

2013

Annual Report



Student Focused. Faculty Directed.

letter from
the **DIRECTORS**



Warm greetings from the DCMME-GSCMI Centers, your manufacturing and global supply chain management centers at the Krannert School of Management at Purdue University. Pertinent topics to today's headlines including "sustainability", "manufacturing matters", and "right shoring" were discussed during our 2012 fall and 2013 spring conferences providing the opportunity for you to share perspectives and gather insight among industry professionals. Unfolding economic changes provide the unique opportunity for us to further leverage the strength of the Centers to make an impact. The Center continues to support academic research that has potentially significant and practical impact on manufacturing and global supply chains. I would like to highlight an ongoing study on "Shaping Consumer Demand With the Supply Chain" by Karthik Kanan, Associate Professor at Krannert School of Management (p. 66). Our annual fall operations conference & spring conference brought together over 300 participants this year. Student involvement in the center is a key to our vitality. The Center provides a wide range of engagement opportunities for our students including the Summer Internship Poster Competition and our Student Case Competition held in conjunction with the two conferences. Also, take a moment to read about our students' travels to India for an internship with the TVS Motor Company. Through all of our endeavors, the Center will continue to strive to fulfill our mission of promoting education, research, and industrial engagement with those interested in operations and supply chain management while maintaining our vision of a "student focused and faculty directed" center. This mission and our many important Center goals would not be possible without our generous partners and friends; thank you!

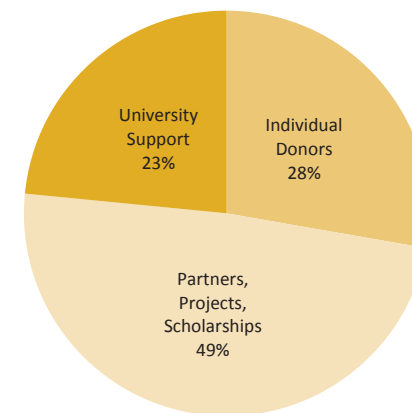
J. George Shanthikumar

Richard E. Dauch Chair in Manufacturing & Operations Management
Director, DCMME and GSCMI

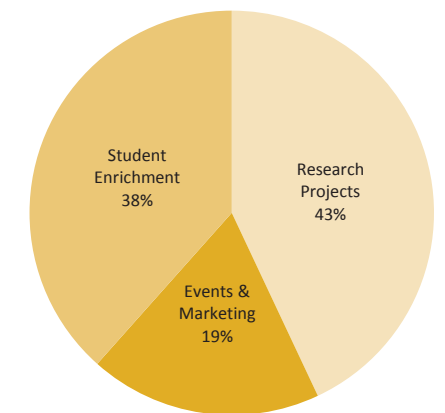
and

Qi (Annabelle) Feng

Associate Professor Operations Management
Associate Director, DCMME and GSCMI



INCOME SUMMARY 2012-2013



EXPENSE SUMMARY 2012-2013



Thank you.

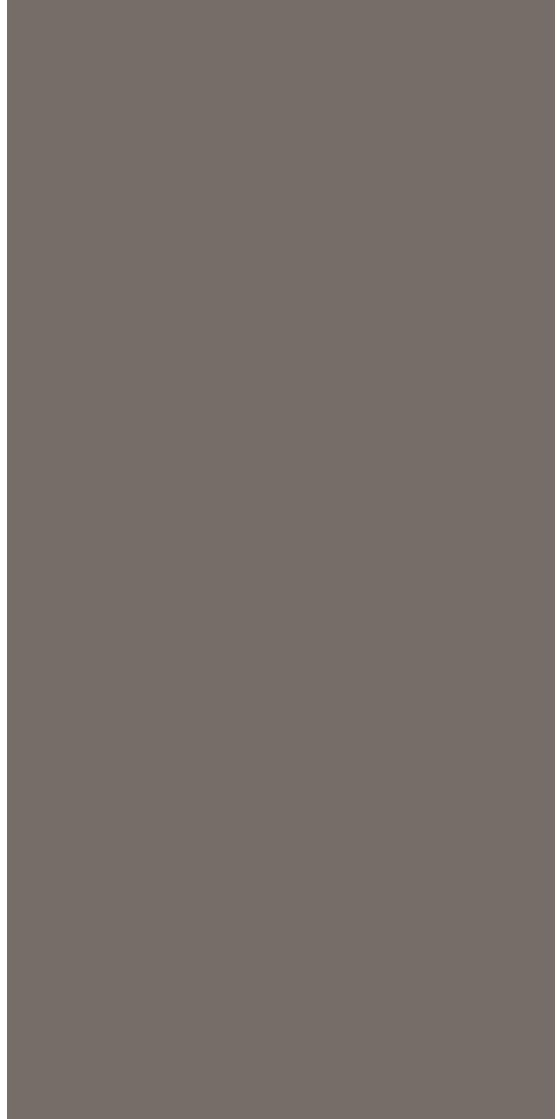
Dedicated industry partnerships are at the heart of success for the DCMME-GSCMI Centers. We thank our many distinguished industry partners for their significant and ongoing involvement and support. Our mission and the many important objectives set for the Centers could not be accomplished without you!

Thank you partners and event sponsors for your faithful support. You provide the means for our "student focused" center to assist in making student goals a reality. Through engaging with and investing in the lives of students, you fulfill an integral role in their success. With your support, we strive to provide our students with experiences that enhance their education by providing real-life experiences outside of the classroom. You help provide our faculty with the means to further the field of research in operations and supply chain. The DCMME-GSCMI Centers continue to provide our partners with occasions to share insight and build lasting connections in order to be further prepared for current and developing

changes in business. Students gain valuable resources from interacting with company executives, learning from featured conference speakers, and gaining knowledge from company projects. This focus on students is evidenced by the 38% of funds dedicated to student enrichment throughout the year. Total income from all sources for the 2012-2013 term totaled approximately \$107K, with the largest percentage of funds derived from center partners. Together, we look forward to another year of providing and fostering opportunities for students' futures.

Heidi Allwes
Center Coordinator, DCMME and GSCMI





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Our Mission



Student Focused. Faculty Directed.

Developing meaningful coursework.

Exploring innovative approaches towards operational improvement.

Creating venues for collaboration among firms,
students and faculty around the state and across the globe.



For twenty-five years the DCMME-GSCMI Center has been the focal point within the Krannert School of Management for promoting education, research and industrial engagement with those interested in operations management, manufacturing management, and supply chain management. This long standing history has bred a rich tradition of developing meaningful coursework, exploring innovative approaches towards operational improvement, and creating venues for collaboration between firms, students and faculty around the state and across the globe. Partnering with organizations, companies, not-for-profit as well as governmental and economic development agencies has allowed our Center to create the essential linkages that foster innovation, develop rich insights, and enable us to accomplish our mission of celebrating the vitality of operational excellence and importance of a strategic supply chain view.

The Global Supply Chain Management Initiative and the Dauch Center for the Management of Manufacturing Enterprises provide current and new partners, students and faculty the synergies of the two organizations working together with a shared support staff and a common structure. The goals of both are aligned and allow for opportunities for co-programs available to students and partners involved in either center according to their specific interest in manufacturing or supply chain.



The Center of Management of Manufacturing Enterprises was initiated in 1987 with grants from Ameritech, Chrysler, Ingersoll-Rand, Hillenbr and Industries, and TRW. The Center was established in 1988 with the goal of creating a partnership between academia and the manufacturing community to develop academic and research programs for the purpose of producing technically sound, globally cognizant professionals and academicians to enhance global manufacturing competitiveness. In 1998, the Krannert School announced the naming of the center as the Dauch Center for the Management of Manufacturing Enterprises (DCMME) in honor of the Richard E. Dauch family. Manufacturing Excellence is what our partners practice, our faculty research, and our students learn. For 25 years, we have stood ready at the nexus of industry, faculty, and student endeavors to meet the wide array of challenges that face the manufacturing sector, serving as a catalyst for collaboration and a motivating force in:

- Creating innovative solutions for our corporate partners.
- Driving cutting-edge manufacturing management research by our faculty partners.
- Delivering course content that compels and excites our student partners.

Please explore our website to learn more about our passion for manufacturing, and how you can share in and benefit from our efforts!

The Global Supply Chain Management Initiative was launched in 2005 to provide a forum for students, faculty, industry partners and alumni to engage and interact through programs and services that will result in greater understanding of the differentiating advantage realized by a strategically coordinated global supply chain. The supply chains that typify commerce in today's global economy are highly fragmented, consisting of numerous independent entities scattered across the globe and separated by geographic, political, and economic barriers. The impact of establishing and maintaining these complex supply chains is immense.

The Global Supply Chain Management Initiative gives current and future managers the opportunity to be on the forefront of emerging ideas and technologies that promise to provide a differentiating advantage to businesses in the future. This initiative offers a broad-based, global approach to taking your business skills global through a variety of programs.

Many of today's most successful firms attribute their success to a strategically managed global supply chain. The complexities of coordinating and collaborating within a global network of designers, manufacturers, distributors and retailers grow as businesses seek to attain a competitive advantage through carefully formulated strategies for managing flows in physical, informational and financial channels. SCM stands for 'Supply Chain Management' and is the process of ensuring that products are produced and delivered quickly and efficiently.

- Drives coordination of processes and activities with and across marketing, sales, product design, manufacturing, finance and information technology.
- Encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all Logistics Management activities.
- Includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers.
- Integrates supply and demand management within and across companies.
- Responsible for linking major business functions and business processes within and across companies into a cohesive and high-performing business model.

2012 DCMME Fall Conference



The 2012 DCMME Fall Operations Conference gathered over 140 students, faculty, and industry participants. Executives from Arcelor Mittal, Break Rubber Technologies, Caterpillar, 5 Kingdoms Development, General Motors, Ingersoll Rand, John Deere, Subaru, Verallia, and WALCO Tool & Engineering shared their unique experiences and insight into the importance of sustainability. One of the featured events at the conference was the Student Summer Internship Poster Competition which provided a wonderful opportunity for students to share their summer internship experiences.

The session was highly educational and motivating for young professionals and entrepreneurs who will be starting a career in these industries. Knowledge of these company's initiatives help develop the right business perspective starting into their career.

Aniesh Aravind (Graduate 2013)

It opened my eyes to new ways to make companies more cost effective while also helping sustain our planet. I would highly recommend this conference to all future Krannert students.

John Davisson (Graduate 2013)

I never thought that you can be a big car manufacturer and still be a friend of the environment. However, Mr. Easterday's presentation gave us insight on how to create value with even fewer resources and use the process to reduce time wastage and cost.

Ameen Alqadi (Undergraduate 2013)

This is an event that more students should take advantage of!

Ben Toney (Graduate 2013)

When I looked at the agenda of the GSCMI conference, I was thrilled to notice that there would be a session on Blue Economy. I had read an article a few days ago on the same topic and I was interested to explore the topic more. The GSCMI conference provided me with that opportunity.

Saurabh Vijayvergia (Graduate 2013)

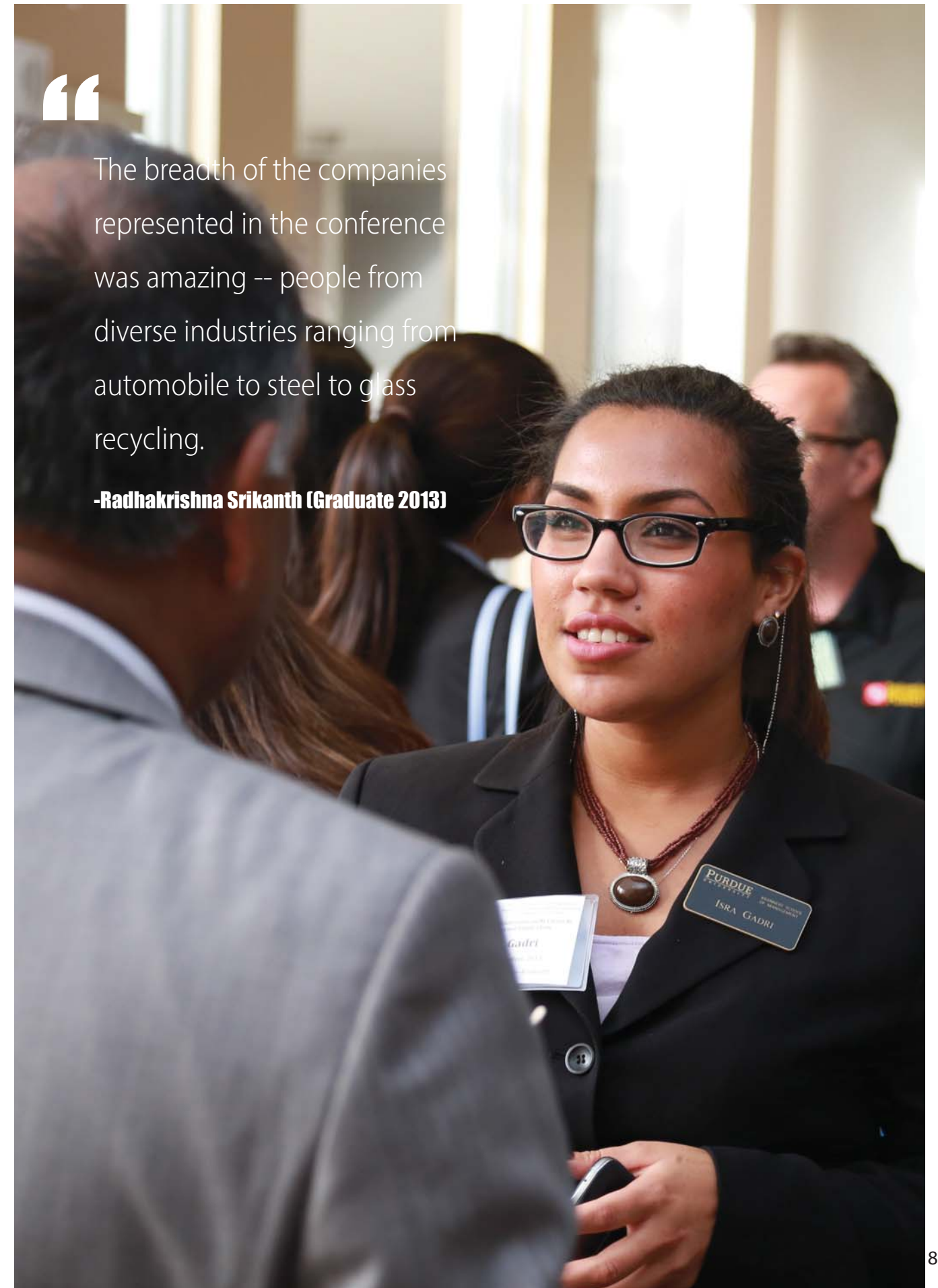
“I would love to be a part of such an event in the future even after I am long gone from Krannert.”

Tochukqu Chimezie
(Graduate 2013)

“

The breadth of the companies represented in the conference was amazing -- people from diverse industries ranging from automobile to steel to glass recycling.

-Radhakrishna Srikanth (Graduate 2013)



Student Summaries

2013 Conference Presentations

Stephen Segebarth, Verallia
Verallia North America- Sustainability Opportunities & Challenges
 By Julia Jones, MBA 2013

Steve has been with Verallia North America for more than 15 years, first as General Counsel and now as Senior Vice President- Government Relations, Regulatory Affairs, and Law. Verallia is a leader in the glass container manufacturing industry. Segebarth mentioned that currently there is a big shift across all markets toward plastic packaging and containers. Plastic tends to be lighter and less expensive than glass. Additionally, Verallia faces fierce competition from low-cost Mexican glass manufacturers as well as aluminum containers. The company's competitive strategy focuses on customer relationships, innovation, manufacturing excellence, and sustainability. One of Verallia's strategic priorities is to reduce the energy consumption and emissions associated with the glass manufacturing process. Segebarth highlighted this goal in his presentation. Segebarth also discussed the increased usage of cullet, since glass is 100% recyclable. By 2013, Verallia plans to achieve 50% cullet use. The use of cullet reduces the use of raw materials and energy consumption. This sustainability strategy protects the environment and saves the company money. They also seek to increase the amount of glass that is recycled. Verallia gets involved with customers, communities, and government officials to improve glass recycling efforts. Segebarth mentioned that Verallia works with bottle bill states because that is where most of the recycled glass comes from. A benefit of a bottle

glass that is recycled because it gives people financial incentive to recycle. The company also developed the Captain Cullet and Little Gob o'Glass education program to teach elementary school students the importance of glass recycling. In his presentation, Segebarth claimed that over a ton of natural resources is saved for every ton of glass that is recycled. Verallia has a product line dedicated to sustainability called the ECO Series. This product line is high quality while still decreasing the impact on the environment. Verallia claims that ECO Series products can optimize the customer's logistics and enhance consumers' positive perception of glass packaging. Verallia maintains respect for the environment with their sustainability efforts, and these efforts and innovations also lead to reduced costs. This allows the company to thrive in the competitive container industry, even though people are moving toward lower cost and lighter solutions such as plastic and aluminum. Verallia clearly demonstrates the benefits of a sustainable supply chain .

Tom Easterday, Subaru
Lean & Green
 By Christopher Gaulke, MBA 2013

Only when sustainable efforts can be seen as cost effective and/or profitable will the trend truly take hold. Ultimately, businesses are in business to generate profits for their stakeholders. This can only be done by focusing on the bottom line. Taking a long-term approach can help to both satisfy stakeholder demand and the benefit of the environment. Creative thinking in terms of how to be sustainable will



enable further cost efficiencies. A perfect example of this was illustrated by Tom Easterday, Executive Vice President of Subaru of Indiana Automotive, Inc. Easterday's presentation was titled "Lean & Green: An Overview of the Best Practices in Environmental Stewardship at Subaru of Indiana Automotive." According to Easterday, SIA earned a \$1.3 million profit on the company's sustainability efforts. This is impressive because it not only saved the company money but it actually made them money. This was made possible as a result of the company's Kaizen philosophy. Kaizen is the Japanese word for "improvement" or "change for the better". SIA utilized the Kaizen philosophy to encourage and promote best practices within the organization. SIA management actively sought out recommendations from staffers regarding how to improve the company's operations and sustainability efforts. Easterday discussed some of the recommendations that came about as a result of this philosophy and the impact that they had on the company's initiative. By coordinating with its supply chain partners on such projects as the engine packing project, the transmission cap project, and the Styrofoam project, SIA was able to save large amounts of money and to operate in a more sustainable fashion.

Sharlin Barfield, John Deere
John Deere Sustainability Strategy
 By JungDug Soo, MBA 2013

John Deere, an agricultural and construction equipment company, has seen environmental sustainability as one of

their businesses. Sharlin Barfield, Manager, Environmental Compliance- Supply Chain Management of the John Deere World Headquarters, discussed these issues. Equipment plays an important role throughout the agricultural value chain and will assist in increasing productivity and enhancing sustainability. The high-level drivers for mechanization are similar across a diverse mix of farms and farmers. Also, they have linked the business to the chance of innovation to advance machine productivity and worksite solutions in developed markets and increasing the global reach of mechanization for smallholder farms in emerging markets. They emphasize irrigation technologies that increase water use efficiency. They have detailed and feasible strategies based on supply sustainability. This strategy can be divided into 5 categories: regulatory compliance, supplier compliance, supply management governance, dangerous goods handling and environmental sustainability. They divide the supplier environment risks into 4 categories:

- 1) Purchase goods not too unique to John Deere (low risks)
- 2) Purchase goods too unique to John Deere which require environmental audit if risks and liabilities are identified (low risks)
- 3) Outsourcing to third party and value added work to the company (high risks)
- 4) Waste disposal or recycling service.



Also, they manage "Achieving Excellence" which targets driving continuous improvements in supply chain and benefits to suppliers and John Deere. Since November 2011, suppliers have submitted 150 of the environmental projects with cost savings potential. To meet these codes and regulations, they operate a compliance hotline open to the supplier and employee available 24 hours. To summarize, they define sustainability itself as one of their business boundaries.

Karen Schultz, WALCO
Building Today's Sustainable Supply Chain
By Jennifer Evemeyer MBA 2013

Karen Schultz, Business Developer at WALCO Tool & Engineering, a contract manufacturer, spoke about sustainability and how it affects day to day business at WALCO. A brief video showed the various tool and die parts that WALCO produces, which include a bevy of products that range from custom parts to mass produced parts for customers such as McDonalds. Ms. Schultz also described the goal of always creating seamless teams when dealing with projects and OEMs in order to achieve sustainable business practices at WALCO. WALCO wants to work with OEMs to create long term relationships that support cost savings. One of the biggest sustainable assets that Ms. Schultz feels WALCO has is its ability to change and respond quickly to changing demands and a trend of shorter product life. Emphasizing the importance of the people who work at WALCO, Ms. Schultz feels it's critical that businesses hire the "right people"- those who are in it one for all and all for one- in order for any firm to

have long term success. One distinguishing viewpoint expressed by Ms. Schultz is that the goal of businesses is not to make a profit. Rather, businesses make products to meet the needs of people. If the business can't meet the needs of customers profitably, the firm will fail. In the end, however, she feels it's primarily about people's wants and needs. Further, she noted that sustainability touches all facets of a business and involves its employees developing creative & holistic ways to operate the business. Last, Ms. Schultz discussed her approach to achieving sustainable operations at WALCO, a technique that ignores short term special interests and instead focuses on the end goal of the company.

Brandon Pitcher, 5 Kingdoms Development, LLC
Beyond Green: Intro to the Blue Economy
By Jeonghyun Kwak, MBA 2013

Accelerated industrialization has generated serious environment destruction. In turn government regulation was laid out and companies have been forced to get ready for environment- friendly businesses. Although many companies are trying to move to "green" today, the problem is always cost. In this sense, Brandon Pitcher, Chief Sustainability Officer of 5 Kingdoms Development, distinguished 3 different types of economies. First, the red economy is a core business push for lower marginal cost through economies of scales. It also can be explained in scarcity of resources and cannot accept the co-existence with nature. Second, the green economy occurs when companies have to spend a huge amount of money in

order to keep the environment clean and to provide healthy products. However, companies end up facing lower growth rate and cannot expect their usual return rate. Last, the blue economy is inspired by nature. If we can benchmark how nature works efficiently by learning the logic of nature, companies will minimize resources consequently. He also presented a couple of examples about how to apply this business model. For instance, a structure which is benchmarked from formicary can help with controlling temperature. Air-con or heat by natural airflow or terrestrial heat is also a good example in this business model. Consequently, this business model does not change environment artificially and naturally accomplishes sustainability. What was once regarded as cost becomes important resource for profit. From an operations perspective, 5 Kingdoms Development provides a solution inspired by nature to establish sustainable and environmentally friendly operations. Ultimately, sustainability and eco-friendliness are highly related with each other and the key to sustainability is to find a harmonized balance point between efficiency and environmental protection on the supply chain management perspective or on the operation management perspective.

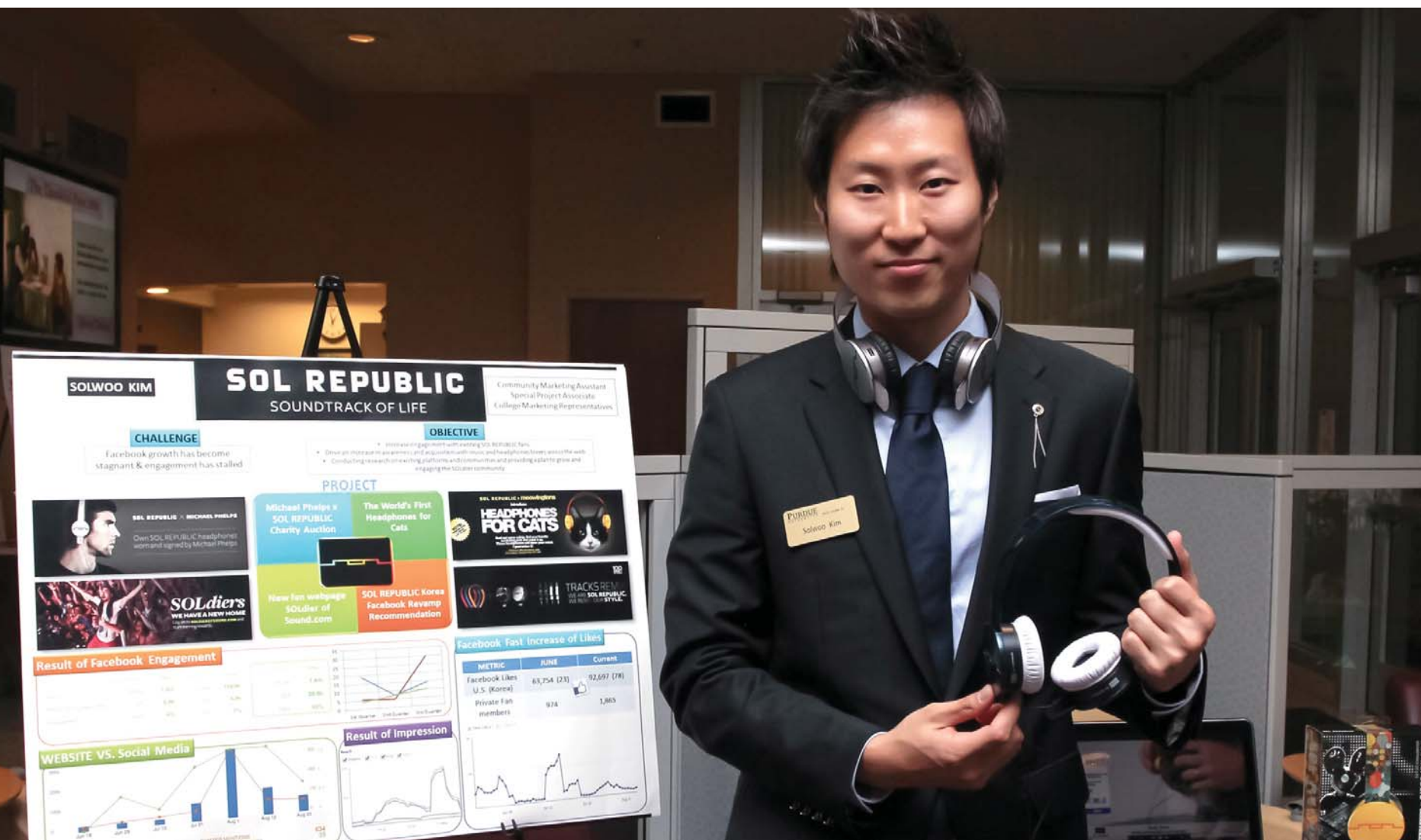
Heather Loebner & Kevin Doyle, ArcelorMittal
ArcelorMittal: Leader in Safe, Sustainable Steel
By He Taotao, MBA Class 2013

ArcelorMittal focuses on resource management to approach sustainability. Heather Loebner, Executive

Director, and Kevin Doyle, Environmental Manager, spoke on these issues. They improve the reuse water, which is the most critical component in the steelmaking process. Eucalyptus charcoal will be used to reduce 10 million tons of CO2 emissions between 2008 and 2015. Toxic gas is processed to create energy, and other by-products are also processed to be beneficial to other groups. Responsible sourcing principles, which incorporate health and safety, human rights, ethics and the environment, are given systematic consideration when making a procurement decision alongside factors such as price and quality. S-in motion steel gives a solution to automakers who wish to create lighter, safer and more environmentally friendly vehicles. The lighter cars definitely consume less gasoline, given other conditions unchanged. Every company knows that there is certainly a need to reduce your carbon footprint and to protect environment. ArcelorMittal's ambitious vision gives employees a consistent way to perceive sustainability. ArcelorMittal is trying to coordinate sustainability activities in the whole supply chain rather than focusing on its own manufacturing only. Although more effort is needed to implement the supply chain wide initiatives, the social, economic and environmental impacts are significant.



2012 DCMME Poster Competition



The Student Summer Internship Poster Competition is a fun and informative student event held in conjunction with the annual fall operations conference. This lively “speed dating” formatted competition was created to benefit industry visitors as well as students .

If your firm is looking for a way to connect one on one with the best operations and supply chain students, sponsoring this event is definitely something you should consider.

Contact us to learn more!

Congratulations to the five winners selected by our guests:

Solwoo Kim- Undergraduate Class 2013
(1st prize for Undergraduate Student)

Chu Chimezie- Graduate Class 2013
(1st prize for Graduate Student)

Sutapa Paul- Graduate Class 2013
(2nd prize for Graduate Student)

Yipin Lu- Graduate Class 2013
(3rd prize for Graduate Student)

William Keiser- Undergraduate Class 2013
(John Deere Sponsor's Choice Award)

We value all of our participants' preparation and willingness to share their experiences with us at the conference.

This competition was created to benefit both industry visitors as well as students by accomplishing three primary objectives:

- 1) Demonstrate to industry visitors the caliber of summer projects that Krannert students can complete during an internship and provide an alternative resource for **locating student candidates interested in operations and supply chain careers.**
- 2) Provide an **opportunity for graduate students to promote their talents** and refine their presentation skills by marketing themselves to industry visitors.
- 3) **Expose undergraduate and incoming 1st-year MBA students to the variety of companies and employment opportunities** they might encounter when searching for internship employment themselves.

Participating as judges for the competition, our industry conference guests have the opportunity to meet all of the competitors individually. Judges listen carefully and ask probing questions as the students articulate their internship work experience and accomplishments. Each group of judges rotates around the line of competitors listening to each student presenter. Students are given 3 minutes to present to each group followed by a 2 minute Q & A. Students are then judged based on content, poster display, and presentation. This year a total of twelve students participated in the competition, consisting of three undergraduate and nine graduate students.

**Graduate 1st place
Chu Chimezie**

GE Appliances was in a transitional phase of bringing back all of the production capabilities and functions from China and Mexico to Appliance Park in Louisville, Kentucky. Stiff competition in a matured and sluggish appliances market forced GE Appliances to reevaluate and benchmark its sourcing strategies and processes against Six Sigma and Toyota's Kaizen methods. My summer role at GE Appliances was to maintain the sourcing status quo, driving all stages of the quoting process for the Dish team. Through strong networking and collaborations, I was able to over deliver on the status quo and initiate both costs saving and continuous improvement initiatives. My role involved working with the design engineers to obtain the design specifications and parts needed for the dishwashers. It then shifted to working with a number of approved suppliers to ensure that they can delivered the required specifications on time and on budget. Once the designs specifications and suppliers are finalized, the costs of each sub-structure and the overall team is tracked weekly to ensure that all the teams are on target while continuously working with engineers, production teams and suppliers to ensure

that all and any changes are accounted for. Outside of those functions, I took on several initiatives to revamp the tooling and cost trackers for the team and the invoice system for paying suppliers. In addition to this, I also initiated several cost analysis and model analysis projects that will save at least \$1MM, over 10 hours/week and ensure that our suppliers are paid accurately and on time.

**Graduate 2nd place
Sutapa Paul**

This summer I had the opportunity to intern at Cancer Treatment Centers of America, headquartered in Schaumburg, Illinois. I was working as an operations intern in the Empowerment division under the direct supervision of Director of Operations, Ms. Sally Dahl. Cancer Treatment Centers of America (CTCA) provides the most advanced and state of the art care for the most complex cancer types. Its unique business model incorporates helping patients fight against cancer by using advanced technology and a personalized approach. Since CTCA is a private for profit health care facility, it has a unique business model for its patient acquisition process. CTCA possesses a group of specialized Oncology Information Specialists, who are the first medium of interaction

between prospective patients or caregivers. This entire process is managed by optimal call scheduling, resource allocation and people management by the Operations division. The operations division leverages from six sigma practices to keep the abandon rates to as low as 2%. During my summer, I was involved in multiple projects aimed at achieving operational efficiency which could help get the chat/call abandon rate to rates lower than industry standards. I independently completed three main projects, all under the direct supervision of Ms. Sally Dahl. I analyzed the optimal number of production hours required by the Oncology Information Specialists to meet their monthly quotas. The second project was to study the impact of the video chats over a period of six months and suggest recommendations to improve it. I also worked to create new status reports circulated daily and monthly to the leadership team. I intend to use the poster competition organized by DCMME as a platform to spread the word about CTCA and share my insightful experiences. Their mission, vision and values are all aligned with patient empowerment and they are committed to winning the fight against every type of cancer.

**DCMME Internship
2012** Poster Competition



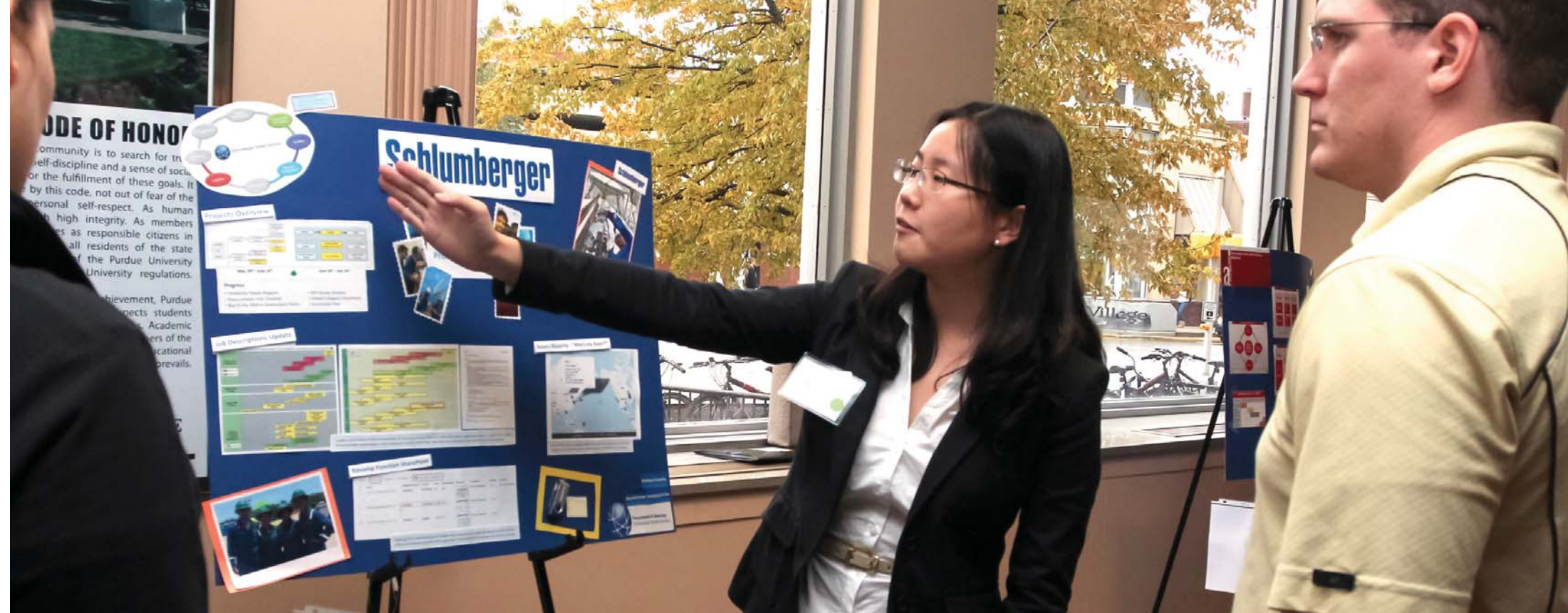
Graduate 3rd place
Yipin Lu

During the past summer, I had the opportunity to work for Schlumberger, a company that provides technology, information solutions and integrated project management that optimize reservoir performance for customers working in the oil and gas industry. The internship itself mainly focused on managing the Procurement and Sourcing related procedures, agreements and training materials to ensure the content is up to date, self-explanatory and consistent to Schlumberger's overall strategy. The goal is providing internal support services at superior levels of quality and efficiency to help facilitate the operational side of the business. For example, there was one project which involved an update of the training materials for the new Agreed Supplier List system providing convenience for our supplier managers to keep track of the suppliers' performances and related information over time.

Undergraduate 1st Place
Solwoo Kim

Michael Phelps's favorite headphone, SOL REPUBLIC, is a global consumer electronic company designed to deliver the best sound system. SOL REPUBLIC had three founders, Kevin Lee, Scott Hix and Seth Combs. Kevin Lee was the executive member at Monster Cable, well known for making Beats by Dr. Dre headphones. SOL REPUBLIC not only

provides the best quality headphones for a reasonable price, but also provides a musical lifestyle to music lovers. SOL REPUBLIC works with a variety of individuals and groups including musicians, action sports players and record labels. SOL REPUBLIC shares the sound track of life with artists and acts as messenger between artists and music lovers. SOL REPUBLIC's headquarters are located in San Francisco, CA where I had an internship. They are also located in multiple other cities including Willsonville, New York and San Clemente. My role for the summer internship was Community Marketing Assistant and Special Project Intern in the SOL REPUBLIC marketing team. The project included conducting research on existing platforms and communities and providing a growth plan to engage the SOL REPUBLIC royal fan club as known as the SOLDier community for the coming year. My main role was engaging with fans and customers to answer their questions and motivate them to engage with our products through Facebook, Twitter, Youtube, Pinterest and Instagram. I also acted as a communication bridge between the San Francisco headquarters and the SOL REPUBLIC Korea distributors. I helped SOL REPUBLIC Korea distributors understand the U.S. market's marketing strategy and method. Later I received administrator status in Korea SOL REPUBLIC social media as well to update their social media and take care of Korean customers. Moreover SOL REPUBLIC just launched a new website for customers and fans, called SOLDier of



Sound (www.soldierofsound.com). I worked with the web development team and community marketing team for this improved website. As a result, currently the SOL REPUBLIC facebook page has about 90,000 likes, and the SOLDier group includes 1,800 private fans. I increased social engagement by 2.3%. This resembled a dramatic increase in brand recognition in Korea. In addition, I endorsed the famous musician, DJ Black Matter as SOL REPUBLIC "saviors of sound." SOL REPUBLIC has assigned me as the College Representative to help their marketing in Universities. As of July, more than 1000 people liked SOL REPUBLIC fan page in just one day. After I managed the SOL REPUBLIC Korea fan page, I increased 233% of facebook engagement.

John Deere Sponsor's Choice Award– William Keiser

This past summer I interned for John Deere in their Power Systems division in Waterloo, Iowa. I was in Supply Management for service parts and was responsible for multiple projects. The main project I oversaw was developing and implementing a strategy for disposition inventory at a warehouse. The warehouse had about 31,000 parts worth over \$850,000. My strategy had multiple concepts. I was able to obsolete and scrap about 10% of the parts, eliminating the carrying and holding costs for those parts. I also helped re-source these parts to an outside supplier who owned and managed the inventory. John Deere would no longer incur the carrying costs of these parts. When John Deere required an order for one of these parts, the company would sell it back to Deere at a higher price. The saving from eliminating the holding costs offset the higher price. This was a challenging project that I was

able to complete before the end of the summer. I used many skills in this project such as: data analysis, negotiation, and I learned how to use SAP. I also worked with a team to develop an obsolescence process for another division of the company. This project was difficult because the information we needed to obsolete a part was not in SAP. In order to find this information, I had to work with engineering and find a spec level in SAP to determine when a part was last used in production. Once I learned how to do this I was able to create an obsolescence process. I trained a new part-time student on this process, so she could carry on the project after I left. I also created a training document for John Deere to use when training others to obsolete parts from this division.



2013 GSCMI Spring Conference



The 2013 GSCMI Spring Conference gathered close to 200 students, faculty, and industry participants. Executives from American Axle & Manufacturing, Amway, Caterpillar, John Deere, ConAgra Foods, and Ingram

Micro shared their unique experiences and insight into the topic of

“Right Shoring When Manufacturing Matters.”

One of the featured events held in conjunction with the conference was the GSCMI Student Case Competition, featuring both an undergraduate and

graduate case competition involving a total of 92 students.

It was enjoyable to have the opportunity to hear senior executives discuss the “big picture” world of supply chain.
Erin Roszczyk (Graduate 2014)

I learned many valuable points from this conference, and it was especially refreshing to hear concepts from class stressed by such powerful companies.
Jose Espinosa (Graduate 2014)

The case competition itself cannot be termed anything but a roaring success. Teams from both grad school and undergraduate participated with great zeal & vigor. With close to one hundred participants, this is a testament to the strength of the operations and supply chain program in Krannert.
Kashif Khan (Graduate 2014)

The GSCMI 2013 Case Competition and Spring Conference gave Krannert students a great opportunity to interact with industry judges via presentation and private talk. It was also a good time for us to use what we learned in class to solve real business problems and therefore make us more confident for our future careers.
Xiaoyang Chen (Undergraduate 2013)

In sum, the case competition was an extraordinary hands-on experience where we were able to put into practice our technical and soft skills.
Jose Espinosa (Graduate 2014)

Excellent opportunity to hear from industry professionals about real world problems & opportunities in the supply chain field.

-Matthew Larson
(Graduate 2014)



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I’m always proud to see our students in action. The GSCMI- DCMME case competition gave our students an opportunity to showcase their abilities, problem-solve, present recommendations, and think on their feet in response to judges’ questions. Everyone learned and everyone benefited. How often can you say that?

Joy Dietz
Director, Krannert Leadership
Communication Center



Student Summaries

2013 Conference Presentations

John Sofia, AAM

Manufacturing Does Matter
By Andy Schanno, MSIA 2013

John Sofia from American Axle Manufacturing had an interesting perspective of an American vehicle parts manufacturer who has had to overcome the recent recession that devastated the U.S. car manufacturing industry. He came across as a survivor. He stated that manufacturing is key to a healthy and growing national economies. In order to survive, companies need to be willing to improve efficiency with U.S. production and be prepared to manufacture internationally when appropriate. He pointed out that his production facilities utilize semi-portable machines that can be transported to other global regions if needed to meet customer demands or macro-economic changes. He also spoke about how both types of production (local and offshoring) have advantages and disadvantages and that decisions have to be made that find the optimal combination of quality control and responsiveness to a given customer segment.

Joe Markun, Caterpillar

Global Competitiveness
By Rayna Coe, MBA 2014

The presentation by Joe Markun with Caterpillar was very instructive. Joe Markun's discussion focused on the importance of the Caterpillar Dealer Network and having a strong relationship with their customers

globally to drive the financial strength that has afforded them competitive advantage in the industry. Their strategy is ensures that customers are "profitable and create a more sustainable world." Stockholders see them as a strong long-term investment, and their employees are engaged in a safe and inclusive environment. These goals help them to keep the costs of discovering and developing new customers, investors, and employees low, thereby increasing profitability and an opportunity to focus more on their Integrated Supply Chain Strategy. This strategy consists of a supply chain cycle that includes Advanced Planning, Sales & Operations Planning, Supply Chain Execution, Capability Building and Supply Chain Network Design. This cycle is driven by a vision statement to "Create and sustain a high velocity lean supply chain that is flexible and responsive enabling the enterprise business model." The cycle is also driven by performance metrics that include inventory turns, customer delivery, supplier performance, and quality.

Srisu Subrahmanyam, Ingram Micro
Enabling Right-Shoring Strategies in the Wireless Industry

By Della Rensyta Mihardja, BSIM 2013

The supply chain system of Ingram Micro is very interesting. Unlike other manufacturing companies that attended the conference such as John Deere or Caterpillar, Ingram Micro is a worldwide wireless technology distributor. Their company provides services for companies such as Apple, Blackberry, and Samsung to distribute their products to retailers such as Wal-Mart or Best Buy.

Thus, their competitive advantage lies heavily on supply chain. What is interesting to me is how these products are delivered to the distribution center as well as how these products are modified and completed by Ingram Micro. As mentioned by the Ingram Micro's Vice President of Global Engineering, Subrahmanyam, when the products are sent to the distribution center, all the phones are not yet properly functioned. The phones are merely pieces of plastic and need assembled together. In the distribution center, the software will be installed just before the phones are ready to be shipped to the retailers.

Becky Smith, Amway
Transforming Amway's Home Care Manufacturing Network

By Katharina GISHEWSKI, MSIA 2013

Becky Smith from Amway provided a very interesting talk. She managed to precisely focus on one specific problem, the company's solution to this problem and the final outcomes after the implementation of the proposed solution. Becky discussed the issue of centralizing the production of their products and the exports of these goods to other countries. Centralizing the production includes some difficulties to consider such as non-value added costs (e.g. tariffs, duties), high costs of inventory in transit, excess and obsolete inventory and the low responsiveness to demand changes due to long lead times. Amway's goal therefore was to move closer to the customers. However, the fascinating part was that they did not decentralize the production for all of their four product categories (Home Care, Nutrition, Beauty, Durables), but picked consciously to only decentralize the production of Home Care products. For instance, decentralizing the production of the Nutrition sector could cause a lot of control and safety issues whereas the Home Care products generated 75% of their revenues already outside of the U.S., and they could eliminate the "water over water" transportation. Nonetheless, in order to achieve this goal, they had to find a new manufacturer in Europe which they did with the help of their existing supplier

network. As a result, they could reduce their inventory by 50%, achieve a service level of at least 98.5%, decrease the costs of duty by 20% and cut down the lead time by 65%. The take-away was that it is beneficial attempting to decrease the cost and lead time while holding constant or increasing the service level by moving closer to the customers. However, one has to do it strategically in order to avoid adverse affects such as damage of the brand.



Craig Andrews, Con Agra Foods

Continuous Improvement

Driving Culture & Results

By Greg Taivalkoski, BSME 2013

The ConAgra Performance System is a pillar system which they have implemented into supply chain which intends to eliminate waste and losses across the company's operations. The structure at ConAgra creates a culture in which an employee will take ownership of a pillar and is responsible for keeping track of performance criteria over time. Obviously this employee will work to improve their pillar. When each pillar owner does this, ConAgra will have a more effective and efficient organization. Some examples of pillars are quality, environment, safety, and efficiency. The pillars represent the base which maintains the successfulness of the company.

Randy Sergesketter

John Deere's Global Growth Strategy

By Jose Espinosa

When analyzing your business you always need to think about where the opportunities for growth are. John Deere is a company that is specialized for the North American market, but they realize that they need to keep making money and that means investing globally. Specifically, they invest globally to support their company values of feeding the world, supporting stakeholders, growing the business, leveraging larger growth opportunities outside the US, confronting competition (even if it means going on their turf), and leveraging local lessons.

Lessons learned can be applied to other countries and improve overall competitiveness for the company. Eventually they will be able to deliver more frugal options, including in North America. One of the main challenges facing John Deere is that they are so specialized in the North American market, but they can't just take this model and transfer it to Brazil and Asia for example. They have to understand the global industry, get to know these new customers and their requirements, account for local regulations (tariffs), find out how competitors react and finally look at bandwidth and capability. Another challenge for John Deere that Randy Sergesketter mentioned was seasonality. How do you adjust your capacity? You have to find a willing workforce, and suppliers and high overhead costs need to be accounted for. Randy also brought up a great point about manufacturing; manufacturing is all about flow, density, and velocity as it pertains to operations in the plant. Finally, Sergesketter ended with an example of globalization issues in India. He went over joint venture complexities, understanding customer requests, coming up with frugal products, and finally developing a cost effective and capable supply base.



... View more student comments
on GSCMI events at gscmi.org

2013 GSCMI Case Competition



In conjunction with the GSCMI Spring Conference, the Centers also sponsor an undergraduate and a graduate student case competition. The competitions, **jointly organized by student leaderships from Operations & Supply Chain Organization (OSCO) and the Krannert Operations Club (KOC)**, aim to provide students with opportunities to transfer their classroom learning to practical problems and demonstrate their capability to an industry judge panel.



Indian Ice-cream Industry and Supply Chain Management
 A Study by Srikanth Radhakrishna, MBA Class 2013
 Supervised by Professor Qi (Annabelle) Feng

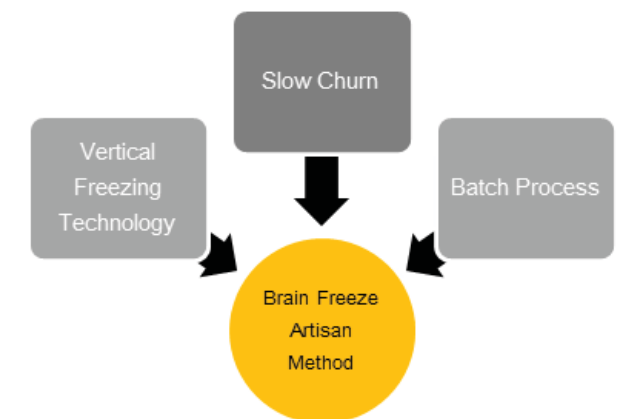
GSCMI Center graduate assistant, Srikanth Radhakrishna, undertook a project with Brain Freeze Inc., an ice-cream company based in India that sells under the Go Giddy's and Just Sundaes brands during his recent visit to India. The focus of this research, supervised by Prof. Annabelle Feng, was to understand the supply chain management practices and challenges in the Indian ice-cream industry.

Srikanth's research was then used to develop the 2013 case for both the undergraduate and graduate GSCMI Case Competition in which students evaluated the current business strategy and formulated strategies for improvement.

With a rich history of a wide variety of desserts, India has traditionally not been an ice-cream eating country. So it is no surprise that it has one of the lowest per capita ice-cream consumptions in the world. However, the prospects for the industry are set to change with favorable conditions such as improving hygiene and rising disposable income set to double the per-capita consumption of ice-cream in India over the next decade. This along with the fact the more and more people prefer branded ice-cream now, present great opportunities for companies such as Brain Freeze.

As part of this project, Srikanth visited the production and cold-storage facilities of Brain Freeze in Bangalore, India and interacted extensively with the key people at Brain Freeze to understand about the supply chain challenges faced by the company. In addition to learning in detail about the uniqueness of Brain Freeze's ice-cream, made in the "artisan way", Srikanth gained a significant amount of knowledge about the operational challenges faced by Brain Freeze in sourcing hundreds of ingredients, managing around 30 ice-cream flavors at any given point in time and dealing with under-utilized capacity issues due to the highly seasonal nature of the ice-cream sales.

Since the availability of right product mix is critical for the ice-cream companies to secure a significant share of consumer spend, flavor management plays an important role in the success of Brain Freeze. Srikanth believes that the demand modeling and capacity planning at Brain Freeze can be improved by analyzing the sales data to determine the correlation between various flavors in the product portfolio. Since the demand for a flavor in isolation can be different from that when combined with other flavors, the substitution analysis can help the company in choosing the right flavor mix so that the profit could be maximized and the out-of-stock scenarios can be avoided.



Srikanth Radhakrishna
 Srikanth Radhakrishna is an MBA student at Krannert School of Management. Prior to joining the MBA program, Srikanth was an entrepreneur and also worked for Accenture in Retail Information Systems and Operations in Bangalore, India. In the summer of 2012, he was in Richfield, MN for his internship with a major electronics retailer. Srikanth is closely involved with the Business, Technology and Entrepreneurship Club at Krannert.

Congratulations

2013 GSCMI Winners.

Undergraduate	Student Participants
Winner	Xiaoyang Chen Minqian Guo Xiang Li Della Mihardja
Runner Up	Eric Beardmore Anne Marie Sullivan Brendan Bonner Kevin Leung
Best Presenter	Xiaoyang Chen
Runner Up	Chase Hughes; Eric Beardmore
Graduate	Student Participants
Winner	Ralf Tischler Pan Pan Amit Chaudhary Debora Manea
Runner Up	Deepika Mokkarala Monica Ravi Tarun Sharma Vinod Varma Penmetsa
Best Presenter	Tarun Sharma
Runner Up	Luis Carnero

Thank you to our dedicated judge panel.

Craig Andrews Director - Lean Supply Chain **ConAgra Foods**
 John Bolden HR Director, Global Purchasing **Caterpillar**
 Mark Burton Strategic Sourcing Manager **John Deere**
 Chad Cannaday Director of Program Management **AAM**
 Lorne Day Leader of Global Purchasing **Caterpillar**
 Matt Dobin Production Planner **ArcelorMittal**
 Lia Z. Douglas Sr. Strategic Solutions Manager **FedEx**
 Frank Fisher Director of Manufacturing **Helena Industries**
 Mike Haburne Supply Chain Analyst **Stryker**
 Steven Mullins Supply Chain Analyst **Stryker**
 William Muzzillo Manufacturing Manager **GM**
 Scott P. Orr Sr. Strategic Solutions Manager **FedEx**
 Allan Outlaw Campus Manager, University Relations **Eaton**
 Anthony Thompson Production Planner **ArcelorMittal**
 Andy Woehler Assistant Manager, Production Planning **Toyota**
 Stanley Upton Senior Group Leader **Target**



... View all student presentation slides, videos, pictures, and full list of participants at gscmi.org

2013 TVS India Trip



The TVS India Internship organized by the DCMME/GSCMI Center in conjunction with the TVS Motor Company was developed in 2006. Providing a unique study abroad internship opportunity in Bangalore, India, this trip assists students in developing a global business perspective while enhancing their resume profiles. **Participants have a distinctive occasion to take concepts learned in the classroom and apply them to real life business situations.**



"An amazing opportunity to work for a company in another part of the world and learn how business is done in a different culture. We were given real projects that TVS valued and we therefore got to make a positive impact on the company..."

Sarah Tanoury -BSIM 2013

2013 TVS Projects

Project Title	Student Participants	Project Objective
Employee productivity metrics	Hyuna Im; Zenita Subba	To propose a framework for productivity measurement of employees for respective functions/departments
Effectiveness of TVS CRM initiatives	Lauren Young Rebecca Obikunle Cristina Debora Manea	To improve effectiveness of loyalty program implementation
Developing human capital as a competitive edge in the extended organization	Yonghua Li Anuradha Surya	To improve dealer Sales & Service Personnel productivity & engagement. These are critical to improving Dealer Productivity & Profitability
Customer Segmentation : insights into prevailing trends and strategy for future	Aditya Ghamande Spencer Slaton Kongpon Kijnum	To develop a common framework for understanding of current and emerging customer segments and their behavior; thereby identifying opportunity spaces in the industry
Business analytics with dealership service data - Insights into product quality	Julia Phillips Anupam Bansal Yohan Min	To analyze complaint information and predict the trend and be more proactive in correcting any complaints or failure before it become a major issue
Improve on timely completion of GB / BB projects	Kuldeep Yadav Xinxin Xi	To identify challenges or reasons for non completion of projects
Reduction in turn around time of trucks inside Hosur plant by designing and implementing IT based scheduling system	Manigandan Ramesh Mark Shelton Sarah Tanoury	To reduce turn around time of Outbound trucks



This innovative & challenging global program is celebrating its seventh year of success with a total of 97 students having participated, represented by MBAs, MSHRMs, as well as engineering and management degrees. Work on this two credit course begins in mid February when students begin communication with their mentors. Discussions with their mentors regarding project objectives and completion of research pre-departure for India help to ensure a productive and successful internship for everyone involved. The course culminates with a three week visit to Bangalore, India in May where students continue work on their projects with TVS mentors and present their final work to TVS Company representatives.

This year, eighteen students headed for the airport on May 4th to begin their flight to Bangalore, India, the location of their TVS internship. Students were accompanied by professors of management, Professor Suresh Chand and Professor Tom Brush. The internship lasted three weeks ending after final presentations on May 24th. After arrival, the first days were devoted to a TVS orientation & plant tour. Although project work is the main focus, students also have many cultural

learning opportunities offered to them as well. TVS coordinates dinner for the students to meet with various Indian families in their homes as well as provide an evening of classical Indian music and dance. A weekend trip to the Taj Mahal is yet another highlight to the trip.

TVS selects their projects primarily based on meaningful work product. Part of the success of the program rests on the fact that students are aware that the consulting projects carry great importance to the firm, and if done well, they will likely become part of an adoption and implementation strategy. The projects the firm ultimately offers tend to have a unique balance of the following qualities: analytical complexity, urgency for resolution, lack of available resources to assign internally, and a desire to test a current business situation against international best practices. Projects cover many different management areas including Operations & Supply Chain Management, Human Resources Management, and Sales, & Management Information Systems, naming just a few.



TVS is a Deming Prize winning two-wheeler manufacturing company producing motorcycles, scooters, and mopeds. TVS has been credited with many innovations in the Indian automobile industry, notable among them being the introduction of India's first two-seater moped. Krannert alumnus Venu Srinivasan (MSM '77) is the chairman and managing director of TVS Motor Company.

Who is TVS?



Student Engagement Opportunities



Student Focused.

DCMME & GSCMI strive to bring our students the best occasions to support their academic endeavors through a wide range of engagement opportunities including interaction with industry, international internships, academic programs, competitions and a variety of other marvelous events. Our events are **academically enhancing and provide excellent venues for networking** with faculty and industry executives.

We highly encourage our students to:

- Join us in DCMME & GSCMI Conferences
- Participate in DCMME & GSCMI Student Competitions
- Become a volunteer for DCMME & GSCMI events
- Become a GSCMI Undergraduate Student Member
- Participate in company sponsored projects under the supervision of DCMME & GSCMI faculty
- Do research in Supply Chain and Operations under the guidance of DCMME & GSCMI faculty
- Become a graduate assistant for DCMME & GSCMI

Faculty Directed Student Projects:

Every firm has that “job jar” of important projects that just never seem to reach peak priority for the limited resources available. These are exactly the projects that the DCMME-GSCMI Centers are interested in assisting you with.

1.Spare Parts Inventory Management, Evonik

•Student team: Ana Romero (MBA 2013), Joshua Kwak (MBA 2013), Sutapa Paul (MBA 2013), Roshan Picardo (MBA 2013), Susana Restrepo (MBA 2013)
•Faculty Advisor: Qi Annabelle Feng

Evonik is one of the largest specialty chemical companies. It is headquartered in Germany and does business globally. It holds presence in more than 100 countries and operates production plants in 24 countries. The employee strength is approximately 33,000. The core business is focused on high-growth megatrends such as health, nutrition, efficiency and globalization. In regards to performance (2011), Evonik generated sales of €14.5 billion and operating result of €2.8 billion. Evonik acquired the Tippecanoe Laboratory from the previous owner Eli Lilly, as a strategic investment to enlarge their presence in the pharmaceutical industry. This purchase augments Evonik's exclusive business of synthetics in America and adds capacity for additional market growth. Evonik's exclusive Synthesis & Amino Acids Business Line, part of the company's Health & Nutrition Business Unit, focuses on the customized production of pharmaceutical intermediates, active pharmaceutical ingredients, amino acids, and high-quality derivatives. The data analysis part of this experiential learning process entails understanding of diverse machinery and their spare parts in the T2C fermentation unit of the Tippecanoe labs. The existing inventory management strategy caused high levels of inventory, leading to high

inventory costs, while at the same time causing stock-outs. The project objective was to analyze current spare parts inventory and maintenance practices to identify improvement opportunities and inventory management strategies. After receiving the procurement data, the team classified the spare parts based on three criteria: lead time, cost, and frequency of usage. The team suggested specific inventory policy according to each category's characteristic. To summarize, the team presented the following set of recommendations: characterize inventory based on characteristic of material, link the inventory policy to the PM schedule, and lower ordering costs. Under the guidance of Professor Feng, students gained deeper insight into strategic operational tools.

2.Order Consolidation, Ingersoll Rand

•Student team: KofoAdafin (MBA 2013), Shikhar Agarwal (MBA 2013), Xiaosi Fu (MBA 2013), Pradeep Nallabelli(MBA 2013), Rohan Vohra (MBA 2013)
•Faculty Advisor: Qi Annabelle Feng

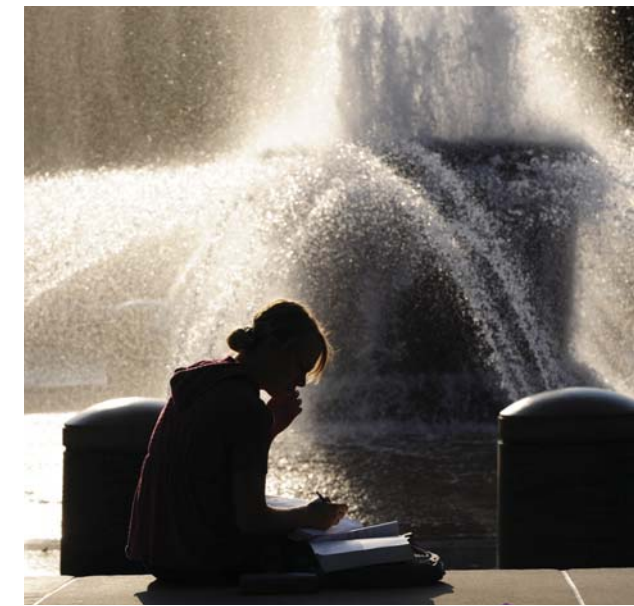
The Ingersoll Rand order consolidation project was created to determine a solution to improve the order consolidation efforts between the various manufacturing sites for the Security-Technologies division in North America. Customers did not want to receive a single order in multiple shipments all arriving on different days. The focus of the project is to analyze several alternatives that would improve or eliminate the problem. The team determined that there were a few solutions that would improve or eliminate the problem:

- Use warehousing to receive goods from different manufacturing sites, and ship completed order.
- Use coordination of ERP systems for scheduling of productions so finished goods from different manufacturing sites arrive to the customer on the same day.
- Use cross docking and milk runs to consolidate orders when they are ready for delivery.

3.Pareto Carries Based on Shipping Times, Caterpillar

•Student team: Saurabh Arora (MBA 2013), Yipin Lu (MBA 2013), Debdeep Roy (MBA 2013), Jing Zhao (MBA 2013)
•Faculty Advisor: Qi Annabelle Feng

Caterpillar Inc. also known as “CAT” is an American corporation which designs, manufactures, markets and sells machinery and engines and sells financial products and insurance to customers via a worldwide dealer network. Caterpillar is the world's largest manufacturer of construction and mining equipment, diesel and natural gas engines and industrial gas turbines. With more than US\$70 billion in assets, Caterpillar was ranked number one in its industry and number 44 overall in the 2009 Fortune 500. Caterpillar stock is a component of the Dow Jones Industrial Average. Caterpillar Inc. traces its origins to the 1925 merger of the Holt Manufacturing Company and the C. L. Best Tractor Company, creating a new entity, the California based Caterpillar Tractor Company. In 1986, the company re-organized itself as a Delaware corporation under the current name Caterpillar Inc. Caterpillar's headquarters are located in Peoria, Illinois, United States. The objective was to understand the inefficiencies in the supplier network and to lay out a plan to optimize supplier-shipping network. Based on the information gathered, the optimized network would give rise to higher efficiency. The team worked together to understand the root causes and possible impacts. They collaborated with multiple departments in Caterpillar Lafayette factory and acquired significant amount of data on transportation times and routes. After several iterations and modeling exercises, high impact areas were identified, including (1) segments/carriers that caused production schedule disruption due to deviation from the estimated delivery time and (2) specific legs that have variability.



If your company is interested in supplying a project to our students, please contact us at gscmi@purdue.edu

Company Projects

4. Inventory Management & Production Planning, CCI

•Student team: Randall Miao (MSGSCM 2013) Shankar Rajagopalan (MSIA 2013), Sunil Merumu (MBA 2014)

•Faculty Advisor: Julia Kalish

This project with Coleman Cables Inc. (CCI) was about inventory management and production planning. The project provided understanding on how inventory management works in organizations. During the course of the project, it was evident that even advanced planning systems have drawbacks. This project primarily dealt with made to order items, where there is immense pressure due to lead times and hence such planning is of utmost importance. The team, along with company representatives with able guidance from Dr. Julia Kalish and the GSCMI center, came up with an advanced system to estimate process losses and incorporate losses into the planning system. Traditionally, these losses lead to mismatch in inventory management and often lead to shortages. For a cable manufacturer, shortages can be very troublesome as requirements are in terms of length, and shortages in meeting requirements would mean making the entire cable again. The system developed helped CCI address the issue of matching copper lengths with insulation requirements. Having an opportunity to work with a real life problem gave the students great insights into planning systems and the impacts of how it might affect business and customer relationships in general.

5. Supply Chain Strategies, The Chao Center

•Student team: Bin Gao (MSGSCM 2013), Sai Gao (MSGSCM 2013), Angelica Rodriguez, Yanbing Shi (MSGSCM 2013)

•Faculty Advisor: Julia Kalish

The Chao Center is located in West Lafayette, Indiana, within the Purdue Research Park. It is the only facility approved by the Food and Drug Administration (FDA) to manufacture and market Seromycin®, a life-saving treatment for Multidrug-Resistant Tuberculosis (MDR-TB). Currently, the Chao Center is facing several challenges regarding the sales of Seromycin®; sales have been dropping during the past several years due to competitors with lower prices and a reduction in the number of TB cases. In order to increase their market share, the Chao Center needs to reduce their selling price to compete with the rest of the market. Team members Bin Gao, Sai Gao, Angelica Rodriguez, and Yanbing Shi from Purdue University's Global Supply Chain Management program assisted the Chao Center in tackling these issues. The team analyzed several cost components for the Seromycin® capsules along with the Chao Center's current supply chain strategies to identify opportunities for improvements in those areas.

Optimization of the Chao Center's supply chain, consequently reducing cost, was recommended by the Purdue team. Specifically, this included stabilizing the customer demand to minimize the risk due to demand uncertainty; ordering the amount of raw materials required to meet the customer demand; switching to a different transportation method for raw materials; and negotiating with third parties to split the transportation cost. Finally, the plan included optimizing the truck capacity by changing the shipping load units. For the cost

analysis, the team used past sales data for Seromycin® to forecast next year sales and to determine different demand scenarios. Afterwards, different alternatives were developed to compare the total cost per capsule for each of the demand scenarios. The analysis showed that total cost per capsule dropped significantly with changes in negotiation contracts, which attests to ordering raw materials according to the demand forecast instead of purchasing the minimum order quantities required from the suppliers. Furthermore, the cost per capsule can be reduced by sharing truck capacity with third parties and in turn splitting transportation costs. This demonstrates the importance of how supply chain strategies can impact the overall cost of the product, and consequently, the customer demand for that product since the Chao Center will be able to have the same price, or even a lower price than its competitors which can potentially improve their sales for Seromycin®.

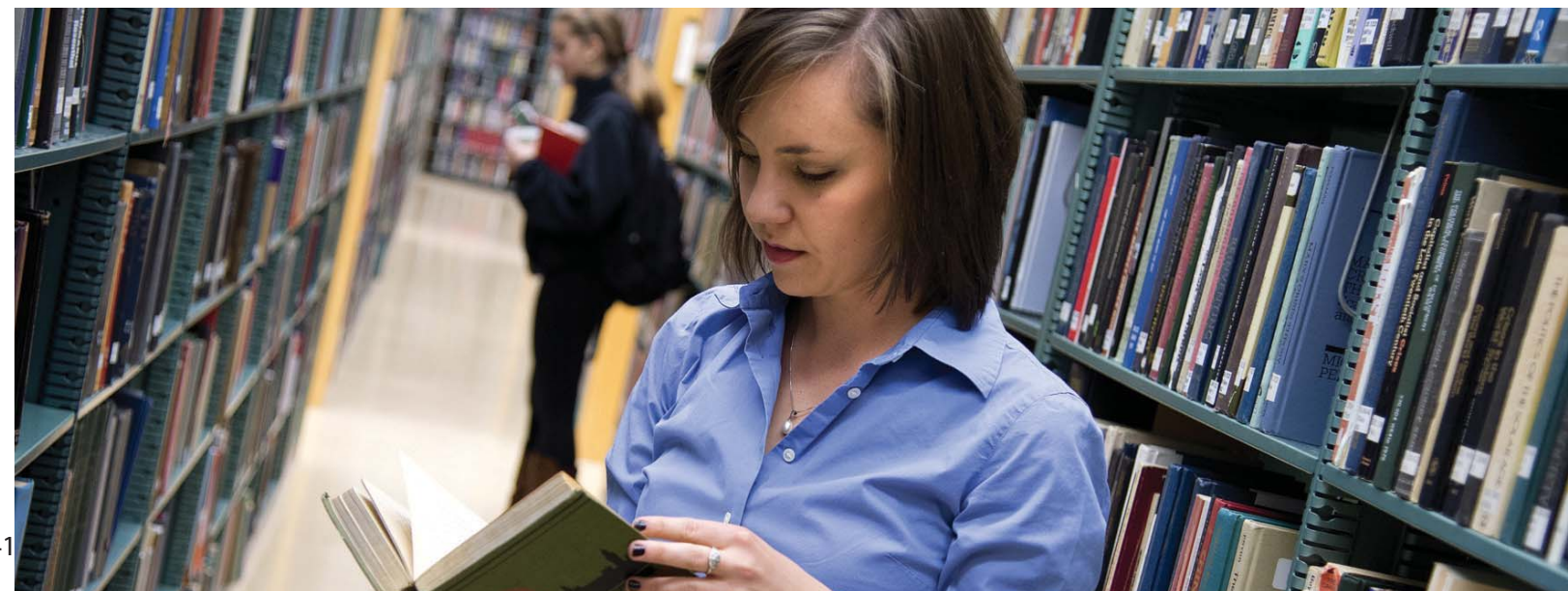
6. Rubber Raw Materials, CCI

•Student team: Christine Zhang, Deepika Mokkarala (MSGSCM 2013), Isra Gadri (MSGSCM 2013), Yichen Ding (MSGSCM 2013)

•Faculty Advisor: Julia Kalish

During the summer semester of the Masters in Global Supply Chain Management program, a team of students worked on a project for Coleman Cable Inc. through the GSCMI center. Coleman Cable, Inc., headquartered in Waukegan, Illinois, is a leading manufacturer and innovator of electrical and electronic wire and cable products for security, sound, telecommunications, electrical construction, retail, commercial, industrial, irrigation, and automotive markets. The team

was faced with inventory and supplier issues and acted as student consultants from Purdue for the Coleman Cable Inc. Lafayette, Indiana branch specifically in the rubber raw material department. After Coleman Cable Inc. decided to manufacture the rubber component for their products at their own facility, they were faced with new challenges in vendor and inventory management of the raw materials. The project's main objective was to avoid shortages in inventory of the raw materials and to bring about a consistent ordering pattern. The team analyzed the data available since the production had begun and provided an excel based inventory model which dealt with the purchasing and maintenance of 45 critical parts coupled with the MRP (Material Requirements Planning) system utilization. This solution helped reduce shortages in inventory. Students also worked towards a vendor management system by which the company could bring about an ordering pattern among 22 different suppliers. They documented the changes in processes and made the solution more flexible for future enhancements. The solution required no investment and slight adjustments were made to the internal processes to accommodate this model which helped the company reduce their production and procurement costs. As students in the Global Supply Chain Management program it was an excellent learning experience for the team to be able to apply classroom lessons to solve industry challenges. The company is currently using this model for purchasing and inventory management and is considering extending this solution to other departments with similar issues.



... If your company is interested in supplying a project to our students, please contact us at gscmi@purdue.edu

Volunteer Opportunities

The Center offers many occasions for both undergraduate & graduate students to experience action-based activities which give real-world experience & provide vital leadership preparation. Our events utilize and enhance their skills & provide excellent networking opportunities with potential employers!

- DCMME Fall Operations Conference
- GSCMI Spring Conference
- GSCMI Spring Case Competition

To our many student volunteers

Thank you.

You make our events a success.

Student Clubs Supervised by Center Faculty

1. Operations & Supply Chain Organization (OSCO)

Mission: To provide the means for members to gain exposure in the field of operations and supply chain management while effectively networking with companies to cultivate career opportunities for the future.

President: Sarah Tanoury, stanoury@purdue.edu

Vice President of Events: Prateek Jalan, jalanp@purdue.edu

Faculty Advisor: Dr. Qi Annabelle Feng, annabellefeng@purdue.edu

2. Krannert Operations Club (KOC)

As an organization under the Krannert Graduate Students Association, The KOC mission is to expose students to real-world opportunities through different channels; KOC hopes to broaden the understanding of Operations beyond the traditional classroom setting. During the course of the year, they organize various events bringing in various operational leaders from the industry to provide students with insight and future outlook.

President: Courtney Kane, kane12@purdue.edu

Vice President of Events: Surnaik Srivastava, surnaik@purdue.edu

Vice President of APICS: Matt Larson, larson0@purdue.edu

VP of Case Competitions: Andrejs Strateicuks, astratei@purdue.edu

Vice President of Communication: Russ Isaac, risaac@purdue.edu

Faculty Advisor: Dr. Suresh Chand, suresh@purdue.edu

3. Krannert Asian Business Club

The club was formed to enhance Asian students' experiences at Krannert. It is intended to keep the members in touch with the business communities in Asia and the US. The club also assists the recruitment efforts through on- and off-campus events that are professional, educational, and cultural. The vision of the club is to build awareness of doing business in Asia among the student and alumni body.

President: Han Zheng, zheng166@purdue.edu

VP Development: Jijai Zhou, zhou340@purdue.edu

VP Communication: Afief Baasir, abaasir@purdue.edu

VP Internal Affairs: Chenyang Liu, liu983@purdue.edu

VP Finance: Pan Pan, ppan@purdue.edu

Faculty Advisor: Dr. Feng, annabellefeng@purdue.edu

GSCMI Undergraduate Membership

The purpose of the GSCMI Undergraduate Membership is to recognize undergraduates who are excellent academically and demonstrate leadership through various experiences; GSCMI will provide those who are serious in pursuing a supply chain and operations career unique opportunities in their knowledge building and career development including the following:

- o Work on Supply Chain and Operations Projects supervised by faculty members
- o Participation in faculty directed undergraduate research projects
- o Exposure to GSCMI organized conferences and case competitions
- o Interaction with graduate students
- o Opportunity to have a graduate mentor

Requirements:

- o Interest in Supply Chain and Operations Management
- o Sophomore or above
- o Apply at gscmi.org

Center Graduate Assistants (2012-2013)

Ivan Banchs

Mirant Desai

Yipin Lu

Arjjodev Mukherjee

Srikanth Radhakrishna

Yesh Yalanahalli

Vijay Sachdeva --Graduate Assistant of the Year

Vijay Sachdeva is a second year MBA student at Krannert School of Management. Prior to joining the MBA program, Vijay was product managing 4G-LTE telecom products in a Japanese company in Tokyo. In the summer of 2012, he was in Washington-DC for his internship with a Switzerland-based telecom company. Vijay is currently involved with Operations club and Boiler-Volunteer-Networks at Purdue. In his free time, he enjoys cooking, reading literary travelogues, and studying cultures and languages. Vijay also speaks Japanese, which he learned in Japan by going to weekly social gatherings. Vijay is a Graduate Assistant with GSCMI, where he is actively involved in Center's activity in addition to his contribution with supply-chain game design for classroom setting.



Krannert Operations Club (KOC)

2012-2013 Activities and Events

Amazon Visit:

On April 26th Operations Club members visited Amazon's Fulfillment Center IND1 at Indianapolis. Members observed how Amazon handles large volumes of inbound and outbound packages in their daily operations. Members discovered that Amazon is a living breathing unit that only works when all of the associates and management are working together. The stress on continuous improvement is exactly what makes Amazon the largest e-retailer in the United States.

Toyota Plant Visit:

In this tour members got a chance to learn about the history of "Toyota," how it came about, why it developed, the vision the founder had, and how the Toyota's philosophy and practices are embedded in the culture. What makes Toyota stand apart from other firms is the vast effort the company stresses on quality and KAIZEN "continuous improvements."

FedEx Supply Chain Information Session:

Senior managers from FedEx explained to the members how FedEx manages its vast supply chain across the globe. They had a very interactive session wherein the new challenges and trends of future in supply chain were discussed.

Internship 101 Event:

This one of a kind event was hosted by Operations Club last year. This event assisted in informing the incoming first year students of the internship opportunities and what to expect during their internships. Students were provided information about all of these things by the returning second year students. The second years club members shared their experiences and helped first years understand more about what industry expects from them when they go for internship.

'Interacting with Associates Event'

KOC provided training to their club members on how to interact with the most important workforce in the organization – the front line field associates. To deliver this message the club invited Amazon Fulfillment Center managers to share their experiences with the students. Post-training a competition was held in which each participating student was given real life "message" that needed to be delivered in front of the club members who were playing the role of the associates.

MIT Sloan's 9th Annual Operations Simulation Competition
250 Teams across the U.S. compete in this 3 daylong event....
KOC ranking:

40th: Krannert team 3 – Kevin Hsueh, Tien-Hsiang Lee, Erica Lee, Kathy Lee

51st: Krannert team 1 – Saurabh Vijayvergia, Megha Agarwal, Kian Hui Quek, Andrejs Strateicuks

53rd: Krannert team 4 – Gopalakrishnan Vaikuntam, Jun Karamon, Philip Hsueh, Shankar Rajagopalan

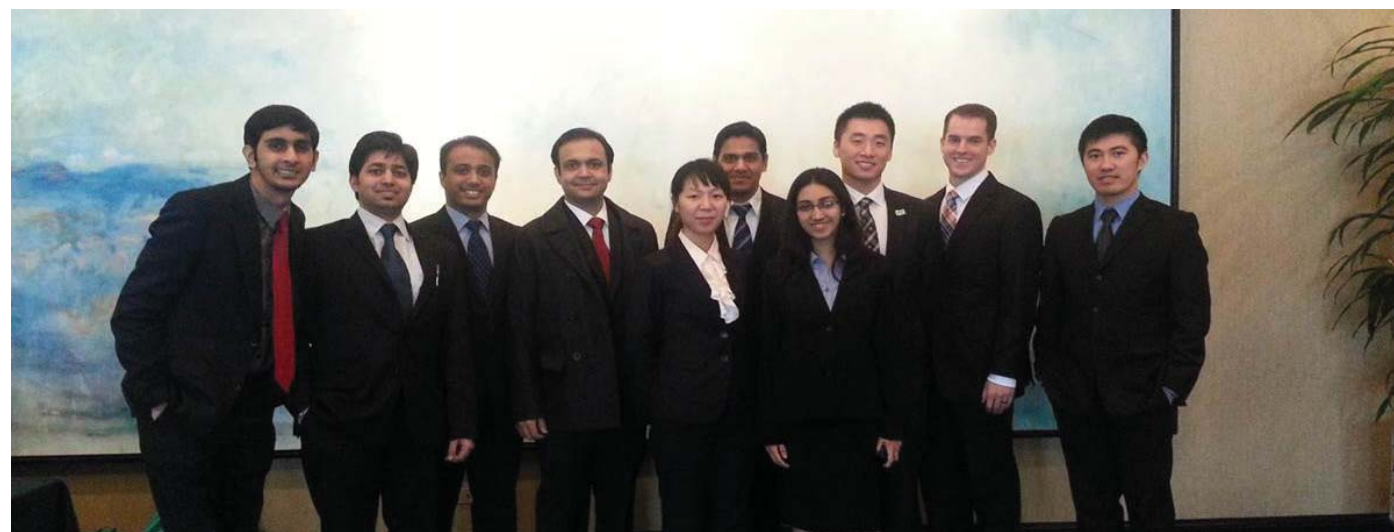
54th: Krannert team 2 – Bharat Varshney, Yipin Lu, Aniesh Aravind, Naoto Utsumi

Operations Club – Krannert Placed 1nd and 4th in APICS Great Lake Case Competition:

Team 1 (1st place): Wei Yang, Kashif Khan, Bhoomika Chilakamarri, Shreyas Mehta, Jing Zhao

Team 2 (4th place): Ben Toney, Saurabh Vijayvergia, Xinxin Xi, Tarun Sharma, Abhishek Pandey

MIT Sloan 9th Annual Ops. Sim. Comp



Operations & Supply Chain Organization (OSCO)

2012-2013 Activities and Events

Guest Speakers:

Purdue Alumni came to speak to OSCO about various Operations and Supply Chain career paths. They specifically shared experiences in their careers. Guests included:

- Jonathon Rosenberg: Purdue Alum (Class of 1992). CEO of Phillips 66.
- Bernie Faulkner: Krannert Alum (Class of 1992). COO of Filter Specialists, Inc.

Information Sessions:

The purpose of the information sessions is to gain exposure to different companies, learn about the company background, and various opportunities they have for full time and internship positions. These sessions also provide an occasion to learn about the company operations and supply chain management practices. Visiting companies for 2012-2013 included:

- Danaher
- Total Quality Logistics
- John Deere
- Leprino Foods
- Shell Oil
- Hormel Foods
- ArcelorMittal
- Wal-Mart

Plant Tours:

Plant tours provide the opportunity to see first-hand how different industries operate by company guided tours. This year's tours included:

- Quaker Oats Plant - PepsiCo
- Beckman & Coulter Plant – Danaher
- Amazon Distribution Center

Other Involvement:

OSCO is involved in various other engagements by teaming up with the GSCMI-DCMME Centers throughout the year. The Center provides occasions for OSCO club members to volunteer and participate in annual events:

- OSCO takes a leading role in organizing the GSCMI Spring Case Competition for undergraduate students. This year, OSCO recruited 11 teams of four students each and brought these students together with industry professionals to display and polish their problem solving and presentation skills.
- OSCO provides resume critiques and a career fair workshop each semester geared towards operations and supply chain management positions.

Officer Elections for fall 2013 semester:

- President:** Sarah Tanoury (BSIM 2013)
- Senior VP:** Prateek Jalan
- VP of Finance:** Hugo VanRoessel
- VP of Marketing:** Nick Bafunno
- VP of Professional Activities:** Jess Miller
- VP of Information Systems:** Laura Mazzocco
- VP of Operations:** Huan Zhi



Academic Programs 2012-2013

Krannert School of Management

GSCMI Center offers two certificates to our Master's Students.

The Global Supply Chain Management (GSCM) option allows students to learn how the network of suppliers, manufacturing facilities, distribution centers and customers located around the world work together to ensure that the right product arrives at the right place at the right time for the right price. The Center granted 52 certificates in 2013.

Managing a manufacturing enterprise has never been more challenging or exciting than today. With the focus of corporate leaders increasingly shifting towards innovation and entrepreneurship and high-value, high-margin products in new and evolving industries, students must be well-prepared to succeed in today's highly competitive world of manufacturing. The Manufacturing & Technology Management (MTM) option focus allows students to prepare for these challenges. The Center granted 29 certificates in 2013.

Master of Science in Global Supply Chain Management Program Highlights

- Full-Time, One Year Program (Spring, Summer and Fall).
- Curriculum designed to meet the rapidly growing business need for specialized talents with thorough understanding of the intricacies involved in global supply chain management as well as strong analytical and leadership skills.
- A wide selection of courses developed by Krannert faculty who teach in our elite Operations programs (ranked #3 and #6 for undergraduate and MBA in 2011 US News and World Report).
- International partnership across a global supply chain with Tianjin University (China), Institute of Management Udaipur (India), and Universidad Popular Autónoma del Estado de Puebla - UPAEP (Mexico) brings unique global perspective and experience to the students.
- Faculty directed summer internship/experiential learning projects give students unique learning experience by working in international teams to apply classroom knowledge to the real world under close faculty guidance. The Global Supply Chain Initiative (GSCMI) Center works with partner institutes and company sponsors to offer the students project opportunities in China, India, Mexico, and United States.

Krannert MBA Option in Operations Management

Operations Management is a multi-disciplinary field that focuses on managing all aspects of an organization's operations to provide products and services. Operations managers apply ideas and technologies to increase productivity and reduce costs, improve flexibility to meet rapidly changing customer needs, enhance product quality, and improve customer service. The concerns of Operation Management range from strategic to tactical and operational levels, which involve designing, planning and managing the system.

The Operations Management Concentration is designed to prepare students to be leaders in their operations management careers. With the trend in globalization and decentralization, successful management of supply chain requires system thinking and cross-functional skills. The rigorous coursework and curriculum offered by Operations Management faculty at Krannert aim at providing state-of-the-art trainings to ensure the competitiveness of our students.

Undergraduate-- Supply Chain, Information, & Analytics Major

The Supply Chain, Information, and Analytics major is a boundary-spanning field of study that integrates supply chain- the sequence of organizations and activities in acquiring, producing, and delivering goods and services all over the world- and analytics- the broad set of analytical and numerical methodologies that enable business problem solving and decision making. The program unites the strengths of three elite programs in Krannert: Operations Management (#3 in U.S. News & World Report undergraduate business rankings in 2012), Management Information Systems (#15) and Quantitative Analysis (#5).

The curriculum is designed to meet the rapidly growing business need for multi-disciplinary talents with strong analytical and leadership skills. Students complete a set of courses in all three sub-areas and select a career track of one sub-area for in-depth study. While the career tracks allow students to be well-prepared for a career in supply chain, information systems, or business analytics, the major prepares students with a cross-functional career that is required of major global companies.

GSCMI Scholarships 2012-2013

Through the generous sponsored scholarships provided by our industry partners, students who express sincere interest in supply chain management and manufacturing management can benefit from Krannert's highly regarded undergraduate and MBA programs.

A special thanks to all who contribute to scholarship funding for our DCMME/GSCMI students.

Caterpillar GSCMI Scholarship

Abigail Einhorn
Isaac Fox
Laura Holmes
Edwin Park
Tianyi Zhang



Ensign-Bickford Scholarship

Dawei Hou



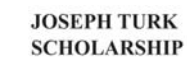
John Deere GSCMI Scholarship

Laura Holmes



Joseph Turk DCMME Scholarship

Xiaoyang Chen



Recognition: a top ranked program
The Krannert Operations Management option has been recognized for its excellence by national publications that ranks such programs/specialty areas. 2013 US News and World Report ranked our operations MBA and Undergraduate options #7 and #3;

Top Ranked.

Industry Engagement



Dedicated industry partnerships are at the heart of success for the DCMME-GSCMI Centers. We thank our many distinguished industry partners for their significant and ongoing involvement and support. Our mission and the many important objectives set for the Centers could not be accomplished without you.

Thank you.

Interested in partnering with us?

•Global Supply Chain Master's Program Fellowship

This is an exclusive offer to our Executive Partners. The Center provides \$15,000 tuition scholarship to a qualified employee from your company, who enters the nine-month Master's Degree Program in Global Supply Chain Management at Krannert.

•Faculty-Directed Student Projects and Internship

As an Executive or Premier Partner, you can bring us the problems you have in your organization. Our faculty will carefully scope out the projects, select the interested students with the right skills and closely guide them toward tangible deliverables to your organization. This is a great opportunity to interact and work with our talented students, who could be your potential future employees.

•Case Studies & Case Competitions

You may want to tell about your new initiatives in your organization, and our faculty will put together a case study for student case competitions. Or, you may simply sponsor a student case competition and provide a named prize for the winners.



To become a Partner, choose a funding level appropriate for your organization.

Executive Partners **provide annual funding at the level of \$40,000 or more.**

Premier Partners **provide annual funding at the level of \$25,000 or more.**

Corporate Partners **provide annual funding at the level of \$15,000 or more.**

Partnership.

•Named Scholarships

Give a scholarship to our elite students with your company name- your encouragement to our students will always be remembered by the students and by Krannert.

•Executive Short Courses & In-House Training

Send your employees to get customized training that meets the need for the business growth. Krannert offers world renowned teachers in supply chain, logistics and operations management.

•Resume Scrapes

We have students that have identified themselves as operations oriented. We can get you these resumes sooner to improve your chances for recruiting.



Center Partners and Event Sponsors:



Dedicated industry partnerships are at the heart of success for the DCMME-GSCMI Centers. We thank our many distinguished industry partners for their significant and ongoing involvement and support. Our mission and the many important objectives set for the Centers could not be accomplished without you!

Thank you.

Faculty Involvement



Faculty Directed.

We are grateful for the many faculty at Krannert who participate in Center sponsored events, projects and research. Thanks to each one of them for their efforts to progress the scholarly works in Operations and Global Supply Chain Management.

Tom Brush

Tom Brush is Professor of Management at the Krannert School of Management, Purdue University. His research focuses on corporate strategy and manufacturing strategy topics. His current research interests examine the disintermediation of existing business models with e-commerce initiatives. This research extends his research on supplier relationships and corporate strategy to issues such as outsourcing, e-commerce marketplaces, and online banking. He has published in Management Science, Strategic Management Journal, Production and Operations Management, Journal of Economic Behavior and Organization, Managerial and Decision Economics and Explorations in Economic History.

He serves on the Executive Committee of the Academy of Management. In 1991 he received the Free Press Award for Outstanding Dissertation Research in Business Policy and Strategy in its doctoral dissertation competition. He was awarded the AlliedSignal Manufacturing Management Excellence in Teaching Award in 1999. He is a member of the Academy of Management and Strategic Management Society and is on the editorial board of the Strategic Management Journal, Manufacturing and Service Operations Management, and Journal of Management.

Suresh Chand

Professor Chand teaches Operations Management. His current research interests include application of Operations Management principles in improving health-care delivery processes, supply chain models to match supply with demand with multiple orders, and investigating characteristics of batch sizes in presence of learning and forgetting. Professor Chand has been with Krannert since 1979. He has taught a variety of OM courses at Krannert ranging from core courses for the MBA (both regular and executive) and undergraduate students to electives to undergraduate and MBA students on topics such as Factory Physics, Technology Management, Supply Chain Management, and Service Operations Management. He also teaches doctoral seminars. He is currently senior editor for Production and Operations Management. He served as Associate Editor for Management Science (1986-2008). He was area editor for Production and Operations Management (1988-2003). He was also senior editor for Manufacturing and Service Operations Management (1999-2003). He was the general chair for POM 2005, the annual international conference of the Production and Operations Management Society.

Greg Hundley

Professor Hundley's interests include human resource management, compensation and reward, international human resource management, and entrepreneurship.

His current areas of research include strategic human resource management, self employment, and international compensation. Professor Hundley is also interested in the effects of national culture on human resource outcomes. Professor Hundley has been on the faculties of the University of Oregon, University of Western Australia and Xavier University. He is on the editorial board of Asia-Pacific Journal of Human Resources. He is a member of the Academy of Management and the Industrial Relations Research Association. In 2001, he received the John and Mary Willis Young Faculty Scholar Award.

George Shanthikumar

Professor Shanthikumar joined the Krannert faculty in 2009. Prior to coming to Purdue, he was a Chancellor's Professor of Industrial Engineering and Operations Research at the University of California, Berkeley. His research interests are in integrated interdisciplinary decision making, model uncertainty and learning, production systems modeling and analysis, queueing theory, reliability, scheduling, semiconductor yield management, simulation stochastic processes, and sustainable supply chain management. He has written or co-written more than 250 papers on these topics. He is a co-author (with John A. Buzacott) of the book Stochastic Models of Manufacturing Systems and a co-author (with Moshe Shaked) of the books Stochastic Orders and Their Applications and Stochastic Orders.

He was a co-editor of Flexible Services & Manufacturing Journal and is (or was) a member of the editorial boards of the Asia-Pacific Journal of Operations Research, IEEE Transactions on Automation Sciences and Engineering, IIE Transactions, International Journal of Flexible Management Systems, Journal of Discrete Event Dynamic Systems, Journal of the Production and Operations Management Society, Operations Research, Operations Research Letters, OPSEARCH, Probability in the Engineering and Information Sciences, and Queueing Systems: Theory and Applications.

Professor Shanthikumar has extensively consulted for various companies, including Applied Materials (AMAT), Bellcore, IBM, KLA-Tencor, NTT (Japan), Intel, Intermolecular, ReelSolar, Safeway, and Southern Pacific. Through KLA-Tencor, he has worked on joint development projects for Advanced Micro Devices, IBM, Intel, LSI, Motorola, Texas Instruments, Toshiba, Fujitsu, Taiwan Semiconductor Manufacturing Company, and UMC.

Annabelle (Qi) Feng

Q. Annabelle Feng joined the Krannert School of Management as an associate professor in June 2012. She was a faculty member at McCombs School of Business, The University of Texas at Austin since 2006. Her main research interest lies in studying firms' sourcing decisions in the broad context of supply chain management. Her work focuses on individual firm's procurement planning in uncertain environment and multiple firms' interactions in sourcing relationships. She receives the first prize in the INFORMS Junior Faculty Paper Competition in 2009 and the Wickham Skinner Early-Career Research Accompaniment Award in 2012. Her work with Hewlett-Packard on product proliferation management has won the 2009 Edelman Award.

Ananth Iyer

Professor Iyer is the Associate Dean for Graduate Programs and the Susan Bulkeley Butler Chair in Operations Management and the Director of DCMME (Dauch Center for the Management of Manufacturing Enterprises) and GSCMI (the Global Supply Chain Management Initiative) at the Krannert School of Management. Previously, he was Purdue University Faculty Scholar from 1999-2004. His teaching and research interests are operations and supply chain management. Professor Iyer's research currently focuses on analysis of supply chains including the impact of promotions on logistics systems in the grocery industry, and analysis of the impact of competitors on operational management models and the role of supply contracts. His other topics of study include inventory management in the fashion industry, effect of supplier contracts, and use of empirical data sets in operations management model building. He is a Department Editor of Management Science, Associate Editor of Operations Research, on the editorial boards of Operations Research Letters, IIE Transactions, the ECR Journal and Manufacturing and Service Operations Management editorial board, and member of INFORMS. He was president-elect of the MSOM Society of INFORMS in 2001-02 and served as president for the year 2002-03. Prior to joining the Krannert faculty in 1996, Professor Iyer taught at the University of Chicago. He has been affiliated with the Production and Distribution Research Center at Georgia Tech, and a consultant to Daymon Associates, Sara Lee, Turner Broadcasting and others. He served his Chicago community as a pro bono consultant to the Chicago School System and the Chicago Streets and Sanitation Department.

Karthik Kannan

Karthik Kannan is an Associate Professor at Purdue's Krannert School of Management. He has pioneered the concept of "Design for Instincts" as a way to organize businesses in the current age. To learn more about the concept, visit <http://www.designforinstincts.com>.

His research also can be themed along the same dimension "design for instincts." His research work tries to understand and sometimes even manipulate human's instinctive behavior in specific contexts through the use of information technology. You can learn more about his research from here. He works on two primary research streams markets and pricing of information goods/services through auctions, and economics of information security. His papers have been accepted in several leading conferences and journals in the information systems area, including Management Science, Information Systems Research, Workshop on Information Technology and Systems, Workshop on Information Systems Economics, International Conference on Information Systems, and Conference on Information System and Technology. His papers have won the Best Paper Awards in the 10th and the 15th Annual Workshop on Information Technology and Systems. He currently serves/has served as an Associate Editor for Management Science, Information Systems Research, and MIS Quarterly. He is a member of AIS and INFORMS. He is also a CERIAS Fellow and Krannert's Faculty Fellow. At Purdue, he teaches the IT course in the MBA programs (in the regular, weekend, and Exec Ed MBA). He has also been a visiting faculty member at GISMA and ISB. Earlier he has taught undergraduate required course as well as a database course. Prior to joining Purdue, he obtained his PhD in information systems, MS in Electrical and Computer Engineering, and MPhil in Public Policy and Management all from Carnegie Mellon University. His undergraduate degree is in Electrical and Electronics Engineering from NIT Trichy (formerly, REC Trichy). Before joining the graduate school, he worked with Infosys Technologies for a couple of years.

Yanjun Li

Professor Li's teaching interests include management science, statistics, production, optimization models, and algorithms. His current research includes discrete optimization and application, approximation algorithms, network and graph, location and distribution, vehicle routing, lot sizing and scheduling, inventory and supply chain management, and financial optimization. He received the Jay N. Ross Young Faculty Scholar Award (2005), John and Mary Willis Young Faculty Award (2008), and Krannert Faculty Fellow (2008) at the Krannert School of Management, Purdue University. He is a member of the Institute for Operations Research and the Management Sciences (INFORMS), Mathematical Optimization Society (MOS), and Society for Industrial and Applied Mathematics (SIAM).

Yaroslav Rosokha

Dr. Rosokha received his Ph.D. in Economics from the University of Texas at Austin in 2013. His research interests concern individual and social learning under uncertainty. Also among his interests are Behavioral Operations Management, Experimental Economics, and Game Theory. He will be teaching courses in Operations Management and Economics.

Justin Jia

Professor Jia joined the Operations Management group in the Krannert School of Management in fall 2011 after completing his Ph.D. in Supply Chain and Information Systems at the Pennsylvania State University Smeal College of Business. He conducts research on pharmaceutical supply chain, closed-loop supply chain, and procurement auctions. Professor Jia teaches the core undergraduate Operations Management course and an elective undergraduate course, Supply Chain Analytics.

Masha Shunko

Professor Shunko joined the faculty at the Krannert School of Management in July 2011. Her primary professional interest is in tax efficient global supply chain management, where she focuses on the effective usage of transfer prices and sourcing policies to take advantage of operating in favorable tax jurisdictions. The second area of interest is healthcare operations, where she focuses on the effect of ambulance traffic coordination to improve performance of the emergency departments. Professor Shunko has worked on consulting and research projects with Caterpillar Inc. and University of Pittsburgh Medical Center, which have shaped her research areas. Prior to the academic career, she worked for Deloitte. in Estonia, where she audited and consulted various manufacturing and banking clients in Estonia, Latvia, Belarus, and Russia. Professor Shunko teaches the core Operations Management course in the MBA program and an elective MBA course in Supply Chain Management. Professor Shunko completed her PhD in Operations Management at the Tepper School of Business, Carnegie Mellon University, during which she received the 1st prize in the POM Supply Chain Management student paper competition in 2009.

Gemma Berenguar

Professor Berenguar is an Assistant Professor of Management. Gemma received her Ph.D. in Operations Research from the University of California, Berkeley in 2012. Her research interests include supply chain design and operations research resolution methods, sustainable and socially responsible operations, analysis of nonprofit supply chains, and benchmarking studies in global health supply chains. She was a recipient of the 2012 Doug and Maria DeVos Faculty Summer Support Award in Global Supply Chain Management.

GSCMI DeVos 2012-2013 Research Highlights

Shaping Consumer Demand within the Supply Chain

Karthik Kanan

When optimizing the supply chain, we often treat the end-consumer demand as exogenous and the price as the control variable. However, with technology and improved ability to track individual consumers, supply chain optimizations can endogenously take into account the shaping of consumer behavior also. So, in this study, we ask the question how we can identify consumers that can potentially be shaped. Much of the existing models (e.g., the clustering technique) for predictions consider consumer behavior at the aggregate levels, but they are typically deficient to deal with individual behavior. So, we have developed a technique to predict an individual consumer's behavior in response to a certain price and/or product promotion. We have now run this technique on data from an online retailer, which is seeking to identify consumers whose behavior can be shaped to consume a particular product.



Karthik Kanan is an Associate Professor at Purdue's Krannert School of Management. He has pioneered the concept of "Design for Instincts" as a way to organize businesses in the current age. To learn more about the concept, visit <http://www.designforinstincts.com>.

His research also can be themed along the same dimension "design for instincts." His research work tries to understand and sometimes even manipulate human's instinctive behavior in specific contexts through the use of information technology. He works on two primary research streams markets and pricing of information goods/services through auctions, and economics of information security. His papers have been accepted in several leading conferences and journals in the information systems area, including Management Science, Information Systems Research, Workshop on Information Technology and Systems, Workshop on Information Systems Economics, International Conference on Information Systems, and Conference on Information System and Technology. His papers have won the Best Paper Awards in the 10th and the 15th Annual Workshop on Information Technology and Systems. He currently serves/has served as an Associate Editor for Management Science, Information Systems Research, and MIS Quarterly. He is a member of AIS and INFORMS. Karthik is also a CERIAS Fellow and Krannert's Faculty Fellow.

At Purdue, he teaches the IT course in the MBA programs (in the regular, weekend, and Exec Ed MBA). He has also been a visiting faculty member at GISMA and ISB. Previously he taught undergraduate required courses as well as a database course.

Prior to joining Purdue, he obtained his PhD in information systems, MS in Electrical and Computer Engineering, and MPhil in Public Policy and Management all from Carnegie Mellon University. His undergraduate degree is in Electrical and Electronics Engineering from NIT Trichy (formerly, REC Trichy). Before joining the graduate school, he worked with Infosys Technologies.

The Doug and Maria DeVos Faculty Summer Support Award in Global Supply Chain Management has generously awarded \$25,000 each, to two faculty each year in support for research with themes revolving around Global Supply Chain Management, conducted over the summer academic break. This important sponsorship has been funded since 2005 and has benefited a diverse set of faculty from across the Krannert School of Management. Without these vital funds, chosen faculty would have been unable to carry out their important mission of looking at Global Supply Chain Management thorough a rigorous academic lens, innovating new approaches and applying fresh solutions.

Each year, the research style has varied from theory development to empirical research based on primary or secondary datasets. While the primary purpose of the research funding was aimed at enabling faculty to pursue their research agenda which complements the GSCMI's mission, additional incentive has been provided to researcher willing to broadly communicate the results of their summer work to DCMME/GSCMI center partners through the annual Fall Operations Conference.

The summary of researchers and their DeVos Research overviews that follow are a tribute not only to the academic capability that can be found at the Krannert School of Management, but also to the entire DeVos family, for which this work is dedicated.

We are proud to have been the guardians of the DeVos Faculty Summer Support Award in Global Supply Chain Management and are equally proud of the strong works that were born due to the DeVos's family leadership in promoting research in the field of Global Supply Chain Management studies.

Dauch Center for the Management of Manufacturing Enterprises
& Global Supply Chain Management Initiative

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