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Manufacturing

Innovation in emerging markets

2007 Annual study

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Table of Contents

Foreword

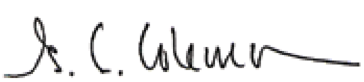
Given the significant size and growing wealth of developing economies, it is hard to ignore the tremendous business potential these markets have to offer. While it's not a new topic on the business agenda, emerging markets are fast becoming an integral part of nearly every CEO's business strategy to drive sustainable profitable growth.

The perception of what precisely emerging markets represent has also changed. For a long time, manufacturers have viewed emerging markets as simply a means to lower global operating costs. While this remains true, the mindset is shifting dramatically. For manufacturers large and small, emerging markets are now gaining prominence in boardroom discussions as an avenue to grow the top line. What is also apparent is that manufacturers are seeing the increased capabilities in emerging markets to handle more sophisticated, high-value activities. This is rapidly changing the global competitive landscape.

Staying competitive and growing profitably in an environment in which business routinely transcends borders is the new challenge. Globalization has made leading and managing a complex, global business network harder. In this report by Deloitte's Global Manufacturing Industry Group, we've observed that many companies are falling short of meeting their goals in emerging markets. And, as their global operations become increasingly complex, they face the daunting task of integrating and managing all areas of the business.

This report evaluates some of the strategic areas that companies need to address to succeed and realize the enormous market potential of the developing economies including China, India, Southeast Asia, Eastern Europe, and Latin America. It highlights some of the innovative strategies that successful companies are deploying to win the war for talent, manage risk and structure their operations to achieve their revenue and operating goals in emerging markets.

For global manufacturers to be successful, profitable growth in emerging markets is not an option, but simply a business requirement. We hope this report offers new perspectives and practical insights to help your business prosper and stay competitive in the new global business landscape.



Gary C. Coleman
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Executive Summary

Global manufacturers once regarded emerging markets primarily as low-cost locations for routine operations. Now, attracted by the enormous business opportunities, and often encouraged by government policies, manufacturers are locating higher-value activities such as complex production, research and development (R&D), and sales/marketing operations in these rapidly growing economies.

Yet, despite the enormous business opportunities in these markets, a surprising number of companies fall short of their goals. Indeed, Deloitte's Global Manufacturing Industry Group, which is made up of Deloitte member firm manufacturing industry practices, found in its 2007 study of the challenges in emerging markets that less than half of the executives surveyed said their companies had been extremely or very successful in meeting either their operational goals or their revenue goals.

What is preventing so many companies from fulfilling their goals? Most likely, it is because business complexity continues to increase and because managing emerging market operations is a daunting task. To drive revenue growth, companies are developing innovative products that meet the needs of these new and growing markets. But as they locate more sophisticated activities in emerging markets, companies will need to rethink their business approach. They need to tailor their talent management strategy to each market, and go beyond relying only on compensation by placing more emphasis on training, non-monetary rewards and recognition, and career opportunities. They must be more intelligent about how they effectively manage a highly complex set of risks. And they must install an organizational structure that lets autonomy thrive, while still leveraging strengths from headquarters. In fact, the 2007 study found that manufacturers that take these steps are more likely to be successful.

This report details the key findings of Deloitte's Global Manufacturing Industry Group's 2007 study of the challenges facing manufacturers in emerging markets. This is the second annual edition of this study; the 2006 report focused on how manufacturers can achieve commercial success by developing and producing products at costs that meet the unique needs of consumers and industrial buyers in emerging markets, which have much lower average GDP per capita than in developed markets. (For the 2006 study, please see *Innovation in Emerging Markets: Strategies for Achieving Commercial Success.*)

The 2007 study focused on the operational issues facing manufacturers as they locate and expand in five important markets: China, India, Southeast Asia, Latin America, and Eastern Europe.

The research for the study included a survey of 446 executives from manufacturing companies headquartered in 31 countries around the world and in-depth interviews with senior executives at eight major manufacturers. In addition, the study also drew from Deloitte member firm experience in working with manufacturers in emerging markets around the world.

Growing Economic Powerhouses

The tremendous opportunities offered by emerging markets continue to be high on the agendas of manufacturers. In 2005, emerging markets accounted for more than half of world GDP measured at purchasing power parity (which takes into account differences in the relative prices of goods and services).[1] Their share of world exports is now 43 percent, up from 20 percent in 1970, and they consume more than half the world's energy.[2]

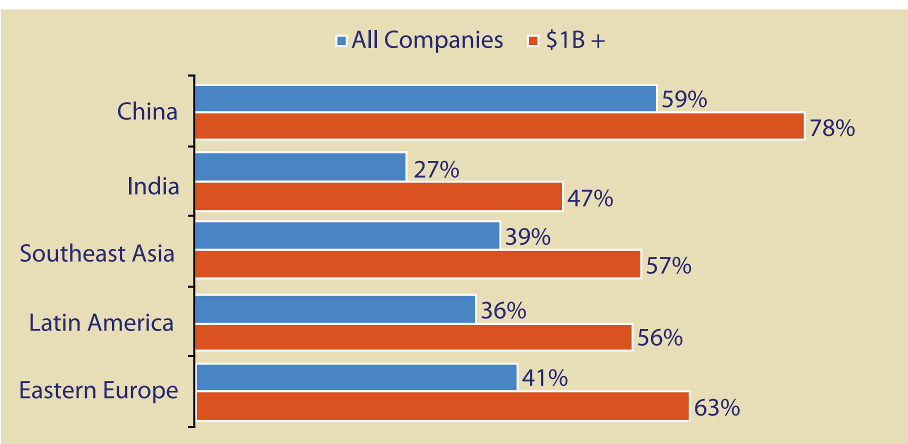
They are also growing rapidly. While GDP in developed economies expanded by an average 2.3 percent annually over the last five years, annual growth in emerging markets has been almost 7 percent.[3] *The Economist* predicted, "China, India and other developing countries are set to give the world economy its biggest boost in the whole of history. . ."[4]

As a result, companies are now operating complex global business networks in which they are designing, supplying, building, selling, and distributing everywhere around the world. Among the executives surveyed, 59 percent said their companies had operations in China, while more than one-third had operations in Eastern Europe, Southeast Asia, and Latin America (Exhibit 1).[5] Not surprisingly, larger companies—those with $1 billion or more in annual revenues—were even more likely to be operating in these locations. More than three-quarters of these executives said their companies had operations in China, and roughly half or more reported having operations in each of the other markets.

Many executives also expect their companies to increase their investments in emerging markets in the coming years. Roughly two-thirds of executives expected their companies would establish or significantly expand their operations in China over the next five years, while roughly half said the same about India, Eastern Europe, Latin America, and Southeast Asia (Exhibit 2).

Among executives who thought it was at least somewhat likely that their companies would invest over the next five years, expanding sales/distribution operations was an important element of their strategies, with roughly three-quarters anticipating they would invest in these operations in each of the emerging markets (Exhibit 3). More than 80 percent of these executives expected their companies would invest in production operations in China, while roughly half anticipated an expansion of production activities in the other markets. Many of these executives who anticipated increased investment also said they expected their companies would expand their research and development activities. Forty-four percent thought it was likely their companies would expand R&D in China, while roughly half expected R&D investments in India and Eastern Europe.

Exhibit 1
Current operations in emerging markets
Base = Companies not headquartered in market



Source : Deloitte's Global Manufacturing Industry Group

Key Findings

The 2007 study by Deloitte's Global Manufacturing Industry Group examined how manufacturers are addressing three operational issues in emerging markets: talent management, risk management, operating models.

Talent Management

As companies locate more higher-value operations in emerging markets, they are now finding it more difficult to attract and retain the skilled employees they need. To compete effectively in this talent battle, manufacturers need to customize their human resources strategies to address local market customs and conditions. They also need to align these HR approaches with their specific business strategies and operating model. In addition to compensation, companies will need to offer employees a comprehensive value proposition that includes training, rewards and recognition, and career opportunities.

- Roughly one-quarter of the executives said their companies found it very difficult to attract qualified workers in China, India, Latin America, and Eastern Europe.
- Retention is an even greater challenge in China, India, and Southeast Asia, where roughly one-third of the executives said retaining qualified workers was very difficult.
- Sixty-three percent of executives said providing training was an important talent management strategy for their companies in emerging markets, the same percentage as cited compensation. In addition, 59 percent named career opportunities and 53 percent named rewards and recognition as important strategies.

At one time, manufacturing investment in emerging markets was largely about lowering costs through tapping less expensive labor, materials, and components. But today, companies are seeing these locations as new markets for their products and as sources of innovation. The top-rated reason for investments in emerging markets, even more than cost reduction, was to increase revenues and market share-rated as extremely or very important by 84 percent of executives (Exhibit 4). Reducing time-to-market, diversifying revenues sources, and accessing talent were other factors rated highly.

Adapting Operations

Seizing this wider range of business opportunities requires companies to rethink how they operate in emerging markets. In many cases, they will need to acquire an entirely new set of skills, processes, and organizational structures. Just as it is critical to produce products that meet the unique preferences of customers in each market, companies will need to adjust business processes, operational approaches, and governance models as well. As a Director of Global Process Optimization at a major US manufacturer explained, "You cannot simply take a North American version of a business practice, move it to China or India, and just flip the switch. It won't work."

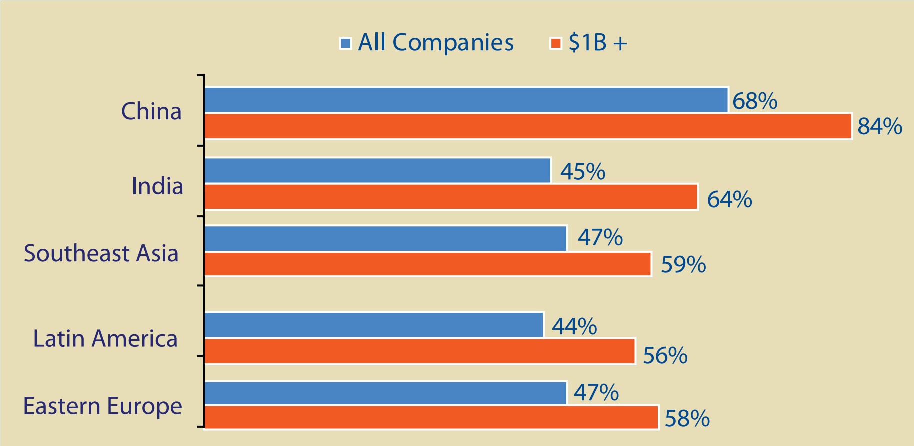
Although some approaches are proving to be more successful overall, each manufacturer should craft an operational approach tailored to its specific situation. How a company addresses issues such as talent management or risk management will depend critically on its industry, specific products, and the nature of the operation or process. Clearly, it also depends on the characteristics of the individual emerging market including the labor market, risk profile, nature of sales/distribution, government regulations and incentives, and culture, to name a few. These issues not only vary from country to country, they can also vary within a single market. For example, with foreign investment concentrated in a few locations, there is a wide variation in the labor markets in different locations across China and India.

Exhibit 2

Expected future investment

Percent extremely or very likely to establish or significantly expand operations within next five years

Base = Companies not headquartered in market



Source : Deloitte's Global Manufacturing Industry Group

- Companies that rely on a broader range of human resources strategies were more likely to be successful. Seventy-three percent of the executives at companies that use rewards and recognition as an important strategy said they were extremely or very successful in achieving their operational goals, compared to 51 percent of those that didn't rely on this strategy. Executives at companies that rely on training were also more likely to report success.

Risk Management

While emerging markets are brimming with opportunities, they are also fraught with risk. In many locations, these can include weak intellectual property protections, uncertain political environments, corruption, and complex legal and regulatory regimes, to name a few. Success in emerging markets requires an intelligent approach to managing the risks necessary to drive future growth, while avoiding risks that have no upside potential.

- Only 56 percent of executives said their companies conduct a very rigorous risk assessment before entering an emerging market. Even among executives at companies with $1 billion or more in annual revenues, only 64 percent did so.

- For existing operations in emerging markets, only 45 percent of executives, and 49 percent of executives from larger companies, reported conducting very rigorous risk assessments on an ongoing basis.

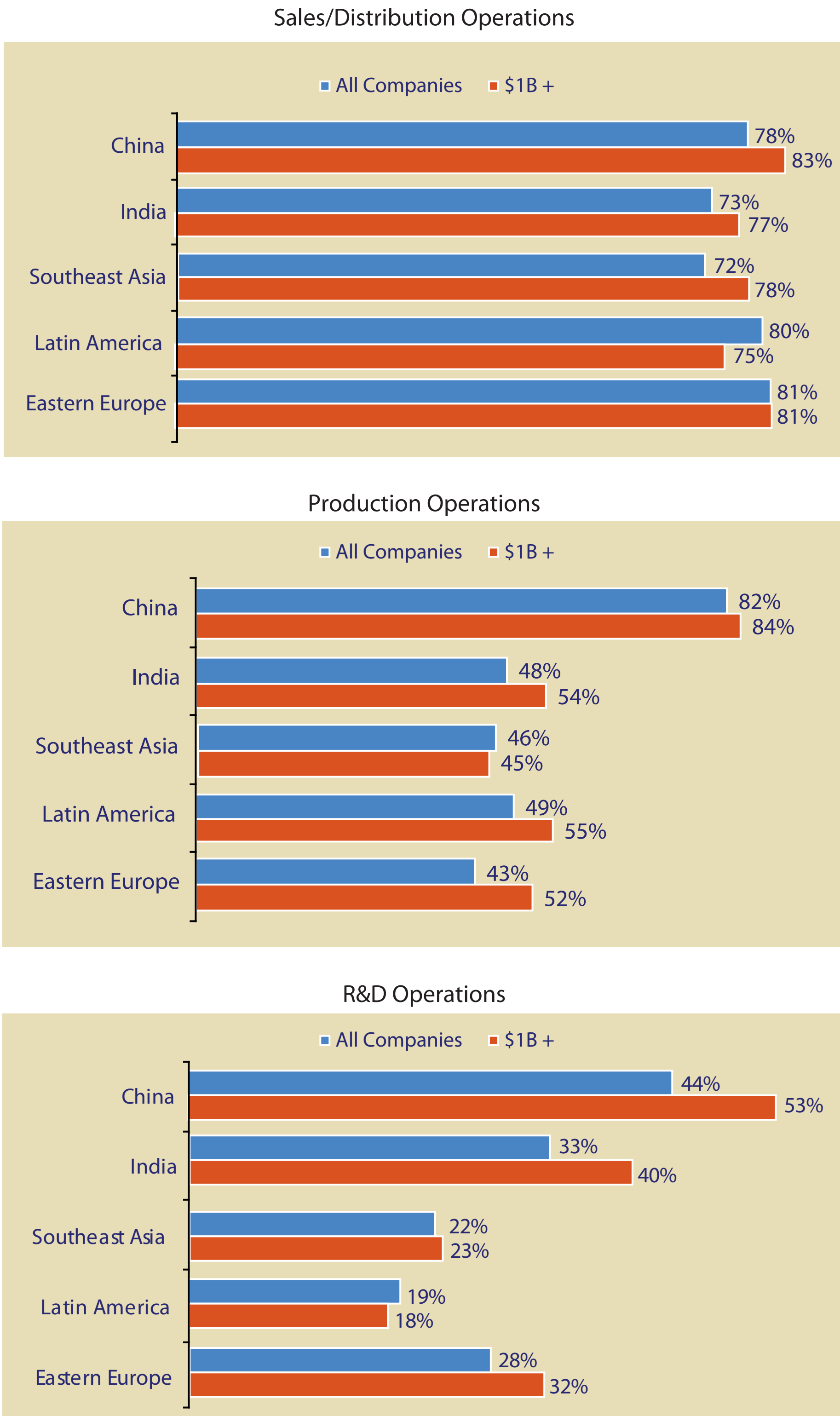
- However, executives at companies that conduct a rigorous analysis of risk were more confident in their ability to manage the threats they face. For example, 86 percent of executives at companies that conduct

Exhibit 3

Expected types of future investments

Percent extremely or very likely to establish or significantly expand operations within next five years

Base = Companies not headquartered in market that are at least somewhat likely to invest



Source : Deloitte's Global Manufacturing Industry Group

very rigorous risk assessments of existing operations were very confident in their ability to manage risk, compared to 68 percent of those at companies where the risk assessment was less rigorous.

- When companies conduct risk assessments before investing in an emerging market, they often fail to analyze carefully the full range of risks they will face. For example, only 64 percent of executives said their companies conducted a very rigorous assessment of intellectual property risks, 57 percent for security risks, and 51 percent for geopolitical risks. For the risks of terrorism or natural disasters, only 30 percent reported examining these risks in a very rigorous manner.

- Only 47 percent of executives said the separate risk assessments conducted across their companies were integrated into a single, comprehensive view before investing in an emerging market.

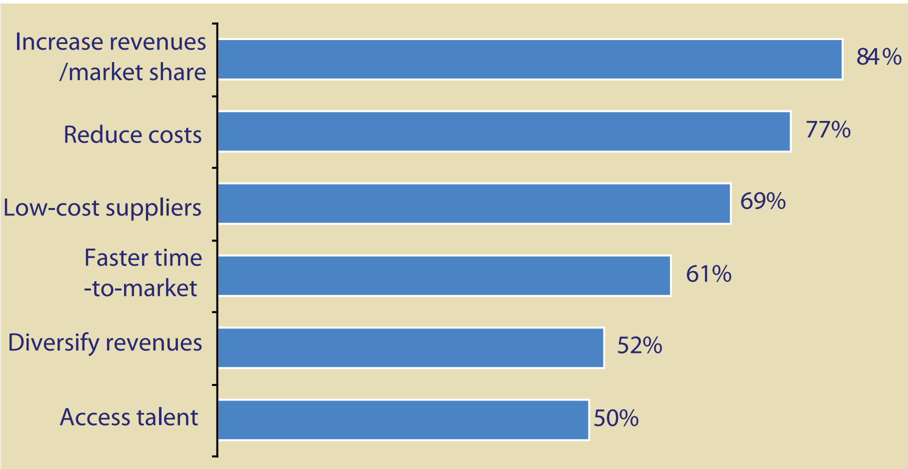
- Yet, executives at companies that integrate their separate risk assessments were significantly more confident in their ability to manage the risks they face. Ninety-one percent of executives who reported their companies have a very integrated approach to assessing risk for their emerging market operations said they were very confident in their companies' ability to manage risks effectively, compared to only 62 percent of the other executives surveyed.

- Executives at companies with $1 billion or more in annual revenues reported using a variety of strategies to manage their risks in emerging markets including keeping high-value activities in developed markets (53 percent), sourcing components from multiple emerging markets (53 percent), and distributing production across multiple emerging markets (51 percent).

Exhibit 4

Reasons for investing in emerging markets

Percent extremely or very important



Source : Deloitte's Global Manufacturing Industry Group

This report details the study findings on how manufacturers are tackling the operational challenges in emerging markets in three critical areas:

- Talent management
- Risk management
- Operating models

To succeed in these intensely competitive markets, manufacturers will need to align their operations with the unique requirements of each location where they operate. Companies that gain a deep understanding of the local realities in each emerging market, and then strike the right balance between efficient global processes and responsive local operations, will be best positioned to prosper.

"China, India and other developing countries are set to give the world economy its biggest boost in the whole of history ..."

***The Economist,* September 16, 2006**

"You cannot simply take a North American version of a business practice, move it to China or India, and just flip the switch. It won't work."

Director of Global Process Optimization at a major U.S.-based manufacturer

Operating Models

Companies often enter into joint ventures or third-party arrangements, especially when first entering an emerging market. The executives surveyed, however, were far more likely to report their companies used newly-constructed, wholly-owned subsidiaries ("greenfield investment"), which provide greater control, more upside potential, and quicker decision-making.

- The most popular operating structure was greenfield investment, which was used by roughly 60 percent of the emerging markets operations that executives reported on.
- When executives were asked which operating structures they used for their production operations in emerging markets, acquisitions, joint ventures, and outsourcing were each cited by roughly one-third of executives. For sales/distribution operations, 30 percent reported using outsourcing, 24 percent cited acquisitions, and 20 percent cited joint ventures.
- Executives at companies that used greenfield investment were more likely to report success. Sixty-five percent of executives at companies that used this operating model for their sales/distribution operations in a market said they had been extremely or very successful in achieving their operational goals, compared to 46 percent of other executives.
- But while greenfield investments appear to be more successful on average, executives interviewed for the study reported using a variety of structures, depending on such considerations as the complexity of the operation, the size of the required investment, time to market, the potential market opportunity, and regulatory requirements. However, if an operation involves a core competency and uses proprietary processes or technologies, companies favor greenfield investment since it minimizes intellectual property (IP) and other risks.

The Best and the Brightest: Talent Management

Traditionally, the ability to tap a less expensive labor force has been a principal attraction of locating operations in emerging markets. Facing high wage and benefit costs in developed economies, manufacturing executives have been lured to these markets by visions of an inexhaustible supply of low-wage workers to hire for their factories.

But today that picture is changing fundamentally. As global manufacturers expand operations and place higher-value operations in emerging markets, they require employees with more sophisticated skills, and they are now competing with dynamic local companies for the most talented workers. As a result, labor costs for skilled workers in many emerging markets are rising quickly, and manufacturers are now finding it more difficult to attract and retain qualified workers.

To succeed in the fierce battle for talented employees in emerging markets, competitive compensation is important, but is only one of many tools that manufacturers need to use. Perhaps even more importantly, they need to ensure they develop the skills of their employees, place the right employees in the right positions, and connect their employees to each other and to the company as a whole. Deloitte member firms call this broader approach to talent management the Develop-Deploy-Connect model and found that it is used by successful companies across many industries.[6] The 2007 Innovation in Emerging Markets study demonstrates that the insights captured in this model are just as relevant to talent management in emerging markets as they are in developed markets.

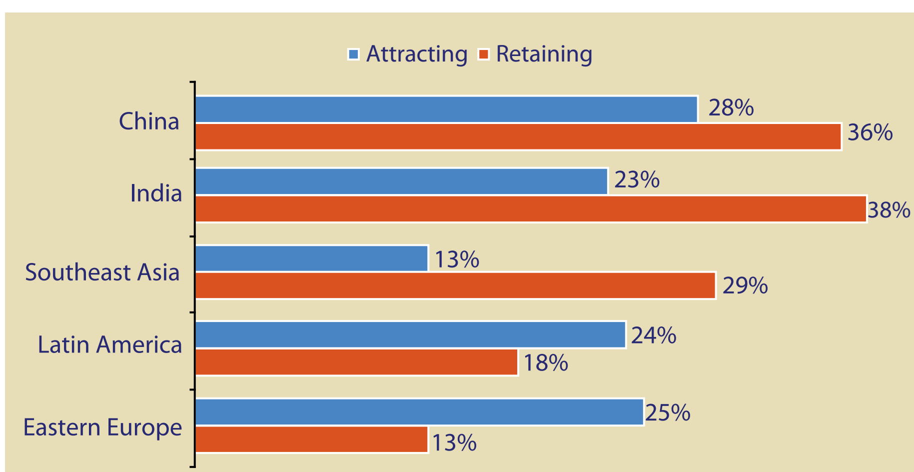
Moving Up Market

Global manufacturers are now looking to emerging markets for a broader range of highly-skilled employees. Many of these countries have made education a key part of their economic development strategies. Each year, roughly 1.2 million engineers and scientists graduate from universities in China and India, triple the number ten years ago, according to *The Economist*.[7] Although all these graduates may not meet the requirements of global manufacturers in terms of technical standards, language ability, and familiarity with performance-oriented business operations, both countries have made technical education a priority. Eastern Europe and Russia also offer a labor force with excellent technical skills in science and engineering.

Fierce Competition for Talent

Many of the executives said their companies were encountering difficulties in attracting and retaining the qualified workers they need. Roughly one-quarter of executives said hiring qualified workers in China, India, Latin America, and Eastern Europe was very difficult for their companies (Exhibit 5). An additional one-third of executives said hiring was somewhat difficult in each of these markets.

Exhibit 5
Difficulty in attracting and retaining qualified workers
Base = Companies not headquartered in market



Source: Deloitte's Global Manufacturing Industry Group

But attracting skilled workers is often not as great a challenge as retaining them. Roughly one-third of the executives reported that holding on to qualified employees was very difficult in China, India, and Southeast Asia—even more than reported problems in hiring. Indeed, roughly two-thirds of executives reported that retaining qualified employees was at least somewhat difficult in each of the five emerging markets examined.

In China, the booming economy has made it easy for talented, ambitious workers jump to a new job for small increases in pay or better perceived career opportunities. Several executives interviewed said turnover rates for their operations in China were significantly higher than in developed markets. The costs of replacing a high-performing manager have been estimated to range from three times to as much as 20 times the employee's salary.[8] In the American Chamber of Commerce's annual member survey, human resources was the most important concern about doing business in China, ranked higher than such issues as government bureaucracy and corruption.[9]

Manufacturers face difficulties in attracting and retaining qualified workers in other markets as well. A 2006 survey by the Japan External Trade Organization of Japanese companies found an unmet need for qualified mid-level managers and engineers in India and Southeast Asia as well as in China.[10] The survey found Thailand had the most severe shortage of engineers, due to the influx of R&D operations by major automobile manufacturers. A 2006 survey across 26 countries by Manpower Inc. found the largest shortages of professional workers in Mexico, where 41 percent of companies said they would have hired more professional staff over the preceding six months if they had been able to find qualified applicants.[11]

Increased demand, both from global and local manufacturers, and growing labor shortages have led to rising labor rates in many countries. Wages of factory workers in some regions of China have been rising at double-digit rates, despite the migration of workers from the interior to the more developed coast.[12] In the Czech Republic, wages were up 10 percent in the year ending in the second quarter of 2006, one of the highest rates in the EU.[13]

Executives expect this competition for labor will continue to drive up labor costs, especially in China. Forty-one percent of the executives expected labor costs in China to increase substantially over the next five years, while 26 percent had the same expectation for Eastern Europe and 24 percent did for India. Despite the competition they reported in attracting and retaining qualified workers, only 10 percent of executives surveyed expected they would face substantial labor cost increases over the next five years in Latin America and 9 percent did for Southeast Asia.

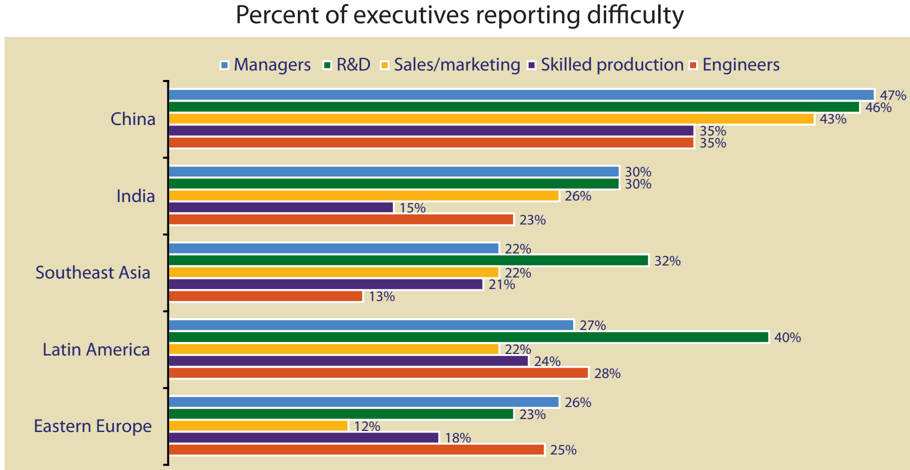
Seeking More Sophisticated Skills

With manufacturers conducting more complex activities in emerging markets, the competition for higher skilled positions has intensified. Almost half the executives surveyed reported problems in hiring qualified managers and R&D personnel in China, while roughly 40 percent reported problems attracting sales/marketing staff, skilled production workers, and engineers (Exhibit 6). Roughly one-quarter to one-third of executives reported difficulties in attracting qualified workers for these positions in most of the other emerging markets studied. Finding qualified R&D professionals appears to be a particular problem in Latin America, where 40 percent of executives cited this as difficult.

Exhibit 6

Difficulties in attracting specific types of qualified workers

Percent of executives reporting difficulty



Source: Deloitte's Global Manufacturing Industry Group

While executives reported few problems with the technical and mathematical skills of the work force in emerging markets, they have encountered difficulties finding workers with a broader range of sophisticated job skills that are important for higher-level positions. For example, almost half the executives were not satisfied with the leadership skills overall among the Chinese labor force, while 42 percent had the same experience in Southeast Asia, and roughly one-third in the other markets (Exhibit 7). Roughly one-third of executives said they were less than satisfied with the problem-solving skills available in the work force in each of the five emerging markets, with the single exception of India.

Finding qualified English-speaking workers for senior managerial positions is another challenge. Many global companies use English as their common language, even if they are not headquartered in an English-speaking country. More than half of the executives were not satisfied with the English-language skills of the labor force in Latin America, and one-third or more of executives saw this as a problem in the other markets, except for India.

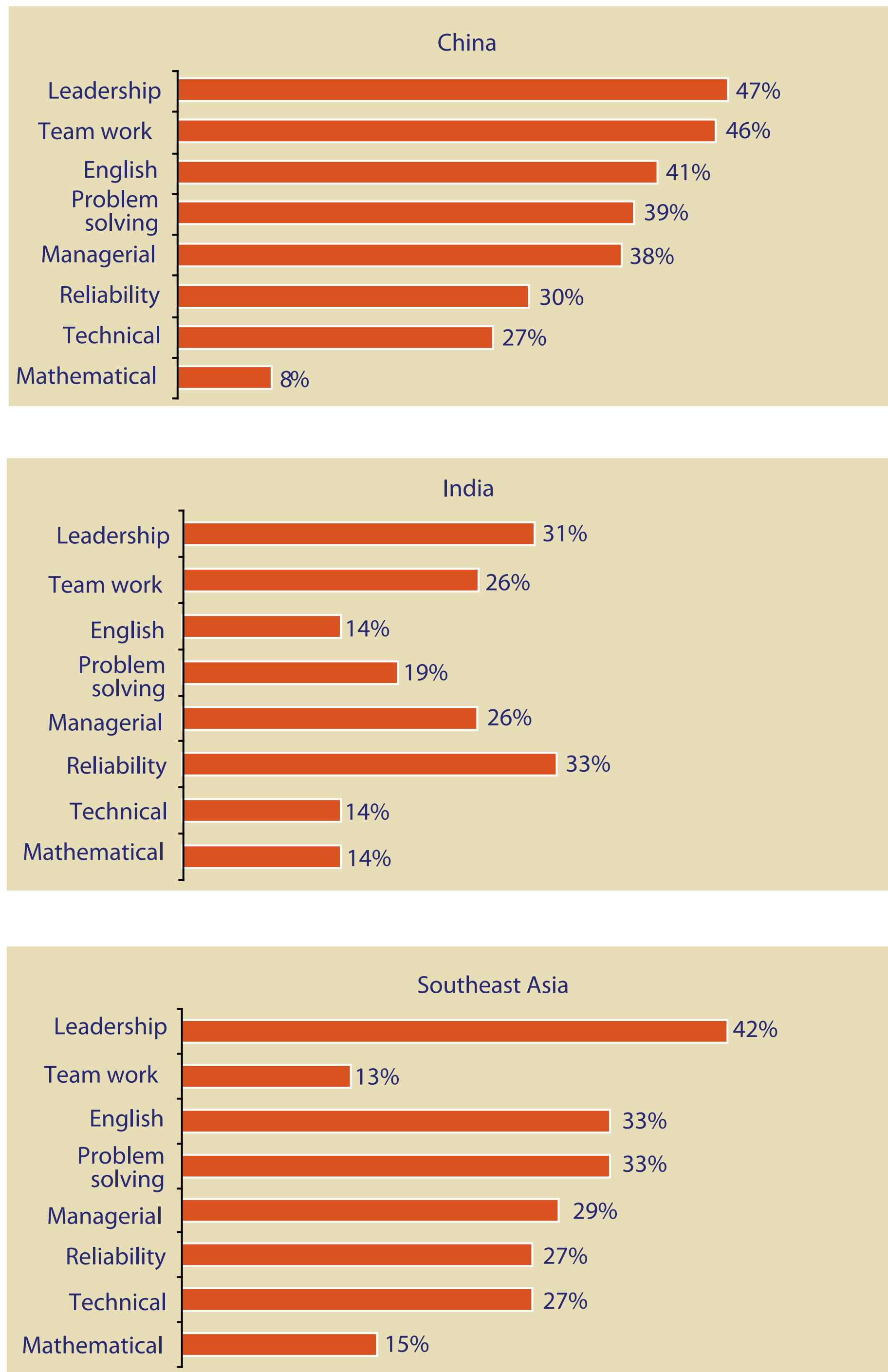
Customizing Talent Strategies

To compete effectively for skilled talent in this more difficult environment, manufacturers are finding they have to go beyond a narrow focus on compensation. Instead, they must offer a well-designed value proposition to employees that leverages a broad range of human resources strategies and tools. This integrated value proposition should include compensation, incentives, benefits, developmental opportunities, career paths, working conditions, company culture, and more.

Exhibit 7

Lack of satisfaction with specific skills

Percent of executives reporting difficulty



And while global manufacturers may bring the advantages of consistent, company-wide policies in some cases, they also need to customize their talent management approach to the realities in individual emerging markets.

The experience of a major U.S manufacturer of construction and mining equipment provides an example. The company has traditionally hired workers within five years after graduation and planned to have them stay with the company for their entire careers. The company is growing so quickly in China, however, they decided their traditional approach would inhibit their growth. Instead, they decided to build management talent more quickly by also hiring older workers who already have 15 or more years of experience.

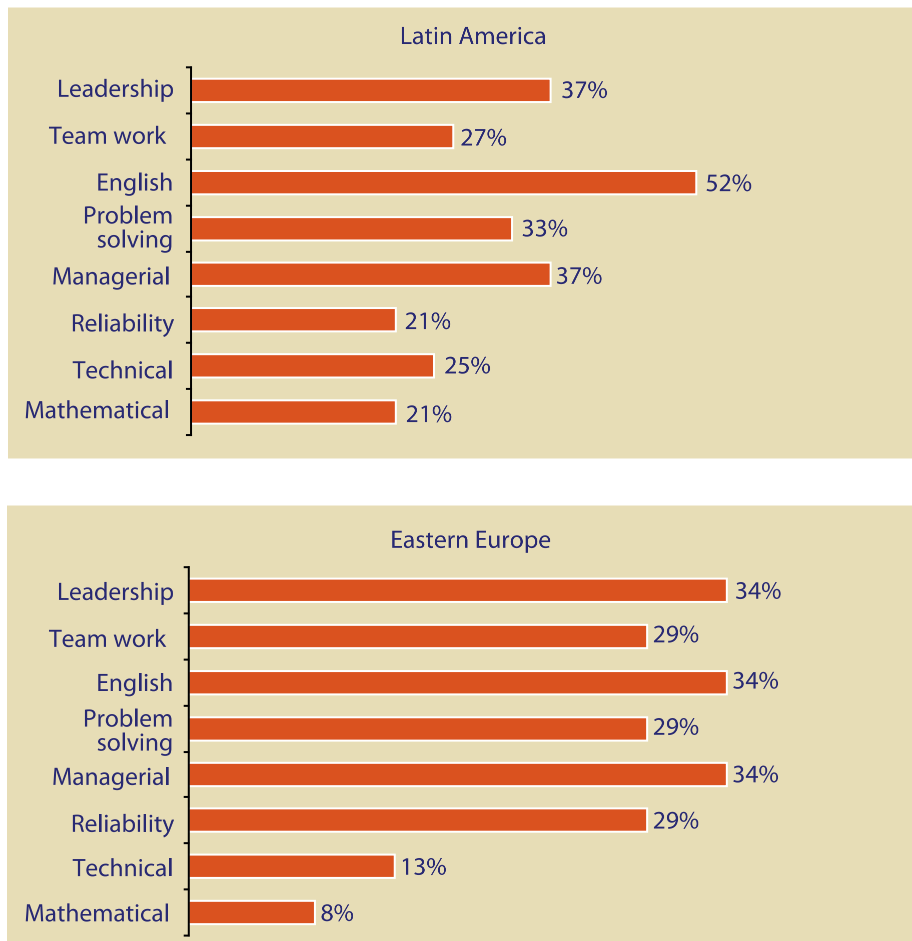
The fact that most production workers in Mexico rely on public transportation or bicycles had to be incorporated into their planning by Hill-Rom, a $1.2-billion subsidiary of Hillenbrand Industries that manufactures hospital beds and other healthcare products. In choosing a location, they found that a factory could only expect to draw workers from a distance of five or 10 miles. They also adjusted factory operations; while their shifts normally begin at 7AM, they have moved shifts earlier or later in Mexico to accommodate bus schedules.

Manufacturers often find they have to provide special benefits they wouldn't provide in developed markets, such as medical benefits for parents of workers in India, or allowances in China for such items as transportation, clothing, and housing. AstenJohnson, a $260-million manufacturer of paper machine clothing, specialty fabrics, filaments and drainage equipment, has also found

Exhibit 7 (continued..)

Lack of satisfaction with specific skills

Percent of executives reporting difficulty



Source: Deloitte's Global Manufacturing Industry Group

that the timing of compensation can be important. In its Chinese facility, the company provides three salary reviews each year rather than one, and also spreads out bonuses, to discourage talented employees from leaving.

These are just a few examples of the myriad ways in which companies find they need to adjust their human resource practices, both in design and presentation, to accommodate the needs of individual emerging markets. They also underscore the need for intimate knowledge of the local labor market and culture. Several of the executives interviewed stressed the importance of hiring a skilled local executive to manage personnel and talent issues.

It is not surprising that offering appropriate compensation is essential, but executives stressed the importance of other strategies as well. Sixty-three percent of the executives said training was an important HR strategy for their company in emerging markets, the same percentage as for compensation (Exhibit 8). In fact, 78 percent of executives said training was an important strategy for them in India, the highest-rated HR strategy for the country. Similarly, in China, more than two-thirds rated training as an important strategy, again more than for any other HR strategy. Roughly two-thirds or more of executives cited training as an important strategy for their companies in Southeast Asia, Latin America, and Eastern Europe as well.

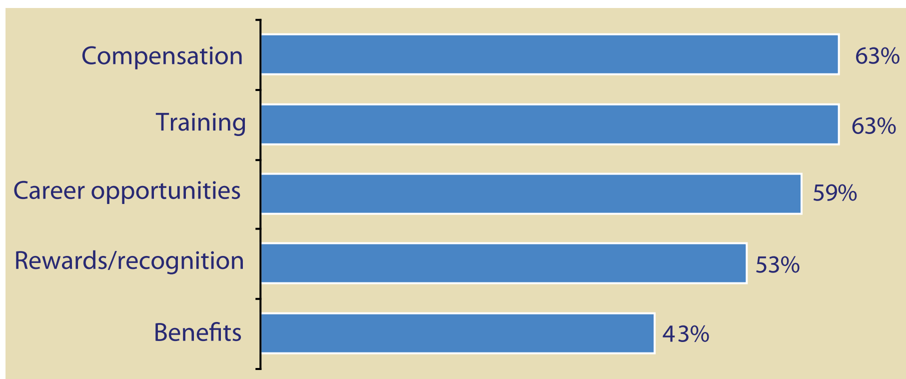
In their efforts to attract and retain highly qualified employees, career opportunities and non-monetary rewards and recognition also figured prominently—59 percent of executives said providing career opportunities was an important strategy for their companies in emerging markets, while roughly half said the same about offering rewards and recognition. In Southeast Asia, providing rewards and recognition was the highest-rated HR strategy, cited as important by 72 percent of the executives.

Executives that reported these tools were important to their companies' talent strategies were in fact more likely to also report they had been successful in achieving their operational goals. Not surprisingly, companies that used compensation as an important strategy to attract and retain qualified workers proved more successful. Sixty-six percent of executives who said that they relied on compensation in an emerging market rated their company as being extremely or very successful in achieving their operational goals in that market, compared 52 percent where compensation was not an important strategy (Exhibit 9).

But a broader set of strategies also provided real value, and perhaps served to differentiate companies that use them. For emerging market operations where training was an important strategy, 65 percent of executives of the executives said they had been extremely or very successful in achieving their operational goals, compared to 57 percent where training was not considered an especially important strategy.

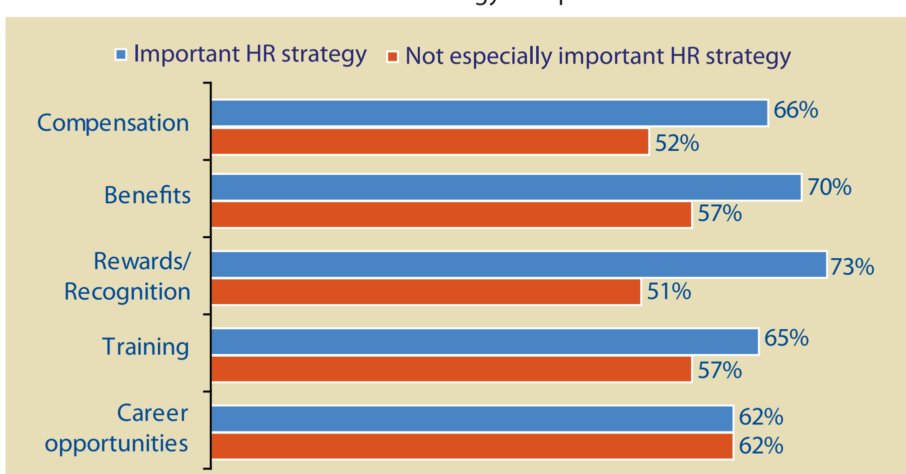
There was an even bigger performance gap for rewards and recognition, a strategy that is often overlooked. Seventy-three percent of executives at companies where rewards and recognition is an important HR strategy in emerging markets said they had been extremely or very successful in achieving their operational goals, compared to 51 percent of executives at companies where this was not considered an

Exhibit 8
Key talent strategies
Percent rating strategy as important in emerging market operations



Source: Deloitte's Global Manufacturing Industry Group

Exhibit 9
Talent strategies and success in achieving operational goals
Percent extremely or very successful for operations where each strategy is important



Source: Deloitte's Global Manufacturing Industry Group

important strategy. Companies have an opportunity to improve performance by going beyond compensation and benefits to carefully craft programs that leverage the power of non-monetary rewards and recognition to motivate employees.

The survey found only a modest difference between the operational success of companies that emphasized training and those that did not, and none for companies that emphasized career opportunities compared to those that did not. Yet, this may be due more to the skill at implementation than the potential of these strategies. A pay raise is easy to implement, and there is no difference between the same level of pay provided by different manufacturers. But training and career opportunities are another matter. Savvy employees know the career opportunities are brighter at a global manufacturing company with a well known brand name, or at a dynamic mid-size company. Similarly, training not only differs in its intrinsic quality, there may also be a perception that being trained at a strong global company is more valuable.

In fact, all the manufacturing executives interviewed in depth stressed the importance of training and providing career opportunities to their strategies to attract, and even more importantly, to retain qualified employees. In addition to ongoing training, Johnson & Johnson, the $53-billion healthcare products manufacturer, offers its employees opportunities to work at multiple operating units in the company to give them a breadth of experience. They also send talented employees to work for a period in its U.S. and European operations, which gives them a broader understanding of the company and a wider set of skills and professional experiences.

Siemens has a talent identification program that aims to identify top talent early in their careers with the company, continually develop their skills, and retain them by demonstrating they have a bright future with the company. For each employee in the program, a development plan and career path are developed, opportunities are provided to work in other parts of the company, and they are invited to top management meetings. The company also maintains a regional talent database, so that a top performer in one emerging market may be identified as the right person for an opening in another country in the region or at headquarters. Although this program is global, it has proven especially helpful in retaining talented employees in emerging markets.

Executives say that offering rewards and recognition has also proved effective. One element of AstenJohnson's talent strategy at its production facility in the Suzhou Industrial Park in China is to reward employees by providing small promotions and new titles. It also works hard to create a strong team ethic, sending its entire work force of 75 employees on a leisure trip each year.

Manufacturers are now facing many of the same problems in attracting and retaining qualified workers that are common in developed markets.

In their efforts to attract and retain qualified employees, successful manufacturers are looking beyond compensation to leverage training, non-monetary rewards, and career opportunities.

Taking a Comprehensive View: Risk Management

Along with the potential commercial rewards offered by emerging markets come numerous risks that need to be managed effectively, from intellectual property to geopolitical risks. Yet, too many companies employ processes that fail to achieve the comprehensive view of risk that can help them identify and manage developments that could prevent them from achieving their goals.

Too often, companies take a piecemeal approach to risk management in emerging markets—failing to consider the full range of risks they face, conducting less rigorous risk assessments for existing operations than they do before entering a market, and not integrating the risk assessments by different functional areas such as internal audit, compliance, and IT. The result is that many companies lack a consolidated picture of all the risks they face.

In each emerging market, companies need to consider all relevant, high-impact events that could adversely affect their ability to achieve their business objectives. An effective risk management process should identify both the risks of loss (such as the theft of intellectual property), but also risks that could prevent the company from generating the business value it anticipates (for example, by failing to integrate successfully an acquired company or by having unexpected competitors enter the market).

Deloitte member firms have termed companies that achieve this level of risk management *Risk Intelligent Enterprises*™.[14] These companies address the full spectrum of risks they face, both before entering a market as well as for their existing operations. Rather than focus on single events, they take into account risk scenarios that consider the interaction of multiple risks. Individual risk assessments conducted by different areas of the business are integrated into a consolidated view of risk. They focus on calculated risk-taking as an essential means for value creation, rather than solely on risk avoidance.

The 2007 study found that many manufactures have substantial work to do to achieve these higher levels of performance and risk management capability in their emerging market operations.

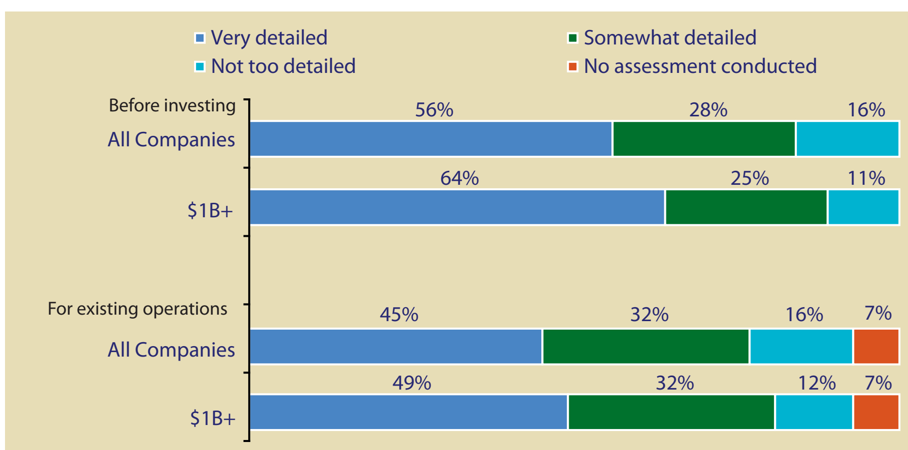
Disciplined Process Required

When asked about their overall assessment of risk management at their companies, 73 percent of the executives said they were confident in their abilities to effectively manage the risks in emerging markets. But despite this confidence, many companies are not following a disciplined risk management process and their performance reflects it.

Only 56 percent of executives said their companies conducted a very rigorous risk assessment before investing in an emerging market. Even among executives from larger manufacturers (those with $1 billion or more in annual revenues), only 64 percent reported using a very rigorous risk assessment (Exhibit 10). When it came to assessing

Exhibit 10

Level of detail in risk assessment in emerging markets



Source : Deloitte's Global Manufacturing Industry Group

risk in emerging markets for existing operations, less than half of all executives said a very rigorous assessment was performed.

Yet, executives at companies that did conduct rigorous risk assessments were more likely to be confident about their ability to manage the risks the face in emerging markets. Among executives surveyed at companies that conduct rigorous risk assessments before investing in an emerging market, 80 percent said they were very confident about their ability to manage risks, compared to 64 percent of those at companies where the assessments were not as rigorous (Exhibit 11). For existing operations there was a similar gap—80 percent of executives at companies that conduct rigorous assessments were confident in their risk-management abilities compared to 65 percent of other executives.

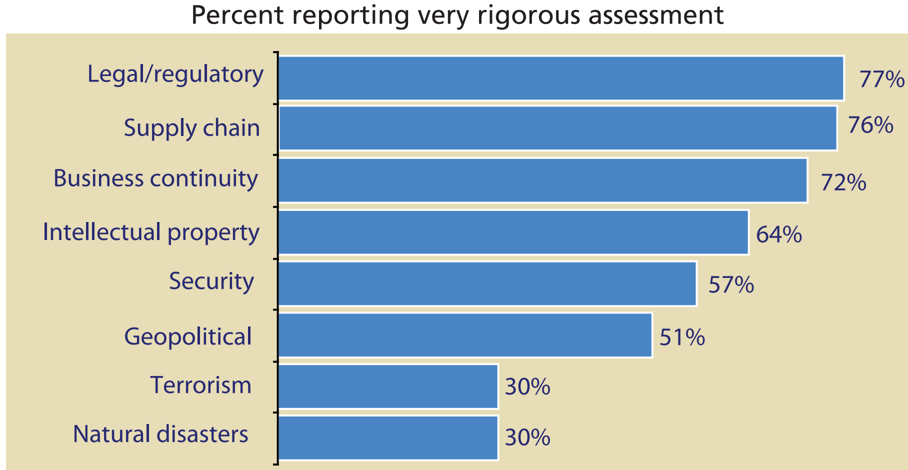
When it came to individual risks, roughly three-quarters of the executives said their companies conducted a very rigorous assessment of risks associated with the supply chain, legal/regulatory matters, and business continuity before investing in an emerging market (Exhibit 12). But many companies appear to conduct relatively little analysis of some high profile, and potentially crippling, risks. For example, only roughly one-quarter of executives said a rigorous assessment of terrorist threats or natural disasters was conducted before entering an emerging market; even among companies with $1 billion or more in annual revenues, 10 percent of executives said they didn't examine risks associated with terrorism at all.

Not only should risk assessments examine closely a list of familiar risks, they also need to consider any relevant, high-impact development that could potentially prevent the company from achieving its revenue and operating goals. These will include not only familiar threats, such as natural disasters or geopolitical change, but also risks specific to each market, such as understanding customer preferences. Some companies have made the mistake of assuming that customers in emerging markets have similar needs and preferences to those in North America or Europe, and have failed to adapt their products and services to each market's specific requirements. The challenges of designing an effective talent management strategy and choosing an appropriate operating structure, which are discussed in detail in the other sections of this report, pose additional significant risks.

Exhibit 11
Confidence in ability to manage risk and assessment process
Percent very confident

Source : Deloitte's Global Manufacturing Industry Group

Exhibit 12
Assessment of individual risks before investing in an emerging market
Percent reporting very rigorous assessment



Source : Deloitte's Global Manufacturing Industry Group

Companies operating in Russia need to take account of severe winter weather, poor logistics, and the vast size of the country that can combine to derail construction schedules and slow the delivery of components and raw materials. In many emerging markets, corruption is a significant problem, and companies need to conduct careful due diligence before entering. U.S. companies have the additional challenge of ensuring they comply with the stringent requirements of the Foreign Corrupt Practices Act.

Successful manufacturers go beyond simply seeking to avoid or minimize downside risks to consider strategic risks as well, such as the entry of new competitors or the possibility that market projections prove to be incorrect. Such a wide-ranging analysis should not only be conducted before entering a market, but should also be standard operating procedure after an operation is up and running. For example, Johnson & Johnson conducts an annual risk assessment for each of their operations, including their operations in emerging markets. Periodically, they also conduct an independent risk assessment, usually by another division in the company, to ensure objectivity and gain a fresh perspective on any risks that might have been overlooked. Sandra Peterson, President of the Bayer Healthcare Diabetes Division, says they conduct quarterly risk assessments for each of their operations that ask, "Where are we compared to the goals and assumptions established when we decided to enter this market?"

Safeguarding Intellectual Property

Guarding against threats to intellectual property is one of the key concerns when operating in many emerging markets, where intellectual-property (IP) laws may be weak or not enforced consistently. Companies run the danger of having their trade secrets, or even entire products, copied by competitors. This can be a threat even when a company does not actually produce or conduct R&D in a local market, since there remains the possibility that products may be reverse-engineered.

Surprisingly, only roughly two-thirds of the executives said their companies conducted a very rigorous assessment of IP risks (Exhibit 12). Even among larger companies, roughly one-third did not report conducting a very rigorous assessment of this issue before entering an emerging market.

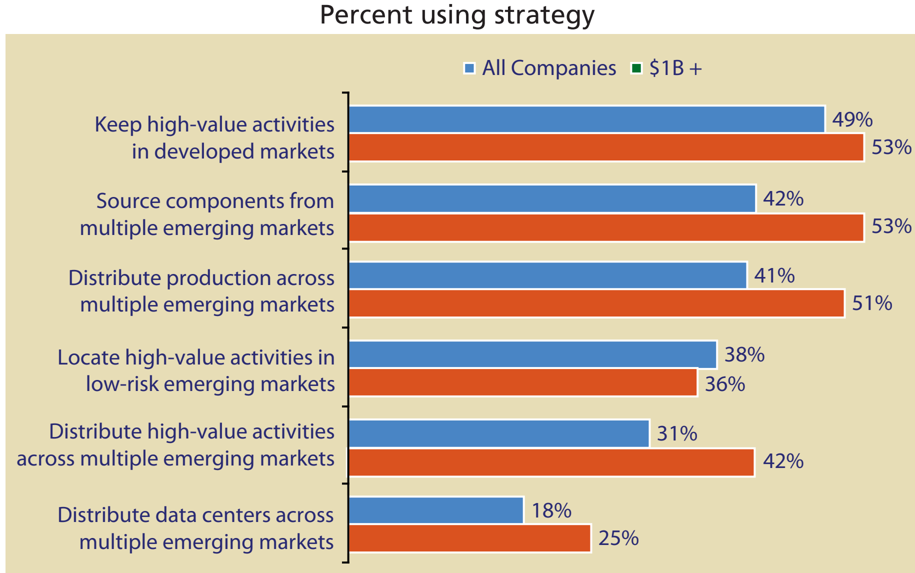
Manufacturers are employing a number of strategies to minimize their IP and other risks in emerging markets. Even though higher-value activities are increasingly being placed in emerging markets, one popular strategy to limit IP risk is to keep such activities in developed markets, which was cited by 49 percent of executives surveyed (Exhibit 13). For example, AstenJohnson has decided to keep its R&D activities in the United States and Europe. Other strategies reported by more than 40 percent of executives, and by more than half of executives at larger companies, were sourcing components from multiple emerging markets and distributing production across several emerging markets.

Roughly one-third of the executives also say their companies attempt to manage risk by locating high-value activities in low-risk emerging markets, such as those with strong intellectual-property protections. Soitec, a $500-million French manufacturer of innovative materials for the semiconductor industry, is building a production facility in Singapore, its first outside France, which is scheduled to open at the end of 2007. André-Jacques Auberton-Hervé, Soitec's CEO and President, said that its strong IP protections was one of the key factors in deciding to locate the facility in Singapore.

Exhibit 13

Risk management strategies

Percent using strategy



Source : Deloitte's Global Manufacturing Industry Group

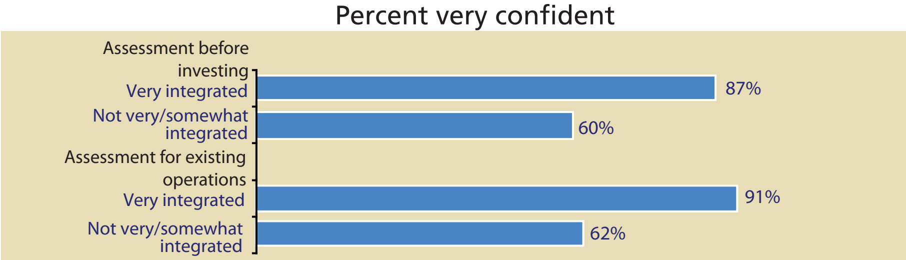
Risk Intelligence: An Integrated Approach

Typically, different functions with a company conduct individual risk assessments that address such issues as internal controls, physical security, data security, legal and regulatory reviews, and financial performance. Each of these assessments provides a partial view of the risks facing a company. Yet, often these individual assessments are not integrated to provide a comprehensive picture of all the risks a company faces. In addition, companies can overlook how different risk types can interact, creating problems or losses that are more than simply the sum of the individual risks.

In fact, only 47 percent of the executives said the individual risk assessments at their company were well integrated before they invested in an emerging market, while 46 percent said they were substantially integrated for existing operations. Even among companies with more than $1 billion in annual revenues, just over half of the executives described their individual risk assessments as well integrated.

The leading manufacturers interviewed in depth said their individual risk assessments were brought together, employing a variety of approaches. At a U.S. manufacturer, individual risk assessments for each area of the company all flow into a single corporate vice president for that area. Johnson & Johnson employs an internal methodology that integrates the separate risk assessments across the company into a single view. Executives at companies that had successfully integrated their diverse risk management efforts were much more confident about their ability to manage the risks they faced in emerging markets. Fully 87 percent of executives at companies that had a very integrated risk management process before entering an emerging market said they were very confident about their companies' ability to manage risks, compared to 60 percent at companies where risk management was not well integrated (Exhibit 14). Similarly, when asked about risk management for ongoing operations, 91 percent of executives at companies with a well integrated approach were very confident about their companies' abilities, compared to 62 percent of the other executives surveyed.

Exhibit 14
Confidence in ability to manage risk and extent of integration
Percent very confident



Source : Deloitte's Global Manufacturing Industry Group

Only about half the executives said their companies conducted a very rigorous risk assessment—either before entering an emerging market or for existing operations.

Companies need to integrate their multiple risk assessments into a single, comprehensive view of all the risks they face.

Getting Integrated

Of course, there is no guarantee that improved risk management will prevent all major losses; there is no such thing as perfect prevention. The important question is "Did you understand the risk you were taking or will you be surprised if it doesn't work out?"

Before a risk intelligent decision can be made, a company needs a clear understanding in advance of the potential for loss and reward. Companies need to answer the following questions:

- How could we fail?
- Are we willing to take this type of risk?
- Are we going to be appropriately rewarded for taking this risk?
- Do we have the capacity or experience to take this kind of risk and at this level?
- Do we really understand the consequences and interactions or domino effects?
- Who is responsible for managing this risk?
- What are we doing to cost-effectively prevent it, detect it, and correct it? How closely are we monitoring it?
- How bad could it get? How fast could it get that bad?
- How fast can we respond? When will a response be escalated and to whom?
- Do we still want to or need to take this risk?

Companies also need to facilitate integration by developing a common language of risk and a common process for identifying and assessing the key risks in emerging markets, building consensus on the criteria to be used to assess such risks, and synchronizing and rationalizing tests of key controls. In addition, companies need to require that risk management functions be common where this makes sense and be unique only when this is essential. This will help improve effectiveness and also help drive down the cost of risk management and the burden on the business.

Selecting the Right Structure: Operating Models

As manufacturers expand around the world, they have fundamental decisions to make regarding which operating structures they should choose-whether to build a new subsidiary ("greenfield investment"), acquire a local company, create a joint venture, or enter into an agreement with a vendor or other third party. This is a complex decision that takes into account such factors as the extent to which the operation involves advanced or proprietary processes or technology, the investment required, the potential market opportunity, and whether the company needs to quickly acquire local knowledge or relationships.

Many companies are using all of these models, depending on the characteristics of the particular operation and the emerging market. Yet, there is a clear trend towards greenfield investments, as companies gain more experience and comfort in emerging markets. While greenfield operations typically require larger investments and take longer to implement, they also offer more control, less IP risk, and greater upside potential.

Global Operating Approach

When executives were asked about their company's overall operating approach, half said it was more centralized in its decision making, while another 40 percent employed an approach that was a mix of centralization and decentralization. Only 10 percent described their company as primarily decentralized.

Major manufacturers bring the advantage of their global capabilities, along with substantial economies of scale. Even when they decentralize some decision making, they typically continue to enjoy the efficiency of having the parent company provide corporate functions such as IT, accounting, procurement, logistics, and legal. Companies want to provide local autonomy, but avoid having dozens of account payable or ERP systems around the world.

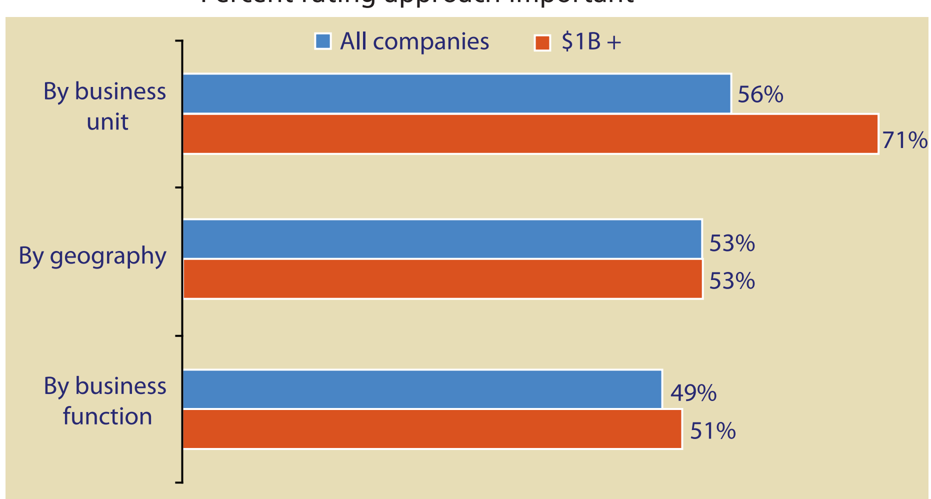
Companies can organize their global operations by business unit, by region, by business function, or a combination of these approaches. For each of these approaches, roughly half of the executives said it was an important organizing principle at their company. Larger companies, however, were much more likely to organize around business units (Exhibit 15).

Johnson & Johnson provides an example of a manufacturer that places significant decision making in their individual operating companies. Each operating company has primary responsibility for developing and executing its strategy globally. However, they also use a matrix management structure with regional heads who are responsible for sales, marketing, and overall business growth in their region. The company is now working to retain the flexibility of organizing by operating company, while increasing economies of scale and sharing knowledge across their multiple business units. Several Johnson & Johnson operating companies will share the new facility being constructed in the Suzhou Industrial Park so they can go through the learning process together of operating in China.

Exhibit 15

Approach to global organization

Percent rating approach important



Source : Deloitte's Global Manufacturing Industry Group

Siemens is another example of a company organized around operating companies. Each of these companies is a separate legal entity, with its own chief executive officer and board of directors. Their activities are coordinated by a central executive committee comprising the top management for the parent company. This committee examines the overall strategy, suggests potential business opportunities, and reviews performance against targets.

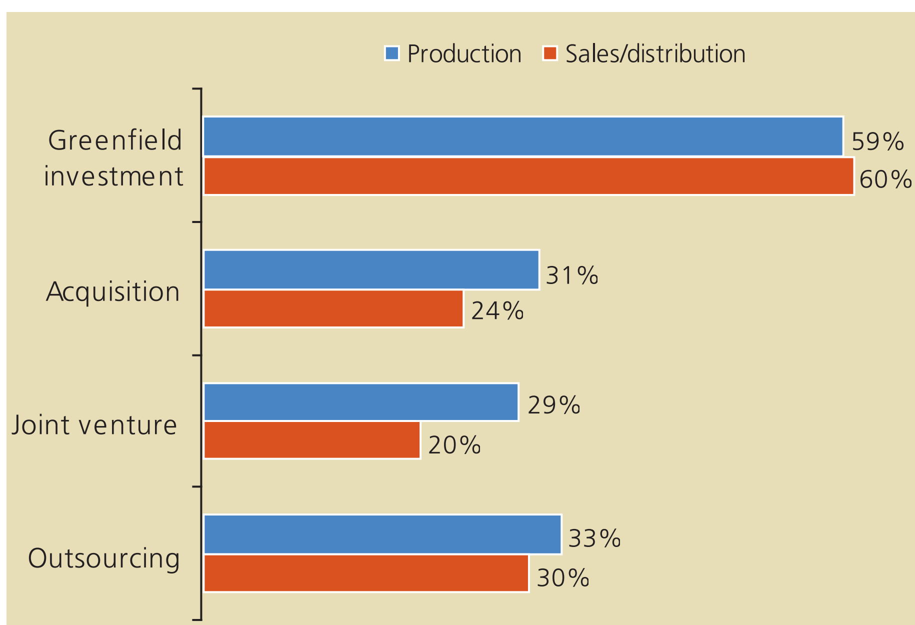
In emerging markets, Siemens typically creates a single legal entity with a chief executive for all their activities in the country. This entity has service-level agreements with the individual operating companies to provide corporate functions, such as finance, accounting, sales, marketing, and R&D. When an operating company is manufacturing products for export to other counties, however, Siemens creates a separate legal entity just for that business unit, which is managed centrally by the global head of the business unit.

Choosing an Operating Structure

Executives were asked which operating structures they used in their emerging market operations—greenfield investments, acquisitions of local firms, joint ventures/strategic partnerships, or outsourcing/third-party arrangements (such as distribution agreements). Of course, many companies use more than one approach depending on the situation. Nonetheless, there was a clear preference for organizing emerging market operations as a greenfield investment, with roughly 60 percent of the responses about individual emerging markets saying this approach was used, both for production and for sales and distribution operations (Exhibit 16). In contrast, for each of the other operating structures no more than about one-third of the responses about individual markets said they were being used. This was true both for companies that took a centralized approach to their global operations as well as those that had a mixed approach. Executives from larger manufacturers who were interviewed in depth said their companies used a variety of operating approaches depending on the situation. Yet, all the executives interviewed, both from large companies and from mid-sized companies, said they preferred to use a wholly-owned subsidiary since this provides full control. Although such a subsidiary could be the result of an acquisition, in most cases, a suitable target was not available so they built it from the ground up.

In China, a major U.S manufacturer interviewed for the study indicated that they originally used joint ventures, then in the 1990s created start-ups, but often with foreign partners. But now they are comfortable with the business environment and favor wholly-owned subsidiaries, either greenfield investments or acquisitions. In India, they were engaged in a joint venture, but eventually bought out their partner.

Exhibit 16
Operating structures used
Percent of responses



Note: Percentages do not total to 100 since executives could make multiple selections.
Source: Deloitte's Global Manufacturing Industry Group

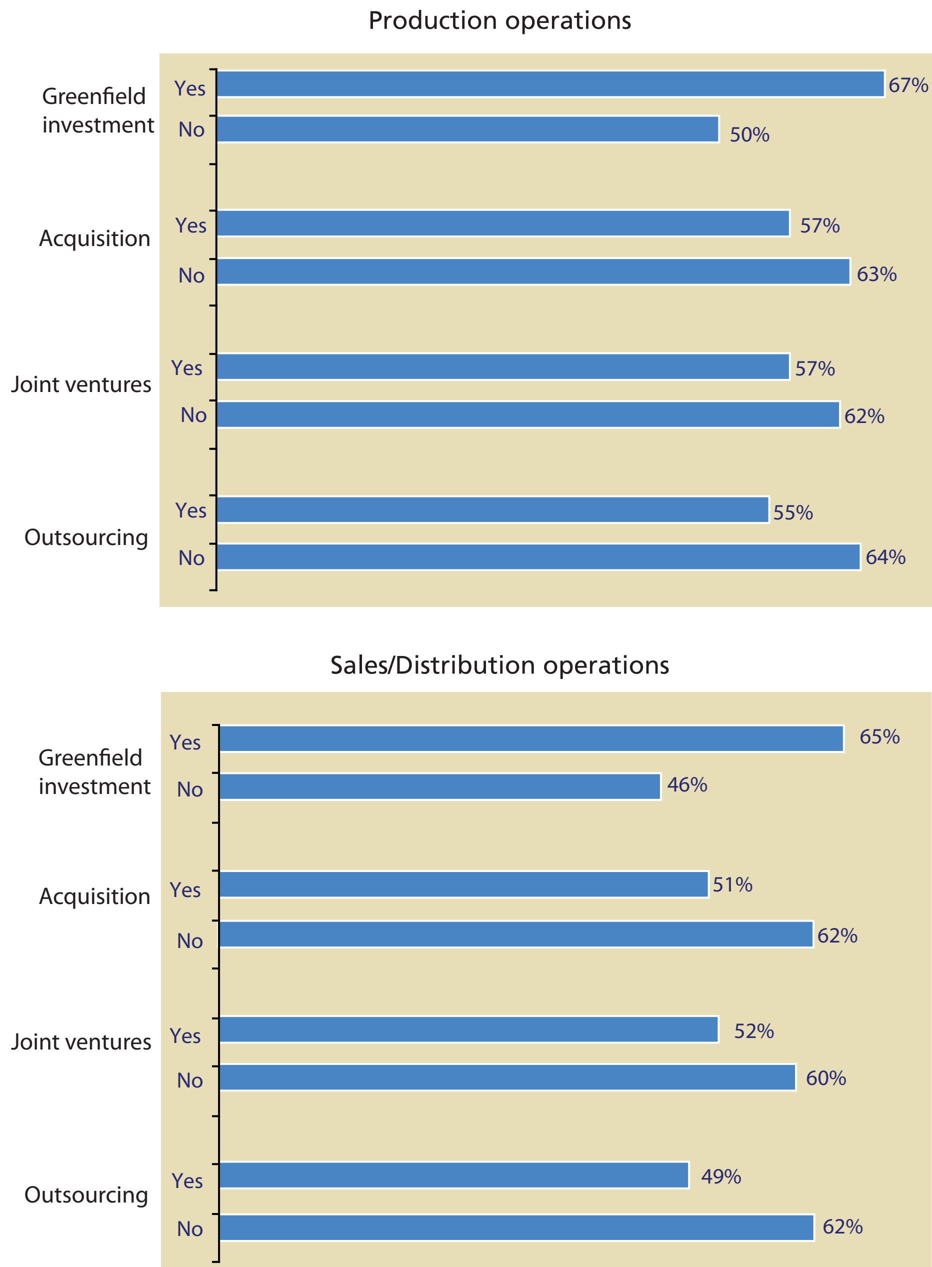
In fact, companies that employed greenfield investments in emerging markets were more likely to report success in achieving their operational goals, both for production operations, and also for sales and distribution operations. For example, 67 percent of the executives at companies that used newly-created subsidiaries in emerging markets considered that they had been extremely or very successful in achieving their operational goals, compared to 50 percent among companies that did not use this approach (Exhibit 17). Similarly, for sales and distribution operations, 65 percent of those at companies using greenfield investments reported that they had been extremely or very successful in achieving their operational goals in these emerging markets; only 46 percent of executives at companies that did not use this operating approach reported this level of success.

The picture is reversed for the other operating approaches. For example, 49 percent of executives at companies that used outsourcing or third-party arrangements in their sales and distribution operations said they had been extremely or very successful in these markets in achieving their operational goals; this contrasts with 62 percent of executives at companies not using this approach who said they had achieved this much success in emerging markets where they outsourced.

Exhibit 17

Success in achieving operational goals

Percent extremely/very successful



Source : Deloitte's Global Manufacturing Industry Group

Making the Decision

What factors drive these decisions? The single most important factor is operational costs, which 58 percent of executives, and 72 percent of those at larger companies, described as important when choosing an operational structure in an emerging market (Exhibit 18). But there are a long list of additional factors that approximately one-third of executives described as important including time-to-market, legal/regulatory issues, local knowledge, need for maintaining adequate levels of control, and the amount of capital required.

A key issue in deciding how to structure operations is whether the process or technology involved is proprietary and considered a core element of a company's value proposition. Where a company considers an operation to be unique and central to its strategy, it is more likely to use greenfield investment. For example, since Soitec's production processes are unique, when locating in Singapore it didn't want to share its proprietary processes with a joint venture partner or vendor, and it couldn't find a suitable acquisition target. André-Jacques Auberton-Hervé, chief executive officer and president of Soitec, summed it up, "No other firms really do what we do."

Companies are reluctant to joint venture or outsource a proprietary process since they are concerned about losing their IP and their competitive advantage. They are more willing to use these approaches for more routine operations or older production processes. In considering whether to outsource, Johnson & Johnson looks at their core competencies and which intellectual assets they need to protect. In the past, each of their operating companies made this "build vs. buy" decision on its own, but now they are developing corporate guidelines.

Even when a company has decided that a product incorporates proprietary processes or technology and should be manufactured in an emerging market through a wholly-owned subsidiary, it still faces the decision how best to structure sales—through an in-house sales force or instead through third-party distribution.

The distribution decision requires addressing a number of additional questions including the following.

- How large is the business opportunity? The expense of building an in-house sales force is more likely to be justified if the market is large and the company has a good opportunity to achieve high penetration.
- How much investment is required? If the investment required to build the necessary distribution infrastructure is substantial, a company would be more inclined to use a third party. In part this is a function of how concentrated or dispersed the potential customers are.

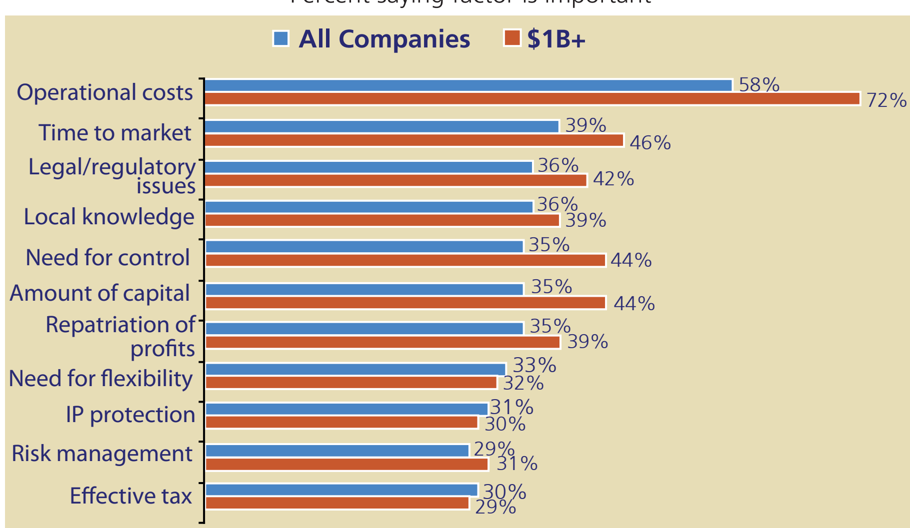
For example, although the Eastern European markets are each relatively small, they are also densely populated, which makes sales efficient.

- How is the product sold? If existing relationships are especially important in a market, companies may decide to contract with a third-party vendor that has already established them, rather than trying to build an in-house sales network. For example, Bayer Healthcare's products in South Korea are largely sold through retail stores, where shelf space is at a premium. Since existing distributors largely "own" this channel, the company chose to use a third-party distributor rather than build its own network.
- How important is it to get to market quickly? Creating an internal sales force takes longer than employing third-party distribution. This was one key factor in the decision of AstenJohnson to develop agency relationships for its products in China, Indonesia, and India.

Exhibit 18

Factors in choosing operational structure

Percent saying factor is important



Source : Deloitte's Global Manufacturing Industry Group

- How complex is the sale? Third-party distribution is easier to use when a company has a well known brand and its product characteristics are well understood. If a company is not well known or the sale is technically complex, then it can be easier to use in-house employees. Although AstenJohnson has a complex product, they wanted to use third-party distributors in order to enter several emerging markets quickly. To address this issue, they provide training to their agents, and also have company product managers travel with the agents to answer any technical questions that arise.
- How fast is the market changing? Some markets are changing so rapidly that companies find it helpful to hedge their bets. With the retail landscape in India in flux and its future structure still unclear, Bayer Healthcare has decided to use both in-house and vendor sales while it monitors developments.

These are some of the key considerations as companies decide how to structure their sales and distribution operations, and each company will assess additional factors that are specific to its unique situation.

The decision process for other types of operations is just as complex. Yet, as manufacturers become more experienced and knowledgeable about the many emerging markets in which they now do business, there is a trend to rely increasingly on wholly-owned subsidiaries, often greenfield investments, for operations considered core to their competitive position.

Manufacturers need to balance the efficiency and expertise provided by their global networks with the autonomy required to respond flexibly to local needs.

Final Thoughts: Meeting the Challenge

Emerging markets loom ever larger in the business strategies of global manufacturing companies. But they are now competing with dynamic companies headquartered in emerging markets, such as Tata Motors in India, CEMEX in Mexico, and Lenovo in China, to name a few. These companies enjoy an intimate knowledge of their local markets. But many have also leveraged their expertise and competitive cost structures to become major players on the global stage as well. While leading manufacturing companies in developed markets have traditionally enjoyed the advantages of strong brands, some emerging market competitors are fast building brand equity as well.

To succeed in developed markets, these emerging market companies have been building or acquiring a deep understanding of U.S., Western European, and Japanese business practices, labor force requirements, and customer needs. The question for manufacturers from developed markets is whether they can be equally nimble as they compete around the world. "Global manufacturers can't simply transplant their home-grown operating approaches and business models into emerging markets," says Rolf Classon, Former Chairman of the Board of Management, Bayer HealthCare. "But this realization is slow in coming for many companies." Deep insight and sensitivity into local conditions, and the ability to adapt quickly to these realities, will be essential to take advantage of the enormous opportunities these markets offer.

Methodology and Respondent Profile

The 2007 study by Deloitte's Global Manufacturing Industry Group of innovation in emerging markets builds on a survey of 446 manufacturing executives from companies headquartered in 31 countries around the world. The survey focused specifically on the operational approaches that manufacturers are using in five important emerging markets: China, India, Southeast Asia, Latin America, and Eastern Europe.

The companies surveyed were headquartered in a variety of regions and represented a range of manufacturing industries (Exhibit 19 and Exhibit 20). The survey also gained insights from executives at companies of a range of sizes as measured by the annual revenues of their parent company, with a substantial representation of large manufacturers. Thirty-six percent of the executives surveyed worked at companies with annual revenues greater than $1 billion, 34 percent at companies with between $100 million and $1 billion in annual revenues, and 30 percent at companies less than $100 million or more in annual revenues.

Additional information was gathered from in-depth interviews with senior executives at eight leading manufacturers, as well as from the experience of Deloitte member firms in assisting manufacturing companies in emerging markets around the world.

Exhibit 19

Headquarters location

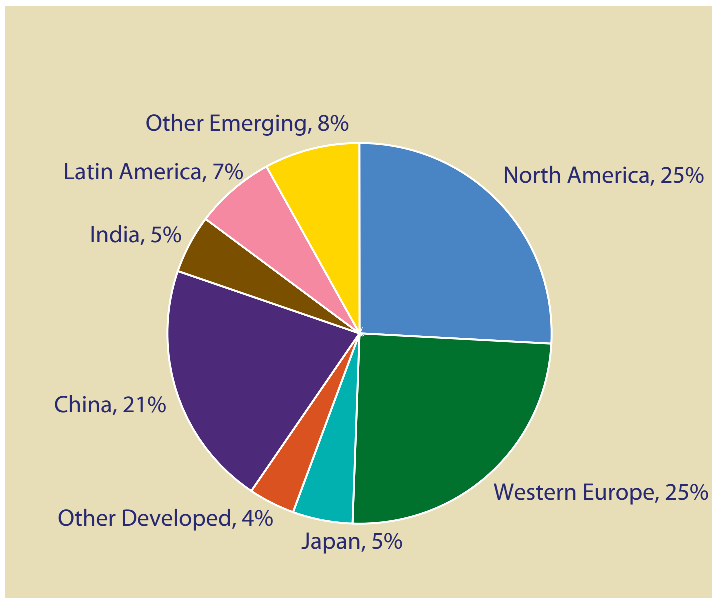
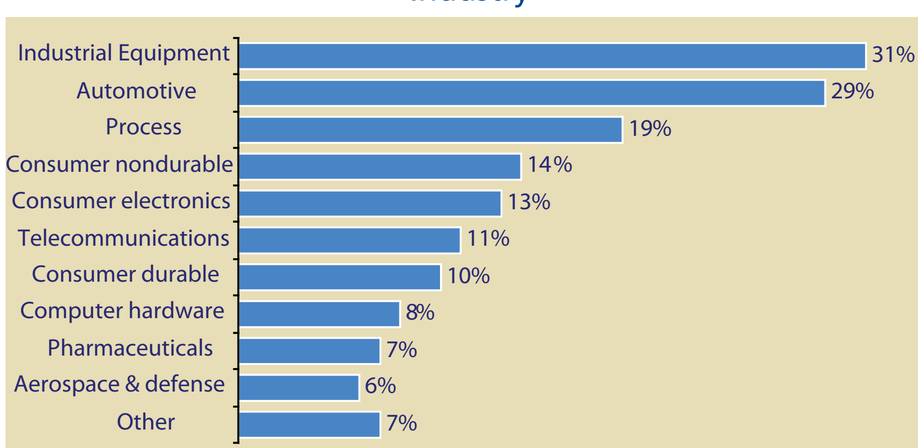


Exhibit 20

Industry



Note: Percentages do not total to 100 since executives could select more than one industry.

End Notes

[1]"The New Titans," *The Economist, September* 16, 2006.

[2]Ibid.

[3]Ibid.

[4]Ibid.

[5]In the survey, executives at companies headquartered in a region were not asked about that region. For example, executives from companies headquartered in China were not asked about their activities in China.

[6]*It's 2008: Do You Know Where Your Talent Is?—Why Acquisition and Retention Strategies Don't Work,* Deloitte Research, 2004; *It's 2008: Do You Know Where Your Talent Is?—Connecting People to What Matters*, Deloitte Research, 2004.

[7]"The New Titans," The Economist, September 16, 2006.

[8]"China Labor Paradox," Manpower Inc., PR Newswire, August 20, 2006.

[9]Thomas Clouse, "Firms in China Faced with Tight Supply of Skilled Labor," Work Force Management, September 11, 2006.

[10]"Thailand: Country Faces Acute Shortage of Engineers, Jetro Says," Thai News Service, October 6, 2006.

[11]Nicholas Timmins, "Employers Suffer Talent Shortages," *Financial Times,* October 24, 2006.

[12]"The Problem with Made in China," *The Economist*, January 13, 2007.

[13]"Czech Labour Costs Growing Almost Fastest in the EU CTK *Business News*, September 15, 2006.

[14]The concept of the Risk Intelligent enterprise is described in the report, *Risk Intelligence in the Age of Global Uncertainty*, Deloitte Development LLC, 2006.

Global Manufacturing Industry Group

Deloitte's Global Manufacturing Industry Group, which is made up of Deloitte member firm manufacturing industry practices, comprises more than 750 Deloitte member firm partners and 12,000 industry professionals in over 45 countries. The group's deep industry knowledge, service line expertise and thought leadership allows them to solve complex business issues with member firm clients in every corner of the globe. Deloitte member firms attract, develop and retain the very best professionals and instill a set of shared values centered on integrity, value to clients, and commitment to each other and strength from diversity. Deloitte member firms provide professional services to more than 85 percent of the manufacturing companies in the Fortune Global 500®. For more information about the Global Manufacturing Industry Group, please visit www.deloitte.com/manufacturing.

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