 6%, some use one lower than 3%, and others go with a premium greater than 7%—a huge range of more than 4 percentage points. We were also surprised to find that despite the turmoil in financial markets during the recent economic crisis, which would in theory prompt investors to increase the market-risk premium, almost a quarter of companies admitted to updating it seldom or never.

The Risk of the Company Stock

The final step in calculating a company's cost of equity is to quantify the beta, a number that reflects the volatility of the firm's stock relative to the market. A beta greater than 1.0 reflects a company with greater-than-average volatility; a beta less than 1.0 corresponds to below-average volatility. Most financial executives understand the concept of beta, but they can't agree on the time period over which it should be measured: 41% look at it over a five-year period, 29% at one year, 15% go for three years, and 13% for two.

Reflecting on the impact of the market meltdown in late 2008 and the corresponding spike in volatility, you see that the measurement period significantly influences the beta calculation and, thereby, the final estimate of the cost of equity. For the typical S&P 500 company, these approaches to calculating beta show a variance of 0.25, implying that the cost of capital could be misestimated by about 1.5%, on average, owing to beta alone. For sectors, such as financials, that were most affected by the 2008 meltdown, the discrep-

ancies in beta are much larger and often approach 1.0, implying beta-induced errors in the cost of capital that could be as high as 6%.

The Debt-to-Equity Ratio

The next step is to estimate the relative proportions of debt and equity that are appropriate to finance a project. One would expect a consensus about how to measure the percentage of debt and equity a company should have in its capital structure; most textbooks recommend a weighting that reflects the overall market capitalization of the company. But the AFP survey showed that managers are pretty evenly divided among four different ratios: current book debt to equity (30% of respondents); targeted book debt to equity (28%); current market debt to equity (23%); and current book debt to current market equity (19%).

Because book values of equity are far removed from their market values, 10-fold differences between debt-to-equity ratios calculated from book and market values are actually typical. For example, in 2011 the ratio of book debt to book equity for Delta Airlines was 16.6, but its ratio of book debt to market equity was 1.86. Similarly, IBM's ratio of book debt to book equity in 2011 stood at 0.94, compared with less than 0.1 for book debt to market equity. For those two companies, the use of book equity values would lead to underestimating the cost of capital by 2% to 3%.

Project Risk Adjustment

Finally, after determining the weighted-average cost of capital, which apparently no two companies do the same way, corporate executives need to adjust it to account for the specific risk profile of a given investment or acquisition opportunity. Nearly 70% do, and half of those correctly look at companies with a business risk that is comparable to the project or acquisition target. If Microsoft were contemplating investing in a semiconductor lab, for example, it should look at how much its cost of capital differs from that of a pure-play semiconductor company's cost of capital.

Most U.S. businesses are not adjusting their investment policies to reflect the decline in their cost of capital.

But many companies don't undertake any such analysis; instead they simply add a percentage point or more to the rate. An arbitrary adjustment of this kind leaves

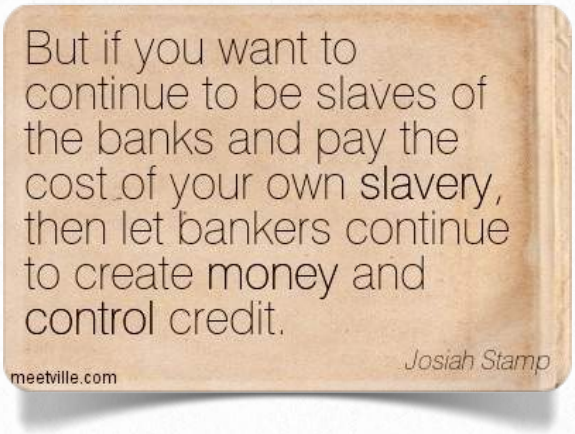
The cost of freedom is always high, but we have always paid it.

And one path we shall never choose, is the path of surrender and submission.

- John F. Kennedy

these companies open to the peril of overinvesting in risky projects (if the adjustment is not high enough) or of passing up good projects (if the adjustment is too high). Worse, 37% of companies surveyed by the AFP made no adjustment at all: They used their company's own cost of capital to quantify the potential returns on an acquisition or a project with a risk profile different from that of their core business.These tremendous disparities in assumptions profoundly influence how efficiently capital is deployed in our economy. Despite record-low borrowing costs and record-high cash balances, capital expenditures by U.S. companies are projected to be flat or to decline slightly in 2012, indicating that most businesses are not adjusting their investment policies to reflect the decline in their cost of capital.

With $2 trillion at stake, the hour has come for an honest debate among business leaders and financial advisers about how best to determine investment time horizons, cost of capital, and project risk adjustment. And it is past time for nonfinancial corporate directors to get up to speed on how the companies they oversee evaluate investments.



How to Calculate Terminal Value

For an investment with a defined time horizon, such as a new-product launch, managers project annual cash flows for the life of the project, discounted at the cost of capital. However, capital investments without defined time horizons, such as corporate acquisitions, may generate returns indefinitely.

When cash flows cannot be projected in perpetuity, managers typically estimate a terminal value: the value of all cash flows beyond the period for which predictions are feasible. A terminal value can be quantified in several ways; the most common (used by 46% of respondents to the Association for Financial Professionals survey) is with a perpetuity formula. Here's how it works:

First, estimate the cash flow that you can reasonably expect—stripping out extraordinary items such as one-off purchases or sales of fixed assets—in the final year for which forecasts are possible. Assume a growth rate for those cash flows in subsequent years. Then simply divide the final-year cash flow by the weighted-average cost of capital minus the assumed growth rate, as follows:

It's critical to use a growth rate that you can expect will increase forever—typically 1% to 4%, roughly the long-term growth rate of the overall economy. A higher rate would be likely to cause the terminal value to overwhelm the valuation for the whole project. For example, over 50 years a $10 million cash flow growing at 10% becomes a $1 billion annual cash flow. In some cases, particularly industries in sustained secular decline, a zero or negative rate may be appropriate.

HBR.ORG: To see how terminal-value growth assumptions affect a project's overall value, try inputting different rates in the online tool at hbr.org/cost-of-capital.

Cost of Capital

Presented by www.GraduateTutor.com

What?

Definition:

1: *the opportunity cost of the funds employed as the result of an investment decision[1];*
2: *The implicit (interest paid on debt) and explicit cost (expected return on equity) of the capital raised by the company[2]*

Your are Provided		Expected Return
+ Rent a car		− Rental Fee
+ An apartment		− RENT

Capital		Cost of Capital
+ Borrow money		− Interest
+ Take equity		− Return on investment

Different Types of Capital

Equity — *Hybrid Capital with properties of debt and equity: eg: Preference Shares, Convertible debt* — Debt

Expected return by providers of capital

Equity	Hybrid	Debt
Capital appreciation & Dividend	Capital appreciation, Dividend, Interest	Interest payments
Future return uncertain and not promised. But expectation of a return exists		*A fixed rate of interested promised*

Ingredients

(of cost of capital)

Factors that drive the Cost of capital, include opportunity cost, inflation & risk.

Purpose

Cost of Capital is Used to discount future cash flows to arrive at value

Tips:

- When you have multiple sources of capital, the cost of capital is its **W**eighted **A**verage **C**ost of **C**apital
- If a company has no debt (is all equity financed), it's cost of EQUITY is its **C**ost of **C**apital
- Risk involved in different projects would be different!
- For capital budgeting, you use project specific cost of capital not the company's cost of capital because you must discount future cash flows at the appropriate level of risk.

Got Questions on finance? Give us a call!

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Sources: 1) [illegible] 2) GraduateTutor.com

Movie 2.6 Cowspiracy - Livestock and Water Use

This is a short clip from the section about world population in the upcoming feature length environmental documentary Cowspiracy: the sustainability secret.