The C.V. Starr Program in Business, Entrepreneurship and Organizations (BEO) is a unique, interdisciplinary, undergraduate concentration at Brown University focused on the study of business, entrepreneurship, technological innovation, and organizational theory. BEO educates students to be creative and flexible leaders for careers in for-profit, social mission and startup organizations. Through the disciplines of economics, sociology, engineering and entrepreneurship, students learn methodological approaches to address challenges in national and global economic context.

All BEO seniors take a required capstone course which includes a one- or two-semester long project. Project teams, usually comprised of five students, are supervised by a faculty advisor. Students apply conceptual and theoretical grounding obtained in BEO courses to deliver analysis and recommendations related to a specific challenge facing a sponsor organization. Sponsor organizations appoint a senior level mentor to help define and guide the project.

This academic year marks the third full BEO cohort to participate in the capstone. Close to 100 students worked on twenty projects in the fall with eleven continuing in the spring. Student learning experiences were excellent. Mentors and faculty were thrilled with the teams’ work products. Join us in celebrating this accomplishment.

BEO Capstone Faculty

MARY FENNELL
Director, BEO, Professor of Sociology

ERIC SUUBERG
Professor of Engineering

LISA DI CARLO
Lecturer in Sociology

BRENDAN McNALLY
Associate Director, BEO

TIM NGUYEN
Adjunct Lecturer in Economics

STEVE PETTERUTI
Adjunct Lecturer in Engineering
Entrepreneurship and Technology Management Track Projects (Fall & Spring Semester)

Each team works with a mentor company to create a startup venture that will bring a technology to market. Fall semester focuses on becoming expert in a technology, identifying potential markets and defining a product or service. The spring semester involves prototype development and crafting a business plan to bring the product or service to customers.

SpiritTracker

Rhode Island Distributing (RID) Company is a wholesale beverage distributor that services such brands as Red Bull, Coors, Fiji water and Captain Morgan Rum. In a consolidating industry, distributors have had to develop sophisticated operational systems to manage inventory and delivery logistics. RID worked with the capstone team to develop a stand-alone business (SpiritTracker) for gathering proprietary, leading edge brand data to help grow market share at the local level, increase brand awareness, and recruit brand partners. Using social media data, the team developed a technical solution that captures real-time insights and consumption trend metrics at the local level.

Sponsor: Rhode Island Distributing Company, West Greenwich, RI
Mentor: Ken Mancini, President
Project Advisor: Steve Petteruti

TEAM MEMBERS: DERRICK CHENG, ISABELLE DIOP, YINGXI TAO, TRENT YEE
SteamTrol

AMTROL, founded in 1946, is an international leader in innovation, quality and service in the gas and liquid storage container industry. It introduced the world’s first pre-pressurized diaphragm expansion tank, invented the first pre-pressurized well tank and pioneered the refrigerant gas cylinder. AMTROL tasked the team to identify a promising market to leverage their design and manufacturing expertise. The result was an innovative steam cleaning and disinfecting unit targeting millennials. The prototype, ideal for college students, is lightweight, functional and affordable.

*Sponsor: Amtrol Inc., West Warwick, RI
Mentor: Chris Van Haaren, VP Engineering
Project Advisor: Steve Petteruti

TEAM MEMBERS: JILLIAN DESIMONE, TIFFANY KEUNG, DONG HYUK KIM (NOT PICTURED), TOLULOPE LAWAL

DuraPen

LFI, Inc. is one of the leading manufacturers of precision metal components, sub-assemblies and surgical components in the United States. Their core competency is in laser welding, Swiss screw manufacturing, wire EDM, precision tube bending and high-precision laser drilling, scoring and passivation. The capstone team leveraged LFI’s capabilities and capacities to design and prototype an inkless pen targeting the luxury, designer pen market. Promoted as “the last pen you will ever need,” the team integrated cutting-edge inkless technology with bold design. Prototypes are currently being tested with potential customers.

*Sponsor: LFI Inc., Smithfield, RI
Mentor: Kip Brockmyre, President and CEO
Project Advisor: Steve Petteruti

TEAM MEMBERS: CONOR DUNLEAVY, SAM FALKSON, MONICA KIM, JANET LEUNG, ADAM LOEWENTHEIL
Evaluating the Investment Impact of “Green Buildings”

Textron is an international diversified holding company based in Providence, RI that owns companies in aerospace, financial services, commercial lawn/golf equipment and defense related systems. Its pension fund, valued at over $10B and supporting over 28,000 pensioners, is comprised of a variety of asset classes including direct investment in commercial real estate properties. This project evaluated the merits of investing in “green,” LEED certified buildings within its real estate portfolio. The project also defined and analyzed the costs and rewards of building new versus retro-fitting to meet certification standards.

Sponsor: Textron, Inc., Providence, RI
Mentor: Charles van Vleet, Chief Investment Officer
Project Advisor: Tim Nguyen

TEAM: JASMINE BALA, JOSHUA FESHBACH, JACK GORAB, MACKENZIE KLIGMANN, AMRUTHA MANDALAP
Assessing Direct Foreign Investment in the United Arab Emirates

Textron, a diversified Providence-based holding company, conducts business across the globe and regularly explores the advantages and disadvantages of direct investment in foreign countries as a way of growing its customer base. To assist Textron, the capstone team explored the complexities of working in the United Arab Emirates (UAE), a major purchaser of aviation, defense and other industrial products. The team assessed regulatory, cultural, operational and economic considerations related to conducting business in the UAE. Recommendations for direct investment and strategic partnerships were included in report to Textron managers.

Sponsor: Textron Inc., Providence, RI  
Mentor: Robert Lupone, Executive Senior VP, General Counsel and Secretary  
Project Advisor: Tim Nguyen  
TEAM: MARCEL BETSCHART, TARA MAHON, BRANDON PFEIL, JOSEPH PRESCOTT

Improving Profitability and Inventory Management through new Technology Platforms

As one of America’s largest companies, CVS pharmacy business requires consistent investment in new and innovative technologies. The Technology Strategy Group (TSG) at CVS/pharmacy researches new technologies that will significantly improve profitability and inventory management. The BEO team worked collaboratively with TSG to develop business cases, cost/benefit analyses, and pilot plans that to evaluate the viability of new technology platforms to better manage inventory and stock shelves for the entire chain.

Sponsor: CVS Inc., Woonsocket, RI  
Mentor: Head of Technology and Strategy  
Project Advisor: Tim Nguyen  
TEAM: JULIA CABRALES, JACK OLSON, ALEXANDER PANKHURST, ELISE RIVAS, CAMERON WILKIE
Understanding Customer Experience to Influence Strategic Marketing and New Product Launch

Philips’ sleep and respiratory division produces and markets medical devices and services for patients with sleep conditions such as sleep apnea and respiratory issues such as asthma, COPD, and Congestive Heart Failure. Philips traditionally markets through medical-specific channels and seeks to increase business in certain product lines through targeted online and retail channels where consumers typically shop and seek information. The capstone team documented the consumer journey from condition-specific research (asthma and COPD) to the shopping process, and then to prescription processing and product maintenance. Team recommendations were provided to improve the customer experience and increase sales.

Sponsor: Philips Healthcare, Andover, MA
Mentor: Andrea Ryter, Senior Global Marketing Director and Managing Director
Project Advisor: Tim Nguyen

TEAM: WILLIAM BARKELEY, YASEMIN BENKER, ETHAN BORCHELT, KEVIN GUTHRIE, RYAN KELLY

Exploring Investment Opportunities for University Endowment

This capstone team was tasked with finding a new $60 million investment for Brown’s endowment. Told simply, “find the best risk-adjusted value in the world today” and bounded by just a few constraints, the team researched investments in various market options: equity, currency, commodity, bond and individual stocks. Students developed a research methodology and backed up their analysis with data and primary research sources (including interviews) all within the context of fundamental drivers of returns. Their final recommendation
was basket of master limited partnerships in the midstream energy (transportation, holdings and refining) industry.

**Sponsor:** Brown University Investment Office (A), Providence, RI  
**Mentor:** Joe Dowling, Chief Investment Officer  
**Project Advisor:** Tim Nguyen

**TEAM:** NICOLE CUERVO, GABRIEL GONZALEZ, AARON GOTTLIEB, JOHN HEILE, JOHN HOWELL

### Applying Warren Buffet Investment Principles

The Brown University Investment Office, under the direction of the Brown University Investment Committee, manages the $3 billion LongTerm Pool (“LTP”), which includes endowed funds as well as current University funds. The primary goal of the LTP is to support the University in perpetuity so that future generations of students and faculty receive at least the same level of inflation-adjusted support as the current generation. As one of the most successful investors in modern times, Warren Buffet has taken long-term, strategic approaches to investment. The capstone team assessed which of Buffet’s investment principles could be applied to Brown. The team researched, critiqued and summarized Buffet’s underlying philosophy and methodologies, and made specific recommendations on what principles and practices Brown should follow.

**Sponsor:** Brown University Investment Office (B), Providence, RI  
**Mentor:** Daniel McCollum, Managing Director  
**Project Advisor:** Tim Nguyen

**TEAM:** ZACHARY GILLEN, KEIKO OKI, LUDOVIC RICHARDSON, GRANT SENNE, ALEXANDRA WIENER
Improving Proxy Voting

The RI Treasury Office is responsible for a range of state operating funds and investments including the $8 billion Employee Retirement System. Treasury seeks to develop a more active program related to stock-holder proxy voting. The capstone team worked as a consulting group to first evaluate a range of potential proxy issues that Treasury could tackle, and second select a signature issue for the capstone project. The team recommended Treasury use its leverage as a large institution investor to improve board diversity in large publicly held companies. In particular, the team found strong performance in companies with higher percentages of women board members.

Sponsor: State of Rhode Island Treasury Office, Providence, RI
Mentor: Anne-Marie Fink, Chief Investment Officer
Project Advisor: Tim Nguyen

TEAM: JULIETTE GARAY, PETER LAPPIN, ANDREW LITTLE, ISAAC MESQUITA LIMA, MARK NACLERIO

Turning Around a Troubled Non-profit

A prestigious Montessori School in coastal Maine, Children’s House, sought help in analyzing and improving its financial and competitive positioning. Serving children from 18 months to 10 years old, Children’s House has weathered good and bad times. This team assisted board members in identifying strategic options for improved fiscal health. In addition to a thorough analysis of all expenses and revenue options, the team also evaluated Children’s marketing strategy and execution. Final recommendations included a mix of strategies to increase enrollment and cut cost.
Assessing Investment Options in China

The sponsor, “GIAM”, is a global institutional asset manager. Over the last 25 years GIAM’s mission has remained constant: to deliver the alternative investment industry’s highest quality returns to investors, and to maintain a commitment to principles of integrity, discipline and excellence. This project involved assessing the viability and timing of investing in Chinese markets. Students accessed opportunities available to GIAM as an offshore and onshore investor. The project involved the mapping of the competitive landscape of offerings by GIAM and its competitors. Students researched and prioritized barriers to entry in addition to providing recommendations to GIAM’s management about investment options, strategies and timing.
Taking Student Satisfaction to the Next Level

BrownConnect is a new initiative that links students to the Brown community for career success. A comprehensive platform with related outreach to alumni and employers, BrownConnect provides Brown students with internship and research opportunities, connections to alumni mentors, and access to funding sources. The capstone project focused on measurement of student satisfaction with the BrownConnect program/site and also the development of recommendations to improve the platform. Final suggestions included improvements to website design, marketing channels, and site functionality.

Sponsor: Brown CareerLAB, Providence, RI
Mentor Aixa Kidd, Director BrownConnect
Project Advisor: Lisa DiCarlo

TEAM: COURTNEY BERGH, ANDREW COKE, VICTORIA HOLLAND, ZAKIA STILI, DIANA WALTERS
Assessing Brown’s GHG “Transportation Footprint”

Brown’s Energy & Environment (E&E) Office is committed to achieving sustained energy and environmental performance. High on the list of Brown’s contributors to greenhouse gas emissions and costs is the university’s “transportation footprint.” This capstone team helped E&E map the various contributors, understand relative impact of each, and provided recommendations for reducing the footprint. The project involved the design and analysis of surveys to over 13,000 members of the Brown community to better understand transportation behaviors of students, faculty and staff.

Sponsor: Brown Facilities Management, Office of Energy and Environment, Providence, RI
Mentors: Jessica Berry, Sustainability Program Manager
Project Advisor: Brendan McNally

TEAM: BRENDAN CAPUTO, MAEVE FLAHERTY, JOHN KELLY, GALEN ROHN, ZACHARY SMERLAS

Marketing Strategies to Millennials

Latinum Network was founded in 2009 with the mission to be the lead service provider to help companies win in the multicultural economy. The capstone team provided analysis and recommendations on how Latinum should best leverage its existing models to launch a new extension of its business targeting the millennial consumer segment. This project worked with Latinum to research the competitive landscape, determine strengths and opportunities, identify launch implications, and recommend strategic ingredients for success.

Sponsor: Latinum Network
Mentor: David Wellisch, Founder and Managing Partner
Project Advisor: Lisa DiCarlo

TEAM: MARLEA BROWN, RACHELE KILLIAN, JAMESON LOCHHEAD, LAUREN TSAI, MICHAEL WALSH
Growth Strategies in Health-tech

Doctor’s Choice helps retirees and small businesses choose the best health insurance plan through personalized consultations. Started by Dr. John Luo, Brown ’09 MD ’13, out of a need to educate patients about Medicare, the mission of Doctor’s Choice is to make health insurance understandable and affordable. Doctor’s Choice has offices in Warwick, RI and helps companies and individuals in RI, MA, and CT through engaging a team of licensed health insurance agents. In the fall the capstone project team analyzed RI demographics to best identify and market to target customers. Spring semester, the team evaluated the viability of creating a new venture in paid dental services.

*Sponsor: Doctors Choice*
*Mentor: Dr. John Luo*
*Project Advisor: Brendan McNally*

TEAM: KYLOR BELLESTRI, AUSTIN FRENCH, TIMOTHY MCKEITHAN, CARA MUND, NOAH SHULMAN

Marketing Strategy for Social Innovation

Loomio, a social enterprise start-up based in New Zealand with a US office in Providence, is an open source platform designed to make it easier for people to participate in decisions that affect them. The capstone project focused on the development of a targeted marketing plan. The work involved analyzing the current customer mix, identifying high potential market segments, reviewing pricing, positioning and go-to-market strategies, including B2B partnerships. Spring semester focused on analyzing and targeting cooperatives as ideal Loomio customers.

*Sponsor: Loomio*
*Mentor: MaryJo Kaplan, US Operations Lead*
*Project Advisor: Lisa DiCarlo*

TEAM: NEHARIKA GOYAL, JOHN HOWELL, KELSEY KAWANA, TIMOTHY ORFE, WILLIAM QUIGLEY, ELISABETH TADIRI (NOT PICTURED)
Enhancing Government Transparency Through Innovation

Providence’s Office of Innovation is tasked to help the city improve the delivery of services and information to residents, businesses and organizations. A common challenge for municipalities is to provide information in readily accessible and transparent ways. This capstone project worked with professionals in the Mayor’s office to develop strategic and implementation plans for innovations in government transparency and open government. Using existing research documentation, transition committee recommendations, open data tools, and strategic support from the Bloomberg Foundation’s WhatWorksCities Initiative, the team crafted recommendations for the plans. Specific suggestions included identifying University research connections, linkage to student initiatives like hack-a-thons, and ways to simplify user interfaces with public data.

Sponsor: City of Providence  
Mentor: Nicole Pollack, Chief Innovation Office  
Project Advisor: Lisa DiCarlo

TEAM: ALEXANDRA HAY, EUGENIA ABINADER LULO, ALEXIS MILLER, ADELE RUPPERT (NOT PICTURED), JACOB WALThER
Designing for Growth

Volute Technologies is a growth stage software technology firm based in Lincoln, RI that provides clients with a next generation, integrated platform of applications to enhance learning, collaboration and communication. Volute's modular, cloud-based app approach allows users to access information on desktops and mobile devices, providing an agile and scalable model that can rapidly evolve with the changing demands of organizations. The capstone team assisted Volute in identifying and validating a suite of software apps that improve college student experiences. In particular the Team developed use cases for communication and student organization apps.

_Sponsor: Volute Technologies  
Mentor: Michael Croft, Founder, CEO  
Project Advisor: Brendan McNally_

TEAM: CHAD BERRY (NOT PICTURED), JUSTIN HONCE, DONG HYUN KIM (NOT PICTURED), ASHLEY NOYES, STEPHANIE SACHS FEDER
Building the Case for Smart-Grid Home Heating Solutions

VCharge is a Providence-based start-up with a long-term vision to prepare the electric grid for a new era of distributed, renewable energy. VCharge is expert in “smartgrid” software applications to better balance supply and demand of electricity by aggregating and controlling electric loads paired with energy storage. With partners, VCharge is a pioneering novel home heating/cooling system incorporating energy storage, new heat pump technology and software that could drastically lower utility costs and carbon emissions without major changes in consumer behavior. This capstone project worked with VCharge to analyze the basic economics of their proposed system in comparison to existing heating solutions, and delve into relevant energy policy initiatives and incentives to make VCharge a competitive if not preferred alternative. This project involved a mix of research and recommendations related to energy economics and policy including RI Senator Sheldon Whitehouse's Carbon Fee Proposal.

Sponsor: VCharge
Mentors: Bob Chatham, Chief Marketing Officer and Michael Flaherty, Planning and Policy Consultant
Project Advisor: Lisa DiCarlo

TEAM: NICHOLAS FASCITELLI, MATTHEW GRAHAM, CEDRIC KUAKUMENSAH, JAMES LAWRENCE