



The young investment banker sat down opposite Bill Harman.

“Do you want to see the factory?” Harman asked.

“Not particularly.”

“How will you know what the company’s worth?”

“It’s all just paper, Mr. Harman.”

Harman looked through the reinforced glass wall of his office to the factory floor below. They were starting back up after the lunch break.

“So you’re offering me \$250 million.”

“That’s right, Mr. Harman.”

“What’s going to happen to my company?”

“We’ll keep the distribution network, and do the manufacturing overseas. We might keep some design work in North America.”

“Labor arbitrage,” said Harman.

“That’s right,” said the banker.

“But labor is a small part of the total cost. What about the time on the water? What about the benefit of having a local supplier who knows your business and who’ll work with you?”

“Mr. Harman, if that’s true,” said the banker, “then why aren’t you making any money?”

Chapter 1

Getting Started

It was early Monday morning. John Karras, president and chief operating officer of Atlas Industries, was watching a changeover at the new Shultz stacking machine when his cell phone began buzzing. It was Bill Harman, Atlas' owner and CEO. Bill was semiretired; his main interests were philanthropy, racehorses, and his seven grandchildren. Karras ran the business; Harman checked in weekly. But Harman was always looking for opportunities. He had the business in his blood. "Karras! Guess who I played golf with this weekend?"

"Tiger Woods?"

"Nah, Jack Henderson. And guess what? They want us back—preferred supplier, air quality systems! What do you think of that?"

Henderson Controls was one of the country's biggest manufacturers of heating, ventilation, and air conditioning (HVAC) systems. They supplied the residential, commercial, and industrial sectors. When Henderson Controls dropped Atlas five years ago—for a low-cost overseas producer—it had triggered the crisis that eventually brought Karras to the company.

"That's great, Bill," said Karras. "Does Jack understand we're not in the commodity business anymore?"

"Yes, he does," said Harman. "He says he's impressed with what we've achieved. He wants to collaborate on UV air treatment systems and whole-house humidifiers. That means a long-term partnership and decent margins."

"Hallelujah!" Karras exclaimed.

“Absolutely,” Harman added. “Indoor air quality has been a big problem for them—the mold-spore issue, kids’ allergies, and so on. It’s cost them a bundle—rework, lost business, and a few lawsuits, too. Low-cost suppliers can make basic coils and condensers, but can they work with you to provide healthier air? Can they help improve the entire system? Doesn’t sound like it.”

“Labor cost isn’t everything,” said Karras. “Henderson is learning that. This is a great opportunity, Bill. *Speed—Cost—Innovation!*”

“You were prescient, John, a regular Greek oracle.”

Harman was proud of all that Atlas had achieved over the past five years. They enjoyed double-digit growth in revenue and EBIT¹. They were no longer a supplier of commodities like evaporator coils and condensers. Now they worked with customers to improve the entire HVAC system, giving people the gift of healthy and comfortable air.

Losing the Henderson account years ago had triggered a personal crisis for Harman. He’d almost sold the company. “Who am I? What do I believe in?” he had asked himself. In Karras he recognized a kindred spirit, someone who had asked those same questions, and an exceptionally capable leader. Harman still remembered how he offered Karras the job of president and COO. Had it really been five years?



“A Chicago holding company has offered to buy Atlas Industries,” Harman said. “\$250 million. My children want me to sell. But my grandfather started this company, and it’s been my whole life. I’m already rich. What am I going to do—play golf all day? And if I sell, what’ll happen to our people? I’ll tell you. Half of them will lose their jobs because the holding company is going to move production offshore.”

1. Earnings before interest and taxes.

“Maybe someday I *will* sell,” Harman continued. “But it’ll be to a local owner or maybe to an ESOP²—someone who will keep the jobs in the community. One last thing: I don’t want this place to lose money. I want this place to *make* money—for me, for my grandkids, for everyone involved. I’m tired of playing defense. Let’s turn this around.”

Harman looked at Karras closely. “Are you in?”

“Why not,” answered Karras.

And that’s where our story begins.

Welcome to Atlas Industries—Five Years Ago

Atlas Industries manufactured evaporator coils, condensers, and heat exchangers for the residential and light industrial HVAC³ markets. The company sold custom coils directly to OEM⁴ HVAC manufacturers, and standard coils to wholesalers, which in turn sold to dealers and installers. There was a single, 500,000-square-foot manufacturing plant collocated with head office, several warehouses, and distribution centers. Annual revenue was about \$250 million; EBIT was less than 2%. Atlas employed about 800 team members; about 650 were hourly, the rest were salaried. Atlas was the biggest employer in the county and had a long history of community service.

Atlas was caught between a proverbial rock and a hard place—price competition from global producers and cost spikes in aluminum, copper, steel, and other raw materials. Atlas’ core products were becoming commodities. Overseas competitors were proving adept at manufacturing the six or eight core designs that comprised the bulk of the residential business. OEMs demanded annual cost-downs and used aggressive tactics like internet auctions to intensify the pressure on suppliers. Wholesalers were less price-conscious and open to custom design, but demanded quality and quick response.

2. Employee stock ownership plan.

3. Heating, ventilation, and air conditioning.

4. Original equipment manufacturer.

The HVAC market was hungry for innovation. Mold spores and other bioallergens were degrading indoor air quality and, in some cases, property values and human health. Efficiency was another important market driver. Innovative coil geometries could both improve heat-transfer efficiency and reduce the condensation that encouraged mold growth. But Atlas Industries had difficulty launching interesting and profitable new products; the sales force had little to get excited about.

In the Atlas factory, there were nagging machine availability issues. Stacking, brazing, and endforming machines; braze ovens; and leak testers broke down frequently. Changing over from one product to another could take hours. The manufacturing team ran large batches, *just in case*. Scrap was another sore spot. Wrong and missing parts and labels, system damage, leaks, and other defects kept recurring. They also kept running out of parts, though there were parts all over the place. Morale, once a strong point, was deteriorating; absenteeism and employee turnover were increasing.

The tools of lean production—aka the Toyota Production System—had been implemented in the factory with some success. Current- and future-state value-stream maps⁵ had been developed for the residential evaporator-coil value stream—and everyone agreed that mapping was a useful exercise. Visual management and a 5S system⁶ had been implemented, which had improved safety and housekeeping.

Kaizen events—also known as rapid improvement events—were held every few months. Some previously isolated processes were now grouped in U-shaped cells with some semblance of continuous flow.⁷

5. A diagram or map for identifying every step involved in the material and information flows needed to bring a product from order to delivery. For a detailed description of value-stream mapping, see: Mike Rother and John Shook, *Learning to See* (Cambridge, MA, Lean Enterprise Institute, 1999).

6. 5S is a system of workplace organization and standardization. The five components of 5S are sort, set in order, shine, standardize, and sustain.

7. Producing or moving one item at a time (or a small batch of items) through a series of processing steps as continuously as possible. See: Mike Rother and Rick Harris, *Creating Continuous Flow* (Cambridge, MA, Lean Enterprise Institute, 2001).

Standardized work had been developed in the final assembly department, and team members were trained. Rudimentary pull systems⁸ between the factory supermarket and production cells also had been piloted with modest success. People had begun to experience the power of flow, pull, and standardization.

But the lean tools had been hard to *sustain*: Instability crept in. Machines broke down. There were part shortages. Team members did workarounds. Inventory mushroomed. Atlas was meeting customer delivery targets—but only by running continuous Saturday overtime and expediting shipments. “We’re getting things done,” thought Harman. “But are we getting the *right* things done?”

In summary, lean tools and serial kaizen events had resulted in spot improvements but no sustained breakthrough. The most important value streams hadn’t really changed. Something was missing: a way of focusing and aligning the efforts of good people, and a delivery system, something that would direct the tools to the right places.

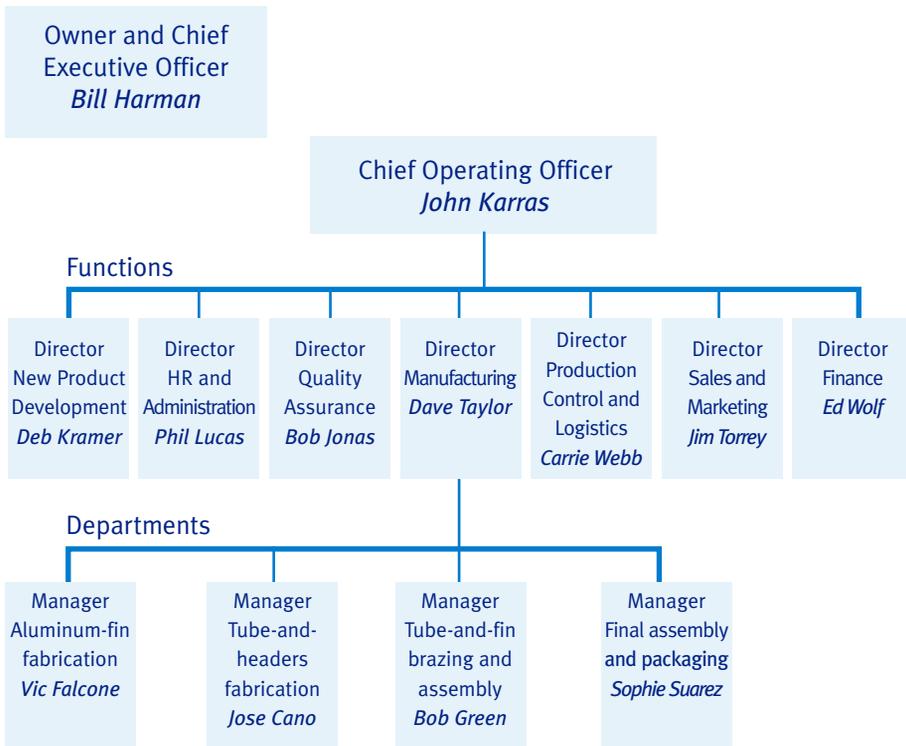
Atlas had a new president and COO in Karras, formerly general manager of a Toyota supplier. Function heads, called “directors” at Atlas, were accustomed to Harman’s hands-off approach. For a month or so, it was business as usual. Karras sat in on management meetings in each functional area, and spent a lot of time on the shop floor. Then he called a management team meeting, saying, “Please show me this year’s strategies and your current condition.”

Almost all the directors were smart, hard-working, and ambitious. But they were neither aligned nor focused; they were good people working in silos. The Atlas strategic planning process was, in effect, a budget development process. Directors understood this and jockeyed for funds whether or not they needed them. Atlas Industries’ annual strategy was,

8. A method of production control in which downstream activities signal their needs to upstream activities. For detailed descriptions of pull systems, see: Art Smalley, *Creating Level Pull* (Cambridge, MA, Lean Enterprise Institute, 2004), and Rick Harris et al, *Making Materials Flow* (Cambridge, MA, Lean Enterprise Institute, 2003).

in effect, whatever they spent money on. The management team was acutely aware of the company's problems. Nobody, except for Harman and Karras, knew about the holding company's offer to buy.

Atlas Industries

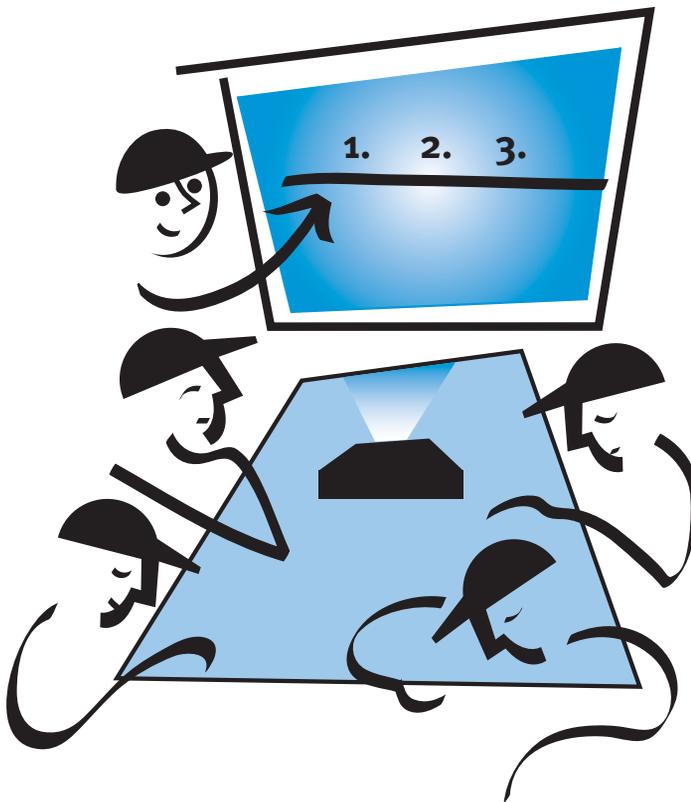


So there they all sat in the boardroom: oak paneling, fruit, pastries, and coffee. Karras sat up front with Harman and watched as Deb Kramer, director of New Product Development (NPD) got up and made her presentation: PowerPoint® slides and plenty of them. She went on about their new process and how it would improve lead time and manufacturability.

Then Phil Lucas, director of HR and Administration, got up and fired up his PowerPoint® presentation. More chart junk and PowerPoint® fluff. He talked about new OSHA regulations and the new international health and safety system standard. Bob Jonas, director of Quality Assurance (QA), got up next and showed a bunch of slides about international quality system standards and QA's auditing strategy.

And that's when Karras got up, walked over to the projector, and turned it off. "Let's just talk about our business," he said.

PowerPoint® Fluff



Less Is More

This simple aphorism, attributed to Robert Browning, applies in manufacturing, sports, and the arts. The fewer moving parts, the better the engine—or golf swing. Clear, simple sentences are the best ones.

Complexity reflects a primitive state; simplicity marks the end of a process of refining.

Winston Churchill said that to deliver a two-hour speech he needed 10 minutes of preparation, but to speak for 10 minutes he needed two hours of preparation.

Silence—*What's this guy up to?* The directors looked over at Harman—nothing. Karras spoke plainly. “Low-cost global producers are eating our lunch—and the bag it came in. We’ve just lost Henderson Controls, our biggest account. We’ve become a commodity supplier, which means more losses are in the pipeline. And yet, we have no *focus*, and we are not *aligned*.”

The directors looked at one another. This guy didn’t waste any time.

“We’re also plagued by *unstable processes*. We make a lot of junk; our machines keep breaking down. We meet our delivery schedules only by running continuous overtime and expediting shipments. Our factory and supply chain are swimming in inventory—yet we keep running out of parts. Process instability may be an even *bigger* problem outside of manufacturing. Why does it take so long to get a new product to market? How capable is our training and development process? Why the turnover, especially in critical positions?

“None of the dots are connected,” Karras continued. “NPD, HR, and QA are inextricably linked, yet there’s no mention of shared goals and activities. I don’t mean to pick on anyone. I’m sure the problems span all functions. Another thing: No more PowerPoint® fluff. Your strategies should be clear, simple stories on one page. If you can’t tell your story on one page, you probably don’t understand it. Less is more.”

Karras continued: “We’re going to learn and apply a powerful planning and execution system. It’s called ‘hoshin kanri.’ I know that’s a mysterious term, so I

just call it ‘strategy deployment.’ It saved my last company. We’re going to focus and align our activities around our business need. We’re going to extend lean thinking across the enterprise.”

The body language around the room was mixed. Some directors seemed relaxed. Maybe this guy would turn out all right. Others sat poker-faced, with their arms crossed.

Harman had the final word. “As you may have gathered, Mr. Karras is a straight shooter. We’ve been kidding ourselves for too long. I’m sick of it, and I’m sick of losing. Let’s get going.”

In the ensuing months, Karras taught the management team the components of strategy deployment:

- ⊙ Agreement on the organization’s strategic and philosophical “*True North*.”
- ⊙ *Plan-Do-Check-Adjust*—the scientific method.
- ⊙ The *management process* comprising the micro, annual, and macro Plan-Do-Check-Adjust cycles.
- ⊙ *Catchball*—the process of gaining alignment by having frank conversations about what’s important with your colleagues and team members.
- ⊙ *Deployment leader concept*—the metaphor that dissolves silos and opens the door to cross-functionality.
- ⊙ *A3 thinking*—the storytelling approach to planning and execution.

Karras had fun with language: “The veracity of an answer is inversely proportional to its length!” Candor and good humor were the essence of his style, together with an underlying consideration for people. He began to earn their trust.

Focus of This Book

This book illustrates how one might implement strategy deployment in an enterprise with one facility. In later chapters, the focus and zoom will be on Manufacturing, the biggest department. You can also zoom out to encompass an enterprise with multiple facilities or the value stream of customers and suppliers external to your enterprise. Regardless of scope, structure your implementation around the Plan-Do-Check-Adjust cycle.

Atlas Industries Manufacturing Processes and Structure

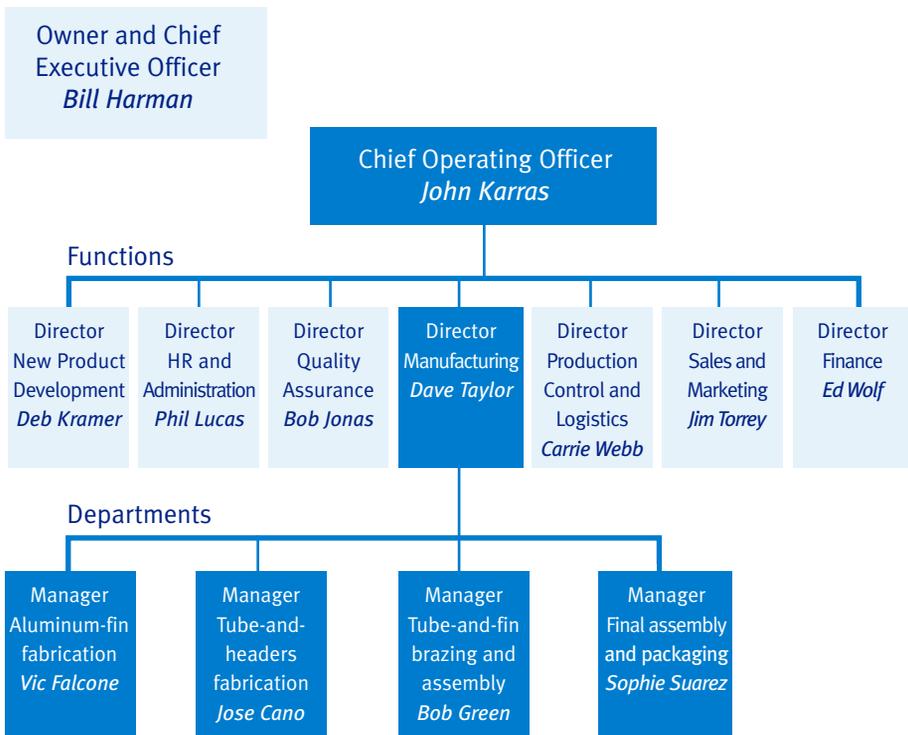
Atlas Industries manufacturing processes comprise:⁹

- ⊙ *Aluminum-fin fabrication*: Thin aluminum strips (fins) are cut, punched, and roll-formed. Fins maximize the surface area available for heating and cooling. Fin-fabrication machines, like stackers, are large, prone to breakdowns, and entail long changeovers. Common quality problems include leaks and damage to fins.
- ⊙ *Tube-and-header fabrication*: Headers made of aluminum, copper, and occasionally steel are cut, formed, and brazed. Headers direct refrigerant in and out of coils and condensers through tubes and hoses. Tubing, usually copper or aluminum, is cut, bent, and brazed. Brazing can be manual or automatic (e.g., rotary tables or oven brazing of headers).
- ⊙ *Tube-and-fin brazing and assembly*: Components are assembled into a finished coil using some type of structural frame (called an “A” frame in residential applications, due to its shape). Atlas uses both brazing and welding for this purpose. Leak testing, a critical quality control step, is often a bottleneck. Both air/water and “sniffer” leak testers are temperamental and prone to breakdown.
- ⊙ *Final assembly and packaging*: Finished coils are fitted with fasteners, drain plugs, and other hardware. Final assembly also entails labeling and packaging,

9. If you're not a manufacturer, don't be concerned with understanding the processes; focus on the strategy deployment principles, which apply across businesses and industries.

both critical to quality. The wrong label can mean a suction hose on the left side—when you need it on the right side. Packaging protects aluminum fins from damage and prevents this common quality problem. Other quality problems in final assembly include leaks and wrong or missing parts and labels.

Atlas Industries – Manufacturing





The Big Questions

Describe your company's planning and execution system.

What are its strong points?

What are its weak points?

How would you improve the system?

Describe your company's improvement activities
(lean or otherwise) over the past five years.

What worked, and why did it work?

What didn't work, and why not?

What would you do differently?