FROM SOURCE TO SOLD
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STORIES OF LEADERSHIP IN SUPPLY CHAIN

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“As a CEO, you must project optimism. This means keeping yourself in a good mood and, most importantly, raising the spirits of your team and keeping morale up after a disappointment.”

Yossi Sheffi is the director of the MIT Center for Transportation & Logistics (MIT CTL) and director and founder of the institution’s Master of Engineering in Logistics program. Under his leadership the MIT CTL has launched many educational, research, and industry/government outreach programs, and he also spearheaded an international expansion of the Center to Spain, Latin America, China, Malaysia and Luxembourg. Outside of academia he has founded or co-founded five successful logistics companies and authored six books, the latest of which, *A Shot in the Arm: How Science, Engineering, and Supply Chains Converged to Vaccinate the World*, was published in October 2021.

Over several decades of teaching at the Massachusetts Institute of Technology (MIT), Yossi Sheffi has routinely been asked by students how he seems to have remained unfazed when things went wrong for him in the business world — especially while he was steering one of the companies he founded and subsequently sold through the depths of the dot-com crash. For Sheffi — who served in the Israeli Air Force for five years and has travelled the world extensively, including visits to many developing countries — the reason is simple. “When you live in a free society where there is little danger of hunger or violence, struggles and even failures in business are just experiences and never a calamity,” he observes.
Sheffi’s illustrious career has seen him serve as the director of the MIT Center for Transportation and Logistics since 1992, author hundreds of scientific papers and six award-winning books, and found or co-founded five companies — one of which, the third-party logistics start-up Logi-Corp, reached $600 million in revenues before it was acquired by Ryder System in 1994. Explaining why he has continued to shuttle between lecture halls and board meetings, Sheffi says that “I have been able to translate the latest research available in the industry into technology solutions, and, at the same time, bring industry examples to my students through case studies from my own experience.”

Only a few years into his academic career, Sheffi began looking for ways to apply his work in the real world. “After several years of studying and researching urban transportation planning, I wrote my first book, Urban Transportation Networks: Equilibrium Analysis with Mathematical Programming Methods. But at this point in my career, I already realized that implementing innovations in the public sector was not happening easily. My best ideas ended up in scientific papers and books, but I wanted to see them implemented.

“So I ended up using the network theory and algorithms developed as part of my urban network research to optimize trucking networks. This work became the foundation for my first start-up, Princeton Transportation Consulting Group (PTCG), which I founded with three colleagues in 1987,” and which went on to develop software-based decision support systems for the trucking industry and, later, for manufacturers and retailers as well. After a turbulent initial period, Sheffi took over as chief executive of the company in 1993. Three years later, he sold PTCG to Sabre Holdings, a part of AMR, which is owned by American Airlines.

It was here that Sheffi had a first, painful lesson in the realities of mergers and acquisitions. Sabre took PTCG, a relatively small entrepreneurial firm, and tried fitting it into its idea of a bigger, more established corporation. Employees who had no titles before were immediately divided into five ranks. The size of each cubicle had to reflect the rank of the
employee, as did the allocation of parking spaces and the ability to get free flights on American Airlines. This imposing of classifications, ranks and benefits had disastrous consequences. It demoralized employees, fractured the company's collaborative culture, and resulted in PTCG transforming from a profit-accruing to a loss-making entity.

Incensed with what had happened with the company, Sheffi bought PTCG back, intending to turn its fortunes around. “I knew the people and knew what went into the various software algorithms behind our solutions. And I knew the people were solid and that they believed in me,” he recalls. “I had a good VC backup, and I quickly bought another local company and merged the two. That helped the culture because the other company was also a start-up, giving us an infusion of several great people.”

Sheffi asserts that acquisitions work well when the acquired company keeps its culture intact rather than being pushed quickly toward complete integration within the parent company. This is particularly true when the acquiring company is traditional and the acquired is small and entrepreneurial. Such integrations take a long time if they are to be done well, as they are tricky to execute.

When it came time to sell his next company, LogiCorp, to Ryder, Sheffi and his partner insisted on setting the terms by which the firm would be incorporated into the transportation giant. "The going-in position was, 'Don't Ryderize this company.' And they left it alone for a long time. Now, what used to be LogiCorp is a multibillion dollar part of Ryder,” says Sheffi with satisfaction.

**BEING AN IMPACT CEO**

In Sheffi’s view, the fundamental prerequisite to being a CEO is understanding the business and what makes it work. Chief supply chain officers are naturals for the role of a CEO, because they understand the entire operation. That said, Sheffi cautions against CSCOs
banking solely on their supply chain experience. “Successful moves into the CEO position require understanding the other parts of the business [as well], from innovation and R&D to marketing and sales,” he advises.

The most important characteristic of any leader at any level, however, is the ability to hire great people and motivate them to do their best. “There’s nothing more important than hiring and developing people — ones that are even better than yourself,” Sheffi says. “Leaders understand that their success is based on the success of the team around them.”

Furthermore, leaders understand that the difference between good and excellent people is very large. “For example, the gap between the performance of an excellent software engineer and a good one is not times-two — it is times-ten, and it takes some time for companies to recognize this. I have sat on the advisory boards of several companies, and I see managers and even CEOs in trouble all the time [because of this]. They hire too fast, without due diligence, and end up losing time and resources while doing it.”

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While being a leader can be relatively easy going when conditions are favorable, the true test of a CEO’s fortitude is when the going gets tough — a crucible that Sheffi had to endure during the dot-com crash. “When the tech bubble burst, I had to let go of almost half the people I hired. And those people have families. This got to me, and I could not sleep well for several weeks. But when the morale is low, it is up to the CEO to show confidence and push through.” This is especially true for small companies, in which peaks and valleys are the norm. “As a CEO, you must project optimism. This means keeping yourself in a good mood and, most importantly,
raising the spirits of your team and keeping morale up after a dis-
appointment,” Sheffi observes.

Conversely, of course, it’s equally essential to morale to celebrate
successes, which Sheffi did with his team every time they landed
a big client. He recalls how, in one of his companies, employees
displayed scientific papers on the walls whose authors “[could not]
solve the type of mathematical optimization problems that the
company was solving routinely. We wanted to build the pride of the
organization in what we were doing. We also encouraged people
to get involved in the universities nearby, giving lectures and also
writing scientific papers. The idea was not to be a gladiator of
mathematical solutions, but to make a big deal out of scientific
successes, which helps keep the team motivated.”

Speaking to the question of raising capital for start-ups, Sheffi
observes that “There’s always a problem of when to take money
and how much to take. The general rule of thumb is to take it before
you absolutely need it. You shouldn’t be pushed to a corner where
you’re negotiating with a VC when the business is about to go under.

“One of the mistakes I made with one of the companies was taking
too much money too early. The problem was not giving up equity:
the main problem is that people developed bad habits and were not
watching the pennies. They start acting as if they are employed by
a big and rich company, rather than being committed to success.”

Sheffi observes that it is typical for companies to act too late once
things go bad. “I have made that mistake too. In the case of things
going wrong, and the company starts burning cash with no end
in sight, act decisively. Waiting for the situation to improve on its
own rarely works.

“And if you’re an entrepreneur building a business, don’t even think
of having a work-life balance,” Sheffi adds. “If you’re launching a
start-up, you will work harder than you ever did, so you better do
something you are very passionate about. If you have a family, make sure they are on board for several tough years.”

**BEING A SUPPLY CHAIN TORCHBEARER**

“In my opinion, supply chain thinking should be everywhere,” Sheffi declares. “Every process, invention, or service contains a series of processes and activities. In that sense, supply chain thinking is fundamental to the delivery of any product, service, innovation, university lecture, whatever.

“Naturally, though, some supply chains are significantly more complex than others,” he adds. As an example, he points to automotive supply chains, which are a combination of multiple supply chains that are spun off for the different products and components needed to build a vehicle. The auto industry comprises technology supply chains alongside supply chains for commodities like metal, plastic, and thousands of parts, each of which spins off a complex supply chain of its own. “The supply chains of contract manufacturers like Flex or Jabil are even more complex, due to the variety of products they build and industries they serve,” Sheffi observes.

“What I find fascinating is that supply chains combine multiple elements — processes, technologies, relationships, innovations — all managed by people all over the globe with different backgrounds, cultures, and subject to various legal and societal regimes. And it all works like an orchestra without a single conductor. In some sense, the reason that it all works — what GM used to call ‘the daily miracle’ — is a testament to the human spirit and ingenuity.”

Given that high-flown endorsement, Sheffi is gratified to note that interest in joining the supply chain community has been on the rise following a long period of decline — due not only to the unglamorous associations that the supply chain had for so many, but a dearth of training programs that could prepare people for a career
in the field. Sheffi attests that MIT recognized this problem in the late 1990s, when its Center for Transportation & Logistics could only graduate forty students a year from its master’s program.

In response, says Sheffi, “we decided to open centers around the world to graduate more students.” This initiative resulted in the establishment of satellite campuses in Colombia, Spain, Luxembourg, Malaysia, and China, which helped MIT propel many more graduates into the field. Even this, however, was not enough to fulfill the worldwide need for more supply chain talent, which led the center to launch an online MicroMaster program of five online courses with comprehensive exams.

“The program attracted over 480,000 learners, surpassing all expectations,” Sheffi recalls. “The students receive a certificate, and the top one can attend MIT and get a full master’s degree in a single semester. Twenty-one other universities have recognized the MicroMaster certificate in supply chain management from MIT, and allow students to graduate in a short time. Online courses from institutions like MIT serve as a gateway for elite education, reaching a large number of people who could not enroll physically on campus.

The demand for online supply chain courses represents a sea change in the industry, opening avenues for bright minds to move up the ladder. And, with more people from more diverse backgrounds now engaged in supply chains, and the increasing emphasis on supply chain operations, there are more opportunities for CSCOs to move to the helm of the companies they work in.

THE QUALITIES THAT MAKE A CEO

“There is no secret sauce to becoming a CEO,” Sheffi says. “A CSCO should be obviously successful at the position. The CSCO
should make sure that they get the attention of the board. The board should know you, and you must make sure you have a good interaction with the members. While you may or may not be the next CEO of your own company, board members serve on other boards and can open other opportunities.

“Speaking their language is key,” he continues. “A good CSCO will tie supply chain metrics to the financial and Wall Street metrics that the board is concerned about. Linking inventory turns and procurement policies to stock prices will show the board the impact of supply chain practices on the corporation.”

Sheffi also notes the need for lifelong learning at every position, calling it a “survival mechanism” in an environment where there is a constant need to keep improving skills and expertise for fear of becoming irrelevant. “Last year, I took time to learn Python because my students were using it, and I did not understand what they were doing. And that was frightening. Reinventing yourself is critical, whether you’re in technology, marketing, or business,” he asserts. In the supply chain world, part of learning is to connect with industry thought leaders, attend conferences, and listen to people, as well as taking advantage of the voluminous amount of material that is available online (which, Sheffi contends, makes gaining knowledge far easier today than it was a decade ago).

The reason why such learning is particularly crucial for supply chain professionals, Sheffi insists, is that “supply chain adds fundamental value. It affects both revenue and cost, while many other functions are supporting actors to the provision of real value. Good supply chain practitioners have to understand feedback loops, non-linear behavior, risk and uncertainty, as well as advanced technology.”

At the same time, Sheffi adds, “supply chain management involves people and relationships. Thus, understanding global attitudes and
practices is important — and fascinating. Gaining this perspective helps a supply chain officer to become more of a ‘people person,’ which will ultimately help them in every facet of their career — be it with their current jobs, or while searching for their next one.”
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