



OIDD-380

Operations Strategy Practicum

Fall 2017

(Revised 8-04-2017)

Locations: Scheduled sessions at Wharton and during Winter Break in Israel.

Dates: Winter Break January 2018 + Wharton Sessions (Tuesday at noon on selected dates)

Credit: 1.0 Credit Unit

Course Instructor

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TBD

Course Overview and Learning Goals

This course focuses on the management of operations at manufacturing and service facilities located in Israel that are used either by domestic corporations or by multinational companies. The emphasis is on the evolving patterns of operations strategies adopted by firms for producing products, sourcing manufacturing, distributing products, delivering services and managing product design, as well as on programs for enhancing quality, productivity and flexibility and managing technology. We will focus on the formulation and execution of such strategies for established Israeli multinationals with world class operations and innovative strategies as well as start-ups and smaller companies that are scaling their global supply chain infrastructure to support growth. The course will consist of a set of site visits that will provide the opportunity to observe company processes directly and in-class sessions which include lectures, case discussions and management speakers who will describe their companies' current strategy.

The course is an undergraduate version of OIDD 680, “Operations Strategy Practicum” which has been offered for several years to MBA students participating in the Semester in San Francisco, who visit companies in the Bay area, Seattle, San Diego and Tijuana Mexico. The 680 course is also offered in the Philadelphia campus, with visits to companies in Germany, the Netherlands and the Philadelphia area.

The course has the following objectives:

- Provide students with an opportunity to interact with senior executives from the companies to be visited.
- Explore current thinking and state-of-the-art practices concerning their global operations.
- Facilitate experiential learning by providing students with the opportunity to observe company operations in action under the guidance of company management. These interactions will facilitate an exchange of ideas that identify managerial challenges and concerns. They will also highlight current practices and intentions of participating companies.
- Introduce various models and frameworks that have been developed in the economics, public policy, operations and management literatures for developing strategies for global supply chain sourcing, technology management, innovation and process improvement.
- Consider how technology developments are impacting current operations strategy (e.g. automation, E-commerce, Internet of Things).

The course also provides an opportunity for students to explore cultural and historical attractions available in Israel. Both Wharton and non-Wharton undergraduate students can participate.

The companies to be visited will cover a range of manufacturing and service industries where global sourcing, productivity and coordination are key issues.

Visits to the following companies are confirmed:

- Netafim
- Teva
- ISCAR
- Keter Plastic
- Israel Aerospace
- Payoneer
- Our Crowd
- SodaStream
- Airobotics
- Straus / Elite

Course Organization and Requirements

The course will include an intense week of company visits in Israel during the winter break (December 31, 2017 – January 7, 2018) along with eight class sessions at Wharton, to be held on Tuesdays, from noon to 1:20 pm. The class sessions to be held at Wharton will include lectures, case discussions, guest speakers and group presentations. Students will be responsible for travel expenses (flight to Israel). Expenses for the land arrangements in Israel will be covered by a

grant from the Penn Global Seminar program. Enrollment will be limited due to capacity restrictions imposed by the companies that we will be visiting and due to a budget constraint for the program.

Pre-requisites

It is recommended that students taking this course should have completed the OIDD 101 or an equivalent course that introduces basic concepts of operations management, supply chains and quantitative methods. Other OIDD and related courses or prior experience can also be used to satisfy the pre-requisite requirement (check with the instructor).

Grading and assignments

Grades are based on (1) class participation, which includes class discussions, contribution to the group reports and attendance to the company visits (25%); (2) analysis of 2 out of 3 assigned cases, which require individual, written reports (30%); (3) a background report concerning one of the companies and its industry, that we will visit, and an after-site visit report for that company based on observations from the visit. (25%); This will be a group report; and (4) a final, individual paper offering reflections on what you observed and learned during the site visits (20%).

**Schedule
Fall Semester, 2017**

The following schedule is subject to change.

| Session | Date | Topic and Readings |
|----------------|---|---|
| 1 | <p style="text-align: center;">Tuesday 9/12</p> <p style="text-align: center;">12:00 pm – 1:20:pm</p> | <p>Course Introduction – Operations Strategy</p> <p>This session will present the goals and requirements for the course. We will then review the course schedule. Finally, we will introduce a framework for operations strategy that highlights the following concepts that will be covered in the course either in class sessions or through company visits:</p> <ul style="list-style-type: none"> ○ Global Manufacturing Sourcing ○ Supplier Relationships and Coordination ○ Logistics and Distribution ○ Technology and Capacity Planning ○ Supply Chain Risk Management ○ Agility, Flexibility Strategies ○ Environment and Sustainability ○ Lean operations and continuous improvement <p>Readings</p> <ul style="list-style-type: none"> ● M. Fisher, “What is the Right Supply Chain for Your Products”, Harvard Business Review, 1997. ● H. Lee, “Triple A Supply Chain”, Harvard Business Review, 2004. |
| 2 | <p style="text-align: center;">Tuesday 9/19</p> <p style="text-align: center;">12:00 pm – 1:20:pm</p> | <p>Operations Fundamentals</p> <p>In this session we review some of the basic analytical tools and concepts that are fundamental for the management of an operation as it converts inputs into outputs in a manner that achieves competitive success.</p> <p>Plant Tours and Industry Background</p> <p>This session will introduce the Plant Tour Analysis tool that will be applied in our site visits by the student teams. We will also discuss the industry background reports that each team will prepare. Each team will be required to distribute its background report prior to the site visit and a summary of the site report after each visit.</p> <p>Reading</p> <ul style="list-style-type: none"> ● R. E. Goodson, “Read a Plant – Fast”, HBR, May 2002. |

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| <p>3</p> | <p>Tuesday 10/03</p> <p>12:00 pm – 1:20:pm</p> | <p>Supply Chain Strategy – Netafim Case Discussion</p> <p>This session will introduce the supply chain of Netafim, the world’s leading provider of drip irrigation systems. We will discuss the product technology, Netafim’s global supply chain footprint and its evolution from a products to a service firm. When in Israel, we will visit the company and hear an update on developments since the time of the case.</p> <p>Reading</p> <ul style="list-style-type: none"> • G. Michlin, H. Lee, “Netafim: Migrating From Products to Solutions”, Stanford GSB case GS-46, 02//17/06. |
| <p>4</p> | <p>Tuesday 10/17</p> <p>12:00 pm – 1:20:pm</p> | <p>Global Supply Chain Strategy – Sourcing and Location Decisions</p> <p>We will review the current situation concerning global manufacturing sourcing, including the results of a recent Benchmark study.</p> <p>Readings</p> <ul style="list-style-type: none"> • W. C. Shih “What It Takes to Re-Shore Manufacturing Successfully”, , Sloan Management Review, Fall, 2014. • “Shifts in Cost Competitiveness Reshape Global Manufacturing”, Sourcing Journal, September 05, 2014. • “Yen’s Shifting Value Helps Japanese Carmakers Meet New Challenges”, Knowledge@Wharton, April 01, 2014. • J. Endo, “Discussion paper of Nissan’s Global Supply Chain Management Roles of Mother Plants and the Global Production Engineering Center in Japan, Revised February 16, 2015 (M. Cohen) • M. A. Cohen, S. Cui, R. Ernst, A. Huchzermeier, P. Kouvelis, H. L. Lee, H. Matsuo, Marc Steuber, A. Tsay “Benchmarking Global Production Sourcing Decisions: Where and Why Firms Offshore and Re-shore”, , OID Working Paper, 2016. |
| <p>5</p> | <p>Tuesday 10/31</p> <p>12:00 pm – 1:20:pm</p> | <p>Teva Pharmaceutical Case</p> <p>This session will introduce the global operations of Teva, the largest corporation in Israel.</p> <p>We will discuss how Teva emerged as a major player in the global pharmaceutical industry and the largest corporation in Israel. When in Israel, we will visit the company and hear an update on developments since the time of the case.</p> |

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| | | <p>Reading</p> <ul style="list-style-type: none"> • T. Khanna, K. Plepu and C. Madras, “Teva Pharmeceutivals, Ltd., HBS Case # 9-707-441, March 2010. • J. Friedrich, A. Noam and E. Ofek, “Right Up the Middle: How Israeli Firms Go Global”, HBR, May 29014. |
| 6 | <p>Tuesday 11/14</p> <p>12:00 pm – 1:20:pm</p> | <p>Logistics and Distribution</p> <p>In this session we will discuss the management of distribution and logistics within a global supply chain. We will focus on issues associated with risk pooling, coordination and technology. We also will present insights derived from analytical models and current practices for materials management, cross-docking, and warehouse automation.</p> <p>Readings</p> <ul style="list-style-type: none"> • G. Cachon and C. Terwiesch, “Risk-Pooling Strategies to Reduce and Hedge Uncertainty”, Chapter 15 “Matching Supply with Demand: An Introduction to Operations Management”, 3rd edition, McGraw Hill |
| 7 | <p>Tuesday 11/28</p> <p>12:00 pm – 1:20:pm</p> | <p>Azagna Case Discussion – Lighting up Africa & Servicization and Product-Service Systems</p> <p>We will discuss Azagna, a start-up that is providing an innovative business model for value delivery that enables the distribution of electricity in Africa to those not connected to the power grid.</p> <p>We will begin the class with a discussion of the case. We will conclude the class with a brief over-view of the Product-Service systems business model.</p> <ul style="list-style-type: none"> • Reading <ul style="list-style-type: none"> ○ N. Agrawal, "Azagna: Lighting Up Africa", Santa Clara University Case, 2014. ○ J. Guajardo, “Pay-As-You-Go Business Models in Developing Economies: Consumer Behavior and Repayment Performance”, Haas School of Business, 2016 |
| 8 | <p>Monday 12/11</p> <p>6:00 pm – 7:20:pm</p> | <p>Industry/Company Reports and Trip Preparation</p> <p>Each group will present a brief report that provides background information concerning its assigned industry and the company that we will be visiting. Topics that could be included in this report include: current competitive trends, technology developments affecting both the product and processes, the regulatory environment, etc.</p> |

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| | | <p>Check out the best-seller “Start-Up Nation” that describes the Israeli experience in creating successful companies. Many of the companies that we will be visiting are discussed in the book.</p> <ul style="list-style-type: none"> • Reading <ul style="list-style-type: none"> ○ D. Senor and S. Singer, <u>Start-Up Nation</u>, Twelve, 2011. |
| 9 | Sunday December 31, 2017 | <p>Arrival in Israel</p> <p>9.00 pm: Opening Orientation Session</p> <p>New Year’s Eve Party (12:30 am curfew)</p> |
| 10 | Monday January 1, 2018 | <p>Teva – Automated Warehouse – Tel Aviv</p> <p>Payoneer – Tel Aviv</p> <p>Travel to South</p> <p>Kibbutz Hatzerim Tour</p> |
| 11 | Tuesday January 2, 2018 | <p>Netafim – Kibbutz Hatzerim</p> <p>Sodastream – Beersheba</p> <p>Travel to Tel Aviv</p> |
| 12 | Wednesday January 3, 2018 | <p>Teva – Factory – Tel Aviv</p> <p>Israel Aerospace – Tel Aviv</p> <p>Airobotics - Petah Tikva</p> <p>Travel to North</p> |
| 13 | Thursday January 4, 2018 | <p>Straus – Elite Candy Factory – Nazareth</p> <p>Keter Plastics – Karmiel</p> <p>ISCAR – Tefen</p> |
| 14 | Friday January 5, 2018 | <p>Travel to Jerusalem</p> <p>OurCrowd and guest speakers – Jerusalem</p> <p>Presentation of Tour reports Each group will have 15 minutes to present a report of our visit to its assigned company. The report will include application of the plant tour assessment tool (i.e. “Read a Plant Fast” by Goodson) based on the visit.</p> <p>Afternoon Free</p> |

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| 15 | Saturday January 6 | Free Day for individual or optional group tours of Jerusalem historical sites Closing Dinner and Debrief – Jerusalem |
| 16 | Sunday January 7, 2018 | Depart for Philadelphia |

Case Assignments (Individual assignments - 30% of your overall grade)
(Submit 2 reports)

This is an individual assignment. Be prepared to discuss each case in class. Select two of the three cases for submission of a report. Each report will be a 750 word paper (*plus or minus 5%; double-spaced; put word count and your name at the top*) that addresses the specific questions for each case assignment.

Case Assignment – Netafim

*(Case questions to be added)

Case Assignment – Teva

*(Case questions to be added)

Case Assignment – Anzagna

*(Case questions to be added)

Industry Background and Site Visit Report (Team assignment - 25% of your overall grade)

Each team will be assigned to a company that we will be visiting during the semester. Prior to the visit, the team will prepare and present a report that provides background information concerning their assigned industry and the company that we will be visiting. Topics that could be included in this report include: current competitive trends, technology developments affecting both the product and processes, the regulatory environment, etc. The team will then use the plant tour assessment tool (i.e. “Read a Plant Fast” by Goodson) to prepare a report based on the visit. The reports will be shared with the full class after the visits. Group formations and preferences are due on **TBD**. Please submit your group membership (3-4 members) and your first two choices for the background and post-visit reports. Each group will present their industry /company background report to the class in our pre-tour session on **December 11, 2017**. A

additional (post semester) debriefing session devoted to the group reports based on observations from the the visits will be held on **TBD**.

Final reflection paper (Individual assignment - 20% of your overall grade)

This individual assignment is an opportunity to reflect on what you have learned in the course and through the site visits. It is worth 25% of your grade and is due on **TBD**, posted on Canvas. You should give your thoughts on 1) the current status, 2) future trends and 3) key drivers of operations strategy and sourcing decisions in the industries we visited. Our guideline for length is 750 words, roughly three pages, although this is a recommended, but not required, length; your paper can be either shorter or longer, as long as it captures your thoughtful reflections on your experience in the course.

Background Reading List:

1. D. Senor and S. Singer, Start-Up Nation: The Story of Israel's Economic Miracle, 2009
2. S. Siegel, Let There Be Water: Israel's Solution for a Water-Starved World, 2015

Company Profiles

Netafim:



Netafim was founded in 1965 by farmers and Agronomists on the idea that micro-irrigation is a solution to one of the world's most urgent problems: lack of quality water for food production. Today, it is one of the largest irrigation companies in the world, with factories and offices in over 120 countries. It offers a full-line of products for a variety of markets including Agriculture, Landscape & Turf, Greenhouse & Nursery, Mining, and Wastewater.

Teva:



Teva is the number one producer of generic drugs in the world. Established in Jerusalem in 1901, the company known today as Teva starts out as a small wholesale drug business that distributes imported medications. Today it produces over 64 billion tablets and capsules per year, with 43,000 employees and operates in 60 countries worldwide.

ISCAR:



ISCAR is the largest of the 15 companies comprising the IMC (International Metalworking Companies). Together, they supply a dynamic comprehensive line of precision carbide metalworking tools. These companies produce a wide range of carbide inserts, carbide endmills and cutting tools, covering most metal cutting applications. IMC also provides engineering and manufacturing solutions to major industries throughout the world. Many innovative products, designed especially for customer requirements, have made the IMC a world leader in the major manufacturing industries such as automotive, aerospace and die & mold production.

Keter Plastic:



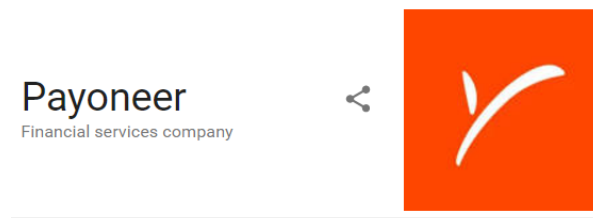
Keter Plastic is one of the world's leading manufacturers and marketers of resin-based household and garden consumer products. With a focus on innovation driven by consumer insight, Keter provides an impressive range of furniture, storage and organization solutions. Each and every Keter product is thoughtfully engineered to combine the durability of plastic, attractive design and unparalleled functionality. Our ongoing commitment to simplify and enhance the daily lives of consumers has been key to our global success.

Israel Aerospace Industries:



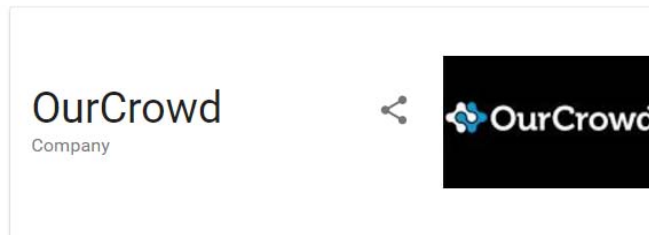
Israel Aerospace Industries is Israel's prime aerospace and aviation manufacturer, producing aerial and astronautic systems for both military and civilian usage. It has 16,000 employees as of 2013. IAI is wholly owned by the government of Israel. IAI designs and builds civil aircraft, drones, fighter aircraft, missile, avionics, and space-based systems. Although IAI's main focus is aviation and high-tech electronics, it also manufactures military systems for ground and naval forces.

Payoneer:



Payoneer is a financial services business that provides online money transfer and e-commerce payment services. Payoneer is a registered Member Service Provider of MasterCard Incorporated. The company is headquartered in New York City. Payoneer's services are used by small and medium enterprises looking to connect to Payoneer's trading partners. Payoneer account holders can receive funds into their bank account or e-wallet, or via a re-loadable prepaid debit card (MasterCard) that can be used at points-of-purchase. The platform offers its services with a low currency conversion fee. Payoneer has about three million users in more than 200 countries and provides transactions in more than 150 currencies with its cross-border wire transfers, online payments, and refillable debit card service.

Our Crowd:



OurCrowd is an equity crowdfunding platform built for accredited investors to provide venture capital funding for early-stage startups. Based in Jerusalem, the company launched in February 2013, with overseas branches in the United States, Canada, Australia and Singapore. Unlike crowdfunding platforms such as Kickstarter and Indiegogo which crowdfund donations to projects typically in return for some type of reward or gift, OurCrowd uses equity crowdfunding as its model. In equity crowdfunding, investments into a company's shares are pooled together from the crowd. Although recent regulatory changes make crowdfunding available to all investors, at this point, OurCrowd is only available to accredited investors. OurCrowd requires its Israeli portfolio companies to donate a portion of their equity to charity as part of the closing of any funding round.



Airobotics



Airobotics is a manufacturer of automated industrial drones. To address the unique needs of the world's most complex industrial environments, Airobotics has developed a platform that is fully automated, industrial grade, on-demand and multi-purpose. The Airobotics end-to-end drone solution goes far beyond standard drone options. The platform was designed and built by a multi-disciplinary team to answer the needs of industries such as energy, mining and oil & gas by providing a safe, cost-effective solution available on-site and on-demand.

Strauss Group – Elite Chocolate



Strauss Group Ltd. formerly known as Strauss-Elite, is the largest food products manufacturer in Israel. It is the shared trademark of two companies – Strauss and Elite, that merged in 2004. Elite's candies have been known to every child in Israel since the nineteen-thirties, when Elite's first chocolate factory was built in Ramat Gan. Over the years the brand evolved and became the leading name in the country when it comes to confectionery and sweet snack bars. Today, Elite manufactures a broad product basket that provides a response to the leading consumption trends, Health & Wellness, Fun & Indulgence, and coffee.

SodaStream



SodaStream each year provides 1.5 billion liters of home-made soda to millions of homes worldwide, making it one of the largest beverage companies in the world. Their system enables customers to carbonate water, add flavor and enjoy quality, better-for-you soda at home. They are the world's largest manufacturer, distributor and marketer of home carbonation systems with machines being sold in over 60,000 retail stores, in 45 countries worldwide.

- Employ over 2,000 people worldwide
- More than 30 nationalities are represented in the company
- Headquarters located in Israel
- Manufacturing facilities in: Australia, China, Germany, Israel and South Africa
- SodaStream strictly adheres to the highest international standards in quality, design and production