

Improving Work Conditions in a Global Supply Chain

A comparison of two Mexican factories suggests that global companies should go beyond monitoring codes of conduct and attack the problem of poor working conditions at its source by collaborating with their suppliers to implement new management systems.

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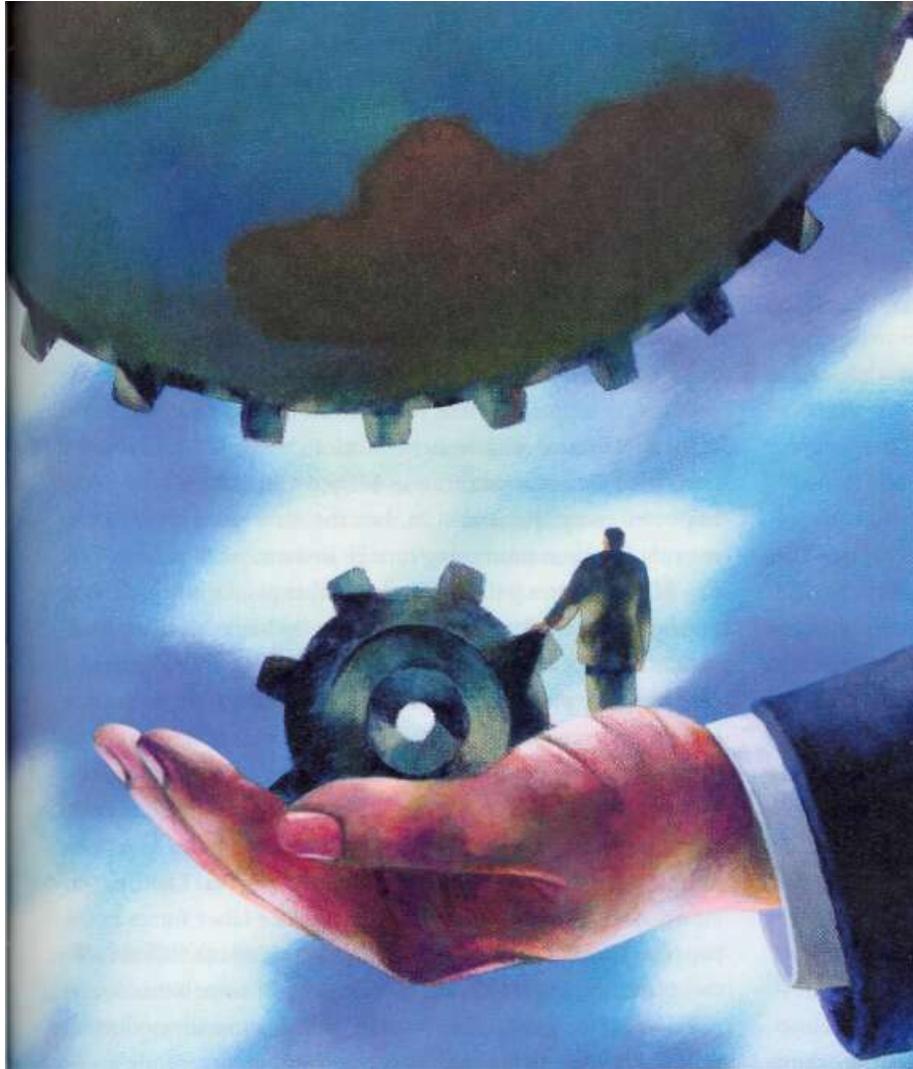


legalization and the diffusion of industry supply chains to developing countries have provoked a fierce debate over how best to improve labor standards in these emerging centers of production. Child labor, hazardous working conditions, excessive working hours and poor wages continue to be a problem at many factories in developing countries, creating scandal and embarrassment for the global brands that source from those factories.¹ Given the limited capacity of many developing-country governments to enforce their own labor laws,² multinational corporations have developed their own "codes of conduct"³ for suppliers, as well as a variety of monitoring mechanisms aimed at enforcing compliance with these codes. Monitoring for compliance with codes of conduct is currently the principal way that both global corporations and labor rights nongovernmental organizations address poor working conditions in global supply chain factories.

Corporate codes of conduct and various efforts aimed at monitoring compliance with these codes have been around for decades. While initially these efforts focused primarily on corporate or supplier compliance with national regulations and laws, over time they have become increasingly concerned with compliance with private, voluntary codes of conduct, especially as they apply to labor and environmental standards.⁴ Information is central to this model of private, voluntary regulation. The underlying assumption is that information collected through factory audits will be used by labor rights NGOs to exert pressure on global brands to reform their sourcing practices and by the brands themselves, which rely on this information to police and pressure their suppliers to improve standards within their factories. Should these factories fail to remediate workplace problems, brands are expected to switch their orders to other producers.

This model of workplace change has provoked debate over not only the particularities of the codes of conduct and compliance efforts but also their relation to other forms of regulation, especially government regulation. Critics of corporate codes of conduct argue that they displace more thorough government and union intervention and are not designed to protect labor rights or improve working conditions but to limit the legal liability of global brands and prevent damage to their reputations.⁵ Others, however, argue that private codes and monitoring are not attempts to undermine the state but rather are appropriately flexible responses to the reality of global production networks and the low capacity of developing-country governments to enforce labor laws and regulations fully.⁶

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How well do corporate monitoring systems measure actual workplace conditions? And how effective is this system of private, voluntary regulation at improving labor standards? To gain more insights into these questions, we conducted a structured comparison of two factories in Mexico that supply the same global brand — NIKE Inc. (See "About the Research," p. 56.) Although these factories had very similar scores on one of Nike's principal monitoring tools, the two factories in some ways had quite different working conditions. One plant paid higher wages, limited workers' overtime and gave them greater discretion over their work on the shop floor, and the other plant paid workers less, worked them longer hours and employed more traditional, hierarchical work systems. Our findings suggest that interventions aimed at reorganizing work and empowering labor on the shop floor in global supply chain factories can lead to significant improvements in working conditions.

Nike and Its Global Supply Chain

Nike is the largest athletic shoe company in the world. Even after the recent merger between Reebok International Ltd. and adidas AG, Nike still controls more than 36% of the U.S. athletic shoe market and more than 33% of the global athletic footwear market.⁷ Although primarily known as a footwear company, Nike

has moved into apparel and sports equipment; in fact, only 70 out of its 830 suppliers produce shoes. In 2004, the company had about \$12.2 billion in revenues, of which \$6.5 billion came from footwear sales and \$3.5 billion from apparel.⁸

In 2004, more than 800 suppliers, employing more than 600,000 workers in 51 countries, manufactured Nike products. Nike has only 24,291 direct employees, the vast majority in the United States.⁹ Over the course of the 1990s, Nike was criticized for sourcing its products in factories and countries where low wages, poor working conditions and human rights problems were rampant. This criticism was fed by a series of scandals and public relations nightmares — involving underpaid workers in Indonesia, child labor in Cambodia and Pakistan, and poor working conditions in China and Vietnam — that combined to tarnish Nike's image. As founder and then-CEO Phil Knight lamented in a May 1998 speech to the National Press Club in Washington, D.C., "The Nike product has become synonymous with slave wages, forced overtime, and arbitrary abuse."¹⁰

At first, Nike managers took a defensive position vis-a-vis labor, environmental and occupational health problems found at their suppliers' plants. Workers at these factories were not Nike employees, so Nike felt no responsibility toward them. By 1992, this hands-off approach changed as the company formulated a code of conduct for its suppliers that required them to observe some basic labor, environmental and health and safety standards. All suppliers are obligated to sign Nike's code of conduct and post it within their factories. To enforce compliance with its code, Nike has conducted numerous trainings with suppliers and has assembled a team of 90 compliance staff, based in 21 countries, to monitor suppliers.¹¹ In addition to these compliance specialists, Nike has about 1,000 production managers working with suppliers. All Nike personnel responsible for either production or compliance receive training in Nike's code of conduct and labor practices and in the company's Safety, Health, Attitudes of Management, People Investment and Environment program.¹²

As well as an initial new source approval process that all potential suppliers of Nike must undergo, all factories that supply Nike are subject to three different types of audits: a basic environmental, safety and health audit, a more in-depth management and working conditions audit, or M-Audit, and periodic inspections by the Fair Labor Association, a leading multistakeholder

initiative that seeks to improve working conditions in the global apparel industry. Nike provided us with data from all three of the above audits, as well as from its Compliance Rating program. We analyzed these data in an earlier phase of our research and found that Nike's suppliers varied tremendously in terms of working conditions and labor rights.¹³ Some factories appear to be almost in complete compliance with Nike's code of conduct while others suffer from endemic problems such as poor wages, excessive work hours or harassment.

A Tale of Two Mexican Factories

The next phase of our research consisted of a series of "matched pair" comparisons of Nike suppliers in various countries. The goal was to compare working conditions in factories that are roughly the same size and age, located in the same country and producing more or less the same product or products. Two of the factories we compared are located in Mexico.

Both of these Mexican factories, which we will refer to as Plant A and Plant B, are subject to the same labor regulations. Both plants interface with the same Nike regional office in Mexico City. In fact, the same compliance specialists audit both factories. Compliance scores for the two plants are almost identical, based on the Nike M-Audit. Out of a possible perfect score of 100 on their most recent M-Audits, Plant A received a score of 87, and Plant B received a score of 86. However, beneath these apparent similarities, different working conditions exist. By systematically comparing the two factories along a number of dimensions, we seek to shed light on the underlying mechanisms generating differences in working

conditions at these two plants. (See "How Workplace Conditions Differ at the Two Plants," p. 59.)

Plant A is located in central Mexico, in Mexico, the state that surrounds Mexico's Federal District and Mexico City. The plant is situated in an industrial park where other garment factories also operate. A Mexican family has owned the group that runs this plant since 1955. The group currently exports 95% of its production to Europe, Asia, North America and South America. Plant B is located in a western Mexican state, 2,000 kilometers from the Nike regional office in Mexico City.¹⁴ This historically has been an agricultural state, but the state government more recently has been promoting foreign investment. Plant B is part of a Taiwanese group that owns three other plants: one in Taiwan, one in the United States and another in the same Mexican state.

Both Plant A and Plant B are part of larger, vertically integrated groups. Both plants manufacture T-shirts for Nike and other brands. Nike sets a 1.4% monthly defect rate ceiling for its contractors and considers both plants to be of high quality. Plant A has a 1% monthly defect rate and Plant B a 0.6% monthly defect rate. Both plants are subject to the same Mexican minimum wage laws, have comparable turnover rates (8%—10% per year) and similar informal, skill-based promotion policies. The labor forces in the two plants are both unionized. However, working conditions in the two plants are quite different in a number of ways: actual wages paid; employee satisfaction; worker participation in production planning; and work hours and overtime.

Wages Both plants pay the same legal minimum wage, but workers at Plant A earn on average a weekly salary that is 21% higher than workers at Plant B. These wage differences are due to different plant-level policies used to calculate worker wages. In Plant A, production workers receive a fixed daily wage of 65 pesos (about US\$5.78 at the time this research was conducted). In addition, individual workers can receive premiums for attendance, punctuality and overtime. At Plant A, workers also receive productivity bonuses once the production group in which they work exceeds 70% of its production targets. Given that the productivity of most groups in Plant A is very high, most workers earn close to, if not the entire, potential bonus. Production workers in Plant A earn an average of about 961 pesos per week (US\$85.50).

Salary in Plant B is also determined through a system that combines hourly wages and a piece rate system. However, in Plant B, productivity bonuses are based on individual rather than team productivity. Weekly salaries in Plant B are the product of fixed daily salaries, productivity bonuses and premiums for attendance and seniority. On average, production workers at Plant B earn 764 pesos per week (US\$68).

Employee Satisfaction Field research in these two factories indicates that workers in Plant A are more satisfied with their work

About the Research

During the spring and summer of 2005, we conducted more than 90 interviews with factory owners, managers, workers, NCO representatives, union leaders and various Nike managers, both in the United States and in Mexico. Factory visits were also conducted in two Mexican states and in Los Angeles, California.

This article is part of a larger project on globalization and labor standards organized by Professor Locke of MIT. In addition to the results presented in this article (some of which appear as well in Monica Romis's "Beneath Corporate Codes of Conduct: What Drives Compliance in Two Mexican Garment Factories," a 2005 master's thesis in the MIT Department of Urban Studies and Planning), the larger project entailed field research in China, Turkey, Europe and the United States, as well as systematic analysis of Nike's factory audits of working conditions in more than 800 factories in 51 countries.

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than workers in Plant B. In Plant A, employees work in teams, operate more than one type of sewing machine and are responsible for routine maintenance of the equipment. Interviews indicated that workers in Plant A appreciate job rotation and value knowing how to perform a variety of operations. In contrast, employees at Plant B work in fixed individual stations, are specialized in narrowly defined jobs and thus perform the same operation over the course of the year. Interviews revealed that workers in Plant B are not motivated to acquire new skills or perform a variety of operations. Instead, they prefer to stick with what they know and do well so that they can earn more through increased productivity. That is consistent with the bonus system in place at Plant B.

Worker Participation in Production Planning Workers in Plant A participate in decisions affecting production targets, scheduling and even operations while workers in Plant B need to follow orders from above and do not have the opportunity to give their input. The relationship between supervisors and workers in Plant A is more collaborative than hierarchical. Field research indicates that Plant A's management is inclined to accept input from the workers and establish mutually agreeable production targets. If workers or supervisors do not agree with a particular sequence of operations, they can suggest changes to the production manager. In other words, workers can suggest alternative ways to perform an operation, rendering it quicker and easier. The opportunity to participate in decisions related to work process has a strong and positive effect on work climate.

In Plant B, production orders are communicated from the top of the plant's hierarchy, and there is no place for worker participation. Operators need to follow the precise instructions that they are given. One of the workers interviewed claimed: "We cannot change or suggest different ways to produce a garment because it is a chain and we need to follow what they tell us."

Work Hours and Overtime Nike, like most global brands, sets a limit of 60 hours as the maximum workweek permitted under its code of conduct. Since Mexican law limits the regular workweek to 48 hours, workers in both plants can work no more than 12 hours of overtime per week. In both plants overtime is paid according to Mexican law. When Plant A needs employees to work extra time, it makes workers aware of it and allows them to

apply for it. Therefore, overtime is voluntary in this factory. At Plant B, forced overtime is the norm. Individual workers do not volunteer to work extra hours; the supervisor chooses who has to stay longer. During interviews, several workers in Plant B reported that they actually work more than 60 hours per week. That was confirmed by the M-Audits performed by Nike compliance staff in 2003 and 2004. (In interviews, workers in both plants reported that they expect to work overtime and look forward to the increase in salary due to the overtime. Working extra hours is one of the ways that production workers can enhance their basic wages.)

Making Sense of Compliance Scores

In short, notwithstanding many apparent similarities, including almost identical scores on their M-Audits, working conditions at Plants A and B are quite different in practice. Given that Plants A and B received almost identical scores on the M-Audit, what do these differences in actual working conditions imply for Nike's code of conduct and compliance program? Detailed examination of the particular audit tool (M-Audit) employed by Nike's compliance officers reveals how two factories with such different labor practices and conditions could appear to be performing at very similar levels of compliance.

Launched in the summer of 2002, the M-Audit is seen by Nike senior compliance officers as the most "rigorous" and "scientific" of the company's audits.¹⁵ It provides a detailed assessment of the labor-management practices and working conditions at the factories. A typical M-Audit takes 48 hours to complete and thus is spread out over several days. Nike's in-house compliance specialists conduct the M-Audit, and inspections are announced beforehand. Each M-Audit reports a numeric score (0-100) that represents a percentage against a perfect compliance score. The M-Audit covers more than 80 items, focused on hiring practices, worker treatment, worker-management communications and compensation.¹⁶

As a result of this scoring system, factories with different types of compliance issues can receive similar overall scores. In this case, the M-Audits identified different issues at these two factories. Plant A suffers from problems of documentation and written communications regarding its nondiscrimination and harassment policies. Plant B, conversely, received perfect scores when it came to record keeping and documentation but suffered from

excessive overtime and reported incidents of verbal abuse, in the form of supervisors yelling at workers. The similar M-Audit scores reported for Plants A and B in fact were measuring very different issues.

The limitations of the audit process that are suggested by the similar M-Audit scores of these two plants are by no means unique to Nike but characterize many factory audits conducted by global brands and NGOs alike.¹⁷ In order to assess many workplace issues accurately, one has to spend a lot of time in the factories. Because of serious time, resource and even knowledge limitations, many factory audits are brief and focus on factory records such as timecards and pay stubs. Some audits include interviews with individual workers, although these usually take place within the factories and thus compromise workers' ability to express themselves freely. As a result of such limitations, the quality of the information received during the audits is often mixed and unable to convey factory conditions in their full complexity — let alone provide guidance about how to address labor standards problems.

However, Nike also uses a second tool, a Compliance Rating grade, to further assess its suppliers. The Compliance Rating program assigns a letter grade (A—D) to all Nike suppliers. The grade reflects all the information collected about a factory from various sources, including periodic health and safety inspections, M-Audits, external Fair Labor Association audits and factory visits by Nike compliance and operational managers. Grades are assigned by local compliance officers and, along with grades for quality, price and on-time delivery, are used by Nike sourcing managers to guide their purchasing decisions. In the CR grading system, Plant A received a B, indicating that it has several minor issues but no serious or critical flaws, but Plant B received a D, indicating that it suffers from one or more serious issues — in this case, excess overtime.

Thus, on one measure, the M-Audit score, conditions at Plants A and B appear to be similar, but on another measure, the Compliance Rating grade, they seem to be significantly different. These apparently contradictory assessments by Nike's own compliance staff are due to the fact that the two tools are measuring different things. The M-Audit, like most factory audits, privileges documentary evidence and company records, while the Compliance Rating grade is a more subjective appraisal of factory management's attitude toward workplace standards.

It is important to keep in mind that with the exception of some cases of excess overtime, Plant B is in compliance with Nike's code of conduct and local labor law, and on certain issues (that is, providing on-site day care) provides benefits that Plant A does not. Plant B managers very much follow the letter of the law and the code. Moreover, Plant A is not without its own issues. Aside from documentation problems, in the past Plant A had supervisors who verbally abused workers. The point of our com-

parison is not to present Plant A as "good" and Plant B as "bad" on all dimensions but rather to illustrate the different approaches to labor standards manifesting at these two plants.

Work Organization: A Key Variable

Plants A and B are not perfectly matched. They are of different sizes, their ownership is of different nationalities, and they dedicate different percentages of their capacity to Nike. Although these differences are important, a key variable appears to be the differing systems of work organization and human resources management the two plants use.

In order to accommodate rapidly shifting consumer tastes, global brands are pushing their suppliers to reduce cycle times, produce varied products in smaller lots and rapidly change production from one style to another. Plant A responded to the challenges presented by global buyers by introducing lean manufacturing processes.¹⁸ Workers are organized in groups of six "islands" or production "cells" in which an entire garment is produced. Each worker performs a variety of operations and works on different machines.

Before making the transition to lean manufacturing, Plant A had been using a modular production system.¹⁹ In order to make the transition, the factory had to conduct extensive training of its work force. All workers received 25 days of on-the-job training, plus 10 hours of off-the-job training in preventive maintenance of their workstations.

Overall, Plant A confirms what the literature on high-performance work organizations suggests.²⁰ The plant's human resources manager indicated that the change from modular to lean production increased efficiency and quality. By switching to lean manufacturing, the factory now produces 2,700 T-shirts per day with 18 production workers, whereas it used to produce 2,400 T-shirts per day using 20 production workers. Quality improved as well. According to the head of operations, defect rates in sewing decreased by 40%. Achieving quality and output targets is considered a collective responsibility at Plant A, in which peer supervision and self-supervision play a large role. The production manager explained that each worker is accountable for quality at his or her workstation.

Through production cells, workers have increased their productivity and their weekly salary. Salary has increased both because the factory raised wages and because workers are now able to get more bonuses by their increase in productivity. This shift to lean production also led to a new work system in which multiskilled workers operate a variety of machines and actively participate in key decisions affecting production and work orders. In other words, through the introduction of lean manufacturing techniques, Plant A not only enhanced its competitiveness but also improved working conditions.

Plant B's response to increased buyer demands was to invest

How Workplace Conditions Differ at the Two Plants

Although Plant A and Plant B had very similar scores on one type of Nike supplier audit, the two workplaces are in some ways quite different.

| Job Attributes | Plant A | Plant B |
|--|----------------------------|--------------------------|
| Average Weekly Wage | US\$85.50/week | US\$68/week |
| Teamwork | Yes | No |
| Job Description | Multiple tasks | Single task |
| Job Rotation | Yes | No |
| Worker Participation in Work-Related Decisions | Yes | No |
| Overtime | Voluntary and within limit | Mandatory and over limit |

heavily in a modular system of production with assembly lines. The overall objective of modular production is to facilitate small shifts in large production runs with minimal delays and without requiring specialized machinery. Modularization is one of the ways mass producers are able to increase efficiencies, cut costs and achieve a modest amount of customization.²¹

Along the lines of Frederick Taylor's famous system of scientific management,²² Plant B closely monitors and controls its workers. In Plant B, production orders are communicated from the top of the plant's hierarchy, and there is no space for worker participation. The plant manager plans the production and distributes the production orders to the area supervisors, who in turn divide up the work among the six lines of workers under their control.

However, it is important not to conflate particular production systems with differences in workplace conditions. Although lean production lends itself to management practices such as increased training and autonomous work teams, there is no automatic link between this system of work organization and better working conditions. Research has shown that companies can and do mix elements of different production techniques with a variety of human resource management policies, generating mixed results.²³

Closer examination of the two Mexican plants reveals the importance of both work organization and employment practices in shaping workplace conditions. In addition to introducing lean manufacturing, Plant A employed certain human resource management policies that provided workers with greater autonomy and power on the shop floor. For example, Plant A invested heavily in the training of its workers (in part to implement lean manufacturing processes effectively) and thus became

wary of mistreating these highly skilled workers for fear that the company would lose its investment in them. Skilled but dissatisfied workers could leave a plant and easily work for a competitor.

Plant B pursued a different approach to managing its work force. Rather than invest in training and encourage worker autonomy, Plant B developed detailed work rules and maintained tight control over the shop floor. Management at Plant B considers workers a cost that needs to be reduced as much as possible. According to the head of operations at Plant B, "It's all about lowering the price of labor and increasing the quantity produced."

Implications for Global Brands

Almost a half-century ago, MIT professor and organizational theorist Douglas McGregor observed in his classic book *The Human Side of Enterprise* that the choices companies make in the way they organize work and manage their work forces are shaped by the assumptions managers hold about workers' motivations. According to McGregor, workers could be seen either as variable costs to be reduced and reluctant contributors to the company's prosperity — thus requiring constant supervision and control — or as assets to be valued and developed, multifaceted individuals who intrinsically are motivated to work and contribute to the organization.²⁴ The choices in work organization and labor practices at Plants A and B reflect these opposing assumptions. At Plant A, management invested in training and empowered employees to work in autonomous cells and take initiative to solve production-related problems. "We want people here to feel important," reported the owners of Plant A during interviews. In contrast, at Plant B, workers are seen as an input to be controlled, a cost to be reduced. When the head of operations at Plant B was asked what would happen if he could not continue to lower labor costs in the factory, he replied, "In that case, we will move back to Asia."

However, choices are shaped not only by previously held assumptions about human nature but also by the context and the networks within which managers operate.²⁵ That was very evident at the two plants, especially in terms of the relationship between plant management and Nike's local staff. At Plant A, relations between factory management and Nike's local staff were collaborative and open. Nike managers visited Plant A about once a month, and the owners of Plant A also frequently visited Nike's Mexico City office. Over time, these visits led to greater

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transparency and trust between Nike and Plant A management as well as joint problem solving. Whenever an issue related to workplace standards arose, Nike compliance specialists and Plant A management worked together to remediate the issue. Moreover, Nike production and quality managers were instrumental in supporting Plant A in its transition to lean manufacturing. Interviews with managers at Plant A indicated that they saw Nike as a partner with which they could collaborate to improve both productivity and working conditions.

The relationship between Nike's regional office and Plant B management is more formal and distant. Plant B receives fewer visits to its facilities, in part because of its geographic distance from Mexico City, and thus much of the communication between the local Nike office and Plant B occurs over the phone or through e-mail. Yet Plant B is also one of Nike's strategic partners. Strategic partners are those suppliers that Nike has designated as tier-1 suppliers. Nike organizes periodic meetings with its strategic partners in order to share with them various strategic directions or opportunities the company is pursuing. Strategic partners, in turn, are supposed to share best practices with one another, thus enhancing the competitiveness of the entire network of tier-1 suppliers. Accordingly, one would expect greater trust and transparency between Plant B and Nike's regional office. However, that is not the case. Management at Plant B sees Nike as a buyer whose requirements and deadlines it must respect in order to receive future orders. Nike's local staff, in turn, views Plant B as a manufacturer that is technically excellent but whose commitment to compliance is weak.

In many ways, the differences in relationships between Nike and the managers at these two plants resemble what two researchers, Stephen J. Frenkel and Duncan Scott, found in a study of adidas and its suppliers in China. In that study, Frenkel and Scott argued that brands develop two distinct types of compliance relationships with their suppliers: a hands-on, cooperative relationship with some suppliers and an arm's-length, more distrustful, "compliance" relationship with others. These differences, according to Frenkel and Scott, can shape not just the style but also the substance of compliance programs within factories.²⁶ Our comparative study of two plants in Mexico appears to support their findings.

Unfortunately, the type of relationship that exists between Plant B and Nike is the more typical of the relationships that

frequently exist between global buyers and their suppliers. Global brands and their suppliers are often locked in a low-trust trap in which suppliers claim that brands are sending them mixed messages, insisting on faster cycle times, better quality and lower prices while at the same time policing and admonishing them for poor working conditions. Brands, in turn, argue that problems associated with both production and labor standards are the result of suppliers' shortsightedness and lack of professionalism. The experience at Plant A shows that there is a way out of this trap. Through increased communication and interaction, more collaborative and transparent relations can be created.²⁷ That process takes time and investment on the part of suppliers and global brands, but it promises to generate benefits for everyone involved, including factory workers.

Interestingly, and partly as a result of our research findings, Nike has begun to shift its compliance strategy toward this more collaborative model. Nike's new "generation 3" compliance strategy acknowledges that policing its suppliers is not enough. Instead, the company is seeking to supplement monitoring with collaborative initiatives aimed at diffusing workplace and human resource management best practices among its suppliers. It has also updated its various audit tools and grading systems in order to make them more accurate and transparent to suppliers and to its own business units. In addition to these efforts to improve and supplement its monitoring systems, Nike has begun an extensive review of the company's own upstream business processes — such as product development, design and commercialization — in order to identify potential drivers of excessive overtime among suppliers. All this suggests that Nike is working on promoting greater integration of its labor compliance initiatives with core business processes.

More generally, our research findings suggest an alternative, complementary model for improving working conditions in global supply chain factories. In contrast to the current emphasis on codes of conduct and monitoring for compliance of these codes, global brands (and perhaps labor rights NGOs, as well) could provide suppliers with technical and organizational assistance so that they can tackle some of the root causes of poor working conditions in their facilities. Perhaps not all suppliers, even with the right incentives and communication, would be willing to collaborate with the global brands on these efforts, but that unwillingness could provide the brands with a justification

to shift orders and consolidate production with those suppliers willing to do so.

This model of introducing new management systems to improve working conditions in some ways parallels the way that issues of occupational health and safety and issues of equal employment opportunity were previously tackled in U.S. workplaces. In both those prior cases, external pressures first led to company-sponsored standards and compliance programs. The limited results of those initial responses encouraged companies eventually to adopt new management systems that elevated and integrated the issues in question into the core operations of the business. Programs aimed at ensuring basic compliance with Occupational Safety and Health Administration and Equal Employment Opportunity Commission standards were replaced with new forms of work organization and human resource management systems that sought to promote not only healthier and more equitable workplaces but also new sources of competitive advantage for companies embracing these policies.²⁸ Improving labor standards in global supply chain factories may require a similar journey.

Technical assistance alone will not be enough to improve working conditions. Some level of monitoring will still need to take place, but perhaps that could be done in collaboration with and increasingly by local unions, NGOs and government authorities that could, in the process, gain capacity and legitimacy to exercise their roles. Combining external pressure from unions, NGOs or government authorities with monitoring systems and technical assistance could result in the more systematic approach required to promote improved labor standards for the millions of workers employed in global supply chain factories. It is time to move beyond merely focusing on codes of conducts and monitoring — so that we can tackle the root causes of poor working conditions in many developing countries.

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13. R.M. Locke, F. Qin and A. Brause, "Does Monitoring Improve Labor Standards?: Lessons From Nike," working paper 4612-06, MIT Sloan School of Management, Cambridge, Massachusetts, July 2006. In this companion paper, we analyzed data from factory audits, conducted between 1998 and 2005, of 800 suppliers located in 51 countries. We found that variation in working conditions among Nike's suppliers is related to country effects (the ability of the labor inspectorate to enforce labor laws and standards in the country in which the factory is located), factory characteristics (the age and size of the factory) and the relationship between Nike and the particular supplier. In addition we found that, notwithstanding Nike's very real interests in improving its image and the company's significant efforts and investments over the last decade to improve working conditions among its suppliers, these efforts have produced mixed results. While working conditions and labor rights have improved among some of Nike's suppliers, conditions have either remained stable or deteriorated among others.

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Christine P. Leamon, Publisher

14. The name of the state will remain anonymous in order to protect the identity of the plant.
15. Based on interviews with several senior compliance managers at Nike world headquarters, August 2005.
16. For more on the M-Audit and its scoring system, see Nike Inc., "FY04," 35-36.
17. Based on Locke's examination of factory audit protocols of several global corporations and multistakeholder initiatives.
18. For a good, general description of lean manufacturing, see J.F. Krafcik, "Triumph of the Lean Production System," *Sloan Management Review* 30, no.1 (fall 1988): 41-52.
19. In 1995, the owners expanded their plant with another building. They adopted a modular production system in the new structure in order to have a more flexible and shorter production cycle. However, in 2003, the owners of the factory attended a meeting with one of their global buyers and heard about lean manufacturing and its application in the footwear sector. They became interested and learned more about it. The following year, they decided to implement this new system in their plant. For more on the different systems of production in the apparel industry, see F.H. Abernathy, J.T. Dunlop, J.H. Hammond and D.Weil, "A Stitch in Time: Lean Retailing and the Transformation of Manufacturing—Lessons From the Apparel and Textile Industries" (New York: Oxford University Press, 1999); and J.T. Dunlop and D.Weil, "Diffusion and Performance of Modular Production in the U.S. Apparel Industry," *Industrial Relations* 35, no. 3 (July 1996): 334-355.
20. C. Ichniowski, T.A. Kochan, D.I. Levine, C.A. Olson and G. Strauss, "What Works At Work: Overview and Assessment," *Industrial Relations* 35, no. 3 (July 1996): 299-333; and P. Osterman, "How Common Is Workplace Transformation and Who Adopts It?," *Industrial and Labor Relations Review* 47, no. 2 (January 1994): 173-188.
21. For more on this system, see J. Knauss, "Modular Mass Production: High Performance On the Low Road," *Politics & Society* 26, no. 2 (June 1998): 273-296.
22. F.W. Taylor, "The Principles of Scientific Management" (1911; repr., New York: W.W. Norton & Company, 1967).
23. For more on this, see J.P. MacDuffie and J.F. Krafcik, "Integrating Technology and Human Resources For High-Performance Manufacturing: Evidence From the International Auto Industry," chap. 13 in "Transforming Organizations," ed. T.A. Kochan and M. Useem (New York: Oxford University Press, 1992); and Knauss, "Modular Mass Production."
24. D.M. McGregor, "The Human Side of Enterprise" (New York: McGraw-Hill, 1960).
25. M.S. Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78, no. 6 (1973): 1360-1380; and R.M. Locke, "Remaking the Italian Economy" (Ithaca, New York: Cornell University Press, 1995).
26. S.J. Frenkel and D. Scott, "Compliance, Collaboration and Codes of Labor Practice: The Adidas Connection," *California Management Review* 45, no.1 (2002): 29-49.
27. For more on how trustlike relations are built, not inherited, see R.M. Locke, "Building Trust" (paper presented at Annual Meeting of the American Political Science Association, San Francisco, September 1, 2001).
28. For more on the evolution of these practices, see F. Dobbin and J.R. Sutton, "The Strength of a Weak State: The Rights Revolution and the Rise of Human Resources Management Divisions," *American Journal of Sociology* 104, no. 2 (September 1998): 441-476; and D. Weil, "If OSHA Is So Bad, Why Is Compliance So Good?" *RAND Journal of Economics* 27, no. 3 (autumn 1996): 618-640.

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