Our sincere thanks go out to you for your involvement in the 2015 GSCMI Spring Conference! We trust that you found the information shared during this conference on “Collaboration: Strengthening the Links in Your Supply Chain” to be both interesting and beneficial to you. We had the opportunity to hear from nine featured speakers: Jordan Howell of Amway; Tenney Way of Bechtel; David Holt and Chip Edgington of Conexus Indiana; Theodosia Rush of Cummins, Inc.; Bill Ensign and David Williard of Evonik Corporation; David Pollard of FedEx Customer Solutions; and Sriram Subrahmanyam of Ingram Micro. You can read about their discussions in the following pages.

Thank you to all of our center partners and sponsors. Your involvement in Center events and interaction with Krannert students leaves a lasting impact. Supporting our student focused Center truly invests in the goals and long-term successes of Krannert students. With your support, we provide our students with events that enhance their education by providing real-life experiences outside of the classroom. Take a moment to read about one such opportunity provided through DCMME-GSCMI- the TVS Motor Company India Internship (p. 18). This innovative and challenging global program is celebrating its ninth year of success with a total of 118 students having participated.

The DCMME-GSCMI Center will continue to provide our partners with occasions to share insight and interactions in order to become further equipped for emerging demands and challenges in business. It is our sincere hope that the interaction with our talented faculty, our energetic students, and your fellow practitioners will continue to be of great benefit to you and your organizations. We hope you’ll share the benefits of the conference and our Center with your colleagues. We truly appreciate your interest and support of the Krannert School of Management and the Center. We look forward to hosting you again at the upcoming DCMME-GSCMI events.

J. George Shanthikumar
Richard E. Dauch Distinguished Professor in Manufacturing and Operations Management Director, Dauch Center for the Management of Manufacturing Enterprises & Global Supply Chain Management Initiative
Amway operates in over fifty-six markets worldwide. Gaining visibility to demand fluctuations and supply disruptions requires a high level of collaboration. How are markets trending? What products are over-selling, and which ones are lagging? Amway’s collaboration initiative seeks to answer those questions and build relationships with their customers at the same time.

Student Summary-Gisela Condado (MBA 2016)
Amway is a multinational company that sells a variety of products in beauty, health and home care markets in more than 85 countries and territories worldwide. This American company leader in direct selling has more than 21,000 employees worldwide, as well as 9 million distributors around the world. Jordan Howell, Senior Supply Chain manager, has lead multiple teams including the Cultural Change team for the Supply Chain Planning department. During his presentation, he explained some of the biggest challenges that the company has faced in terms of collaboration in their Global Supply Chain Operations.

I found very interesting the three main needs that he highlighted to improve collaboration within the company. He mentioned the need for better visibility in market dynamics, the requirement for better communication from affiliates, and the necessity to respond faster to global demand fluctuations. Amway’s solution to these challenges included calibration sessions with master schedulers at the corporate level and local distribution planners. This plan consisted of sharing information and making adjustments and important leadership decisions to enhance collaboration in order to optimize supply chain profit and processes for the company and their partners. Jordan Howell explained in detail the dynamics of such meetings in which they discuss their main challenges and possible solutions with internal employees and external partners. This is a formalized mechanism to foster collaboration along their processes in order to increase efficiency in their supply chain.

Student Summary-Stephanie Kruse (MBA 2015)
Jordan Howell, Senior Supply Chain Planner from Amway, presented on collaboration within Amway. Amway was founded in 1959 in Ada, Michigan with sales around $10.4 billion. It is an international organization operating in over 85 countries with 21,000 employees and 9 million distributors. Amway’s product line focus is in the health, beauty, and home care markets. Amway’s product line focus is in the health, beauty, and home care markets. A few of Amway’s primary competitors are Mary Kay, Avon, and Herbalife. The case study Jordan presented was based on the premise that three regions needed products made in Ada, MI. There are many factors that played into the distribution decisions such as fast changing consumer climates. Jordan spoke about a few of the differences such as the Russia-Ukraine conflict effecting the European market, large swings in demand in Asia and a mature North American market that requires heavy promotion to be successful. Consumer preference and macroeconomic factors are constantly changing, and Amway must adjust to those factors to maintain competitive in the CPG market. The solution involves three parts: better visibility in market dynamics, better communication from the affiliates, and a faster response time to global demand fluctuation. To make these improvements better, collaboration among key players is highly important. Those key players are the master scheduler at the corporate headquarters and distribution planners at the local locations. A lack of effective communication has led to poor product distribution in the past. The plan for improvement is to share the information following a “two way street” mentality, to make proactive adjustments in order to keep products well stocked and in the right locations, and to alert leadership when troubles arise to make the necessary future changes. The results of these improvements are still to be determined as they are a work in progress. Jordan’s presentation showed the importance of collaboration and how major issues can arise when collaboration is not utilized effectively. He
also presented the macroeconomic factors which affected his business decisions. I found his presentation particularly insightful in that it shows a real world example of identifying a process that is not working and developing a plan to make a change. As MBA students we will be tasked with very similar projects when we leave the program.

Student Summary-Lawson Drury (Undergraduate)
Mr. Howell discussed many ideas about how a company can improve their supply chain. One of the most important aspects that he mentioned was the idea of better visibility. Individuals in a business are not able to read others minds, and there is a need to have better visibility. You need to know what other individuals are doing so then you can avoid waste and be as efficient as possible. When you are more efficient, you will avoid mistakes and also save money. Many products now have very large lead times. Different parts of the company need to collaborate in order to make sure that everyone is on the same page. He explained an example of a company putting on a promotion for a product. There will be extra demand for that item so the marketing department needs to make sure they order more products, but this needs to be done months before the actual promotion. Visibility is a vital part of a company and one that many could improve on.

Student Summary-Jiayun Shi (Undergraduate)
The information that I gathered from the Amway presentation was very interesting. I’ve always wondered if the door-to-door business model can still fit in today’s business world, which is led by e-commerce and omni-channel management. Jordan Howell, a Supply Chain Planner of Amway, explained his job in the global supply chain planning department, which operates Amway products in over fifty-six countries. They originated as a U.S. based company, but they are moving their manufacturing closer to the different sale regions. As a result of this adjustment in the supply chain strategy, the products will be closer to demand. I felt inspired by Amway’s huge business and its supply chain, and I want to read more cases similar to Amway’s to learn about this new supply chain strategy.

Bio: Supply Chain Planner
Jordan spent seven years in the Army as a Logistics and Explosive Ordnance Disposal Officer serving tours in both Iraq and Afghanistan. In 2013 he honorably exited the service and joined Amway as a distribution replenishment planner. After a year into that role, Jordan moved over to become a master scheduler and production scheduler for Amway’s Laundry Powders Plant. While at Amway, Jordan has led multiple teams to include the Culture Change team for the Global Supply Chain Planning department.
Tenney Way Jr. discussed seven steps of material management and the necessary collaboration between Engineering, Procurement and Construction (EPC) teams to support the end-to-end supply chain.

**Student Summary—Gustavo Amorim (MBA 2015)**
Bechtel is a respected global engineering, project management, and construction company with headquarters in San Francisco, CA. With over twenty-five thousand projects completed since 1989 and a presence in one hundred sixty countries in seven continents, they consistently innovate the industry, reaching new levels of excellence. Currently, Bechtel has many divisions including infrastructure, defense and security, mining and metals, oil, gas and chemicals. They are committed to “leaving a legacy of progress by developing local skills for sustained economic opportunity and volunteering our time and talent to the communities where we work.” Tenney explained how in this corporation there must be both external and internal collaboration. He also discussed how EPC (engineering procurement construction) is important to Bechtel. Procurement is the glue that bonds engineering and construction together. He discussed the seven steps of Bechtel’s supply chain.

The first key areas are specify, identify and quantify. These areas occur in the engineering side of the organization where they define the scope and plan the project. All of the details are ready to go to the suppliers, and this process requires a significant amount of collaboration.

The next two key areas are purchase and supply which is part of the acquisition phase. In this phase, they make sure that they have the right supplier base. This involves many offices around the world to find the best deal for the company in order to create value to their customers. Negotiation is critical in this step.

For the construction phase, the last two key areas are delivery and installation. Collaboration is essential to give the customer a high-quality product. Bechtel is in the service business, and they need people to collaborate both externally with customers and suppliers and also internally in order to be successful. Tenney stressed that “it is key to have people that differentiate themselves. This is about people.”

**Student Summary—Eric Sattler (Undergraduate)**
In his presentation, Tenney Way Jr. discussed seven steps of material management and how essential to supply chain the collaboration between engineering, procurement, and the construction teams is. What really interested me in this presentation was how collaboration between the different teams and disciplines is so essential to supply chain. Since I used to be an engineering major, I found it intriguing in his presentation that he talked about the necessity of all of these facets of the company to work together to better the supply chain of the company.

It was very beneficial to hear about the experience that Tenney Way Jr. had in the field and some of the projects that he had worked on. The final thing I found intriguing about the presentation was his discussion of the seven steps of Material Management. I previously was in Materials Engineering and the fact that he talked about the importance of the correct materials systems in a project really interested me. I agreed with the facets of Tenney Way Jr.’s presentation and thought that his presentation was very useful.
Tenney Way Jr is a Procurement Manager for Bechtel's Oil, Gas and Chemical (OG&C) Business Unit located in Houston, Texas. In this role, he is responsible for managing Project Procurement (Purchasing, Expediting, Traffic & Logistics, Supplier Quality and Material Management, Field Procurement) by mobilizing and retaining quality resources on projects and providing oversight of all procurement activities for successful execution of the project. Tenney brings twenty-two years of industry experience and sixteen years of EPC Project Execution experience in OG&C, Power and Pipeline business sectors. He has executed complex EPC lump-sum and reimbursable projects very successfully for Bechtel and has led multi-office and multi-cultural teams for projects from various Bechtel offices. In addition to working as Project Procurement Manager on projects, Tenney has also worked in functional procurement management as Expediting Manager for OG&C. This role involved the training, developing, and placing of personnel on projects and in the field (Domestic and International). Tenney is a part of the One Bechtel Recruiting Team and is currently the Bechtel Management Representative for the University of Houston.

Bio: Procurement Manager, OG&C

Student Summary-Brandon Titelbaum (MBA 2015)
Bechtel is a global company that is split into four business units: infrastructure, mining and metals, nuclear and security, and chemicals. Supply Chain falls into the procurement function and links the end-to-end to deliver final products to customers. The company is privately held and is still run by the family.

Collaboration is key to their success both internally and externally. Their key to procurement is purchasing, expediting, materials management, quality, and field expediting. Contract formation and administration are also vital to the process. Internal collaboration between construction, procurement, and engineering is essential for successful projects. It is interesting to see how Bechtel has developed a rigorous seven-step process to their supply chain in order to make projects successful and to understand how all of the different links are able to collaborate.
Chip Edgington and David Holt provided an overview of the Conexus Indiana Logistics Council and the development of strategic plans for identifying the needs for infrastructure, public policy and workforce development. Conexus discussed how the tactics being implemented in the plans are enhancing logistics companies to grow, relocate and/or expand in Indiana and are creating high paying logistics jobs for Hoosiers.

**Student Summary-Gisela Condado (MBA 2016)**

The Conexus Indiana Logistics Council (CILC) is a forum of fifty-five logistics executives and leaders from throughout Indiana, representing logistics sectors such as air, infrastructure, rail, trucking, warehousing/distribution, waterborne, and advanced manufacturing and service firms. In this way, CILC enhances the growth of companies in advanced manufacturing and logistics, creates an attractive environment for logistics companies to relocate or expand in Indiana, as well as creates unique employment opportunities for Hoosiers. David Holt, Vice President of Operations and Business Development at Conexus Indiana, discussed a plan for Indiana's logistics future—one that might not be possible without collaboration through the industry and members of the council. Some of the main limitations they have faced in this project include transportation bottlenecks, lack of efficient mode-to-mode connectivity, and decaying locks infrastructures. Therefore, they have supported important projects to guarantee the expansion of infrastructure in the area as well as public policies and workforce development plans to work with logistics executives to support education and identify key solutions for logistics job shortage areas. As Executive Vice President of Operations at FULLBEAUTY Brands and Chairman of Conexus Indiana Logistics Council, Chip Edington talked about FULLBEAUTY brands business strategies including their unique marketing campaign with Megan Trainor and their logistics features that have supported their growth throughout the years. An interesting logistics challenge that they have thanks to collaboration in their supply chain includes importing products through the port of Los Angeles and Long Beach, as North America's busiest port complex where forty percent of the nation's goods load. Another challenge includes the congestion in the Chicago rail lines with 1260 freight and commuter train passing through daily. Finally, I also found interesting the Conexus workforce development initiative, which increases awareness of Indiana Logistics opportunities, influences curriculum to better match industry needs, as well as establishes mutually-beneficial relationships with students and schools in order to expose students to new and challenging positions in the interesting field of supply chain and operations.

**Student Summary-Brandon Titelbaum (MBA 2015)**

Indiana is the proud home to over 300,000 employees in Logistics and has a $10.3 billion impact to Indiana’s GDP (2012). The Conexus Indiana Logistics Council is a forum of fifty-five logistics executives that collaborate to enhance the environment for companies in advanced manufacturing and logistics in order to grow their businesses. The council developed two different plans to help grow the logistics future of Indiana. The first plan included infrastructure for transportation, public policy, and workforce development. Many of the projects are underway or have been completed such as an intermodal facility and a plan to attract more air freight businesses to the state. The second phase includes plans for separated truck lines, high-speed freight rails, and integrated ports of entry to facilitate movement of goods.
In his role with Conexus, David Holt drives the logistics agenda and developed, recruited, and led the formation of the Conexus Indiana Logistics Council, a forum of prominent logistics executives throughout the state of Indiana and six regional logistics council in Northwest, North Central, Northeast, Central, Southwest, and Southeast Indiana. Under his guidance and leadership, Holt developed Phase I: A Plan for Indiana's Logistics Future and Delivering Indiana's Logistics Future—two strategic plans ensuring that those things necessary for Indiana's transportation network are in place to enhance the environment for companies to grow their business, create a more attractive business environment to locate in Indiana, and create high paying jobs for Hoosiers. He also moderated Indiana Governor Mike Pence's Blue Ribbon Panel for Transportation Infrastructure. Holt formerly served as the Indiana Chamber of Commerce's Vice-President of Health and Education Policy and Federal Relations, acting as an integral part of that organization's governmental relations team at the federal and state levels. David Holt’s professional career has also included service in Washington DC as Chief of Staff in the Office of Vocational and Adult Education at the U.S. Department of Education and as a Senior Legislative Aide to a U.S. Representative on Capitol Hill. Holt was awarded his Bachelor of Science from Ball State University in 1993 and a Masters in Business Administration from the University of Notre Dame in 2006.

Bio: Executive Vice President of Operations, FULLBEAUTY Brands and Chairman, Conexus Indiana Logistics Council

Chip E. Edgington has more than thirty years of operational experience working in leadership and executive level positions. He joined FULLBEAUTY Brands in 1999 and is currently the Executive Vice President of Operations. Prior to FULLBEAUTY Brands, Chip held senior level operations positions with Time Inc. and The Limited. Chip's responsibilities at FULLBEAUTY Brands include the daily operation of 1.5 million square feet of highly automated fulfillment center space located in Central Indiana, directing all international and domestic logistics support and FULLBEAUTY Brands' customer contact center based in El Paso, Texas. His total team represents approximately 1,500 associates located throughout three states. Chip has strategically integrated systems, engineering and lean processes in large-scale operations, while at the same time, successfully building strong cross-functional teams. He has traveled extensively throughout the U.S., Europe and Asia. Chip is a member of the Executive Team for FULLBEAUTY Brands and has played a key operational role in the acquisition, integration and divestitures of a number of businesses over the past decade. Within the industry Chip sits on the board of Conexus Indiana, an industry-driven advanced manufacturing and logistics initiative. He serves as Chair of the Conexus Logistics Council which is responsible for developing and implementing a strategic plan to leverage supply chain assets and identify opportunities for growth within the State of Indiana. He serves on the Board of Directors for the Central Indiana Corporate Partnership (CICP), a coalition of Indiana Executives and University Presidents focused on long-term growth and prosperity for the State through initiatives focused on manufacturing, life science, logistics, energy, and information technology.

Bio: Vice President of Operations and Business Development, Conexus Indiana

In his role with Conexus, David Holt drives the logistics agenda and developed, recruited, and led the formation of the Conexus Indiana Logistics Council, a forum of prominent logistics executives throughout the state of Indiana and six regional logistics council in Northwest, North Central, Northeast, Central, Southwest, and Southeast Indiana. Under his guidance and leadership, Holt developed Phase I: A Plan for Indiana's Logistics Future and Delivering Indiana's Logistics Future—two strategic plans ensuring that those things necessary for Indiana's transportation network are in place to enhance the environment for companies to grow their business, create a more attractive business environment to locate in Indiana, and create high paying jobs for Hoosiers. He also moderated Indiana Governor Mike Pence’s Blue Ribbon Panel for Transportation Infrastructure. Holt formerly served as the Indiana Chamber of Commerce's Vice-President of Health and Education Policy and Federal Relations, acting as an integral part of that organization's governmental relations team at the federal and state levels. David Holt’s professional career has also included service in Washington DC as Chief of Staff in the Office of Vocational and Adult Education at the U.S. Department of Education and as a Senior Legislative Aide to a U.S. Representative on Capitol Hill. Holt was awarded his Bachelor of Science from Ball State University in 1993 and a Masters in Business Administration from the University of Notre Dame in 2006.

Event Sponsor, Thank you.
THEODOSIA RUSH, CUMMINS, INC. “CUMMINS SUPPLY CHAIN TRANSFORMATION VISION”

The Cummins supply chain transformation vision is to establish reliable, market driven supply chains that enable profitable growth. Achieving enterprise logistics optimization and end to end network synchronization requires an integrated logistics network that extends beyond the four walls of the manufacturing plants to their customers and suppliers. Theodosia shared the story of the recent implementation of the Cummins Southern Indiana Logistics Center – a collaborative effort in transforming the Cummins supply chain and “Winning at the Hand-offs”!

Student Summary-Daniel Terayanont (MBA 2015)
Theodosia Rush, currently the Executive Director of Global Supply Chain Planning and Logistics at Cummins, Inc., spoke about collaboration during her “Supply Chain Innovation, The Journey Continues” presentation. Today, Cummins currently operates four main business units as follows:

1) Engine Business – Range of diesel, Natural Gas, and other engines for on and off-highway applications
2) Power Generation – Designs, develops, and manufactures products for the auxiliary power unit
3) Components – Turbo, emission, fuel systems, etc.
4) Distribution

Since its inception in 1919 by Celessie Cummins and W.G. Irwin in Columbus, Indiana, Cummins Inc. has grown globally to cover over 190 countries along with 55k employees under the Cummins Inc. umbrella. Theodosia highlighted the key question of “Why do we need to transform our supply chain?” Theodosia focused on five main reasons of why Cummins Inc. cannot continue operating in the same manner it has been doing in the past but must recognize how the environments are changing. First, globalization and expansion have created a much more complex sourcing strategy where Cummins Inc. can no longer rely on only a single region supply chain strategy.

Secondly, the needs from customers which Cummins must deliver are increasing, ranging from price, to quality, to lead time. Also, decreases in vertical integration lead to an increase in sourcing complexity where components for simple machinery could come from various corners of the world. Fourthly, product complexity requiring specialized parts also increases the strain on the supply chain. And lastly, intra-company dependencies are increasing. Because of these unique requirements, Cummins Inc. must react by increasing the level of collaboration through network optimization in order to fulfill its vision of “Establishing reliable market driven supply chains to enable profitable growth.” Within this optimization, Cummins divided its supply chain into three distinct areas including network, transportation, and inventory. Under network, Cummins Inc. aims to integrate the various business units, increase the number of cross-docks, and manage its carbon footprint along the way. Within the transportation area, route optimization plays a critical role where continuous flow and increase visibility are crucial. A final element is inventory. Cummins Inc. will integrate its inventory planning, optimize the delivery frequencies and inventory policies, and employ the most suitable flow models for its product lines.

Student Summary-Jesse Mudd (Undergraduate)
One speaker that really stood out to me was Theodosia Rush, the Executive Director of Global Supply Chain Planning and Logistics at Cummins. After providing a brief background on her experience with Cummins, she then went on to talk about how synchronized business planning and aggregate materials planning are changing supply chain for the better. Each of these consisted of several steps. For example, with synchronized business planning, the process brings together all of the plans that each system in the business has. By bringing each plan together, they are able to work together to make their work at Cummins more efficient,
Theodosia Rush is the Executive Director of Global Supply Chain Planning and Logistics at Cummins where she leads several key supply chain functions for the company including logistics, warehousing, transportation, trade compliance, packaging, materials management and enterprise planning for Cummins locations around the world. She is active in driving and supporting several company-wide supply chain transformation programs across these functions. These initiatives are multidisciplinary and cross every corner of the Cummins enterprise. Ensuring they are implemented on time and so as to facilitate smooth handoffs amongst all of the planning and logistics functions is core to the company’s vision of market driven supply chains. Theodosia explained how important it is to be able to communicate and collaborate with both their suppliers and customers, as doing this presents the highest possibility of creating the most profit. Without this communication and collaboration, the supply chain as a whole will slow down and become less efficient which in turn can hurt everyone in the system.

**Student Summary-Brandon Titelbaum (MBA 2015)**

Cummins is a Global Power Leader in diesel engines, power generation, components, and distribution. The company has a global presence in over 190 countries, has 55,000 employees, and they manufacture on 6 continents. It was founded in 1919 by Clessie Cummins and W.G. Irwin who pioneered the development of diesel engines. Globalization is driving the need for increased collaboration among the company. Every entity ships to four continents and receives supplies from five different continents. This requires a lot of coordination through transportation. They have decided to focus on market driven supply chains based on customer requirements and alignment of lead times from source to delivery. One way that the company has looked at improving efficiency is through transportation both in trucks and containers to ensure that they are filled at maximum capacity to reduce costs. They also have redesigned their warehouse network to be closer to manufacturing locations to not only reduce transportation costs but also to reduce harm to the environment. It is interesting how Cummins has transformed from being solely a manufacturer to more of an assembly company as they source parts from many suppliers globally. This creates huge challenges to managing the supply chain globally, but they have been very successful at it.

**Bio: Executive Director of Global Supply Chain Planning and Logistics**

Theodosia Rush is the Executive Director of Global Supply Chain Planning and Logistics at Cummins where she leads several key supply chain functions for the company including logistics, warehousing, transportation, trade compliance, packaging, materials management and enterprise planning for Cummins locations around the world. She is active in driving and supporting several company-wide supply chain transformation programs across these functions. These initiatives are multidisciplinary and cross every corner of the Cummins enterprise. Ensuring they are implemented on time and so as to facilitate smooth hand-offs amongst all of the planning and logistics functions is core to the company’s vision of market driven supply chains. Theodosia began her career with Cummins in 1999 and during her tenure has held a number of key roles in purchasing, manufacturing, human resources and marketing.

Outside of Cummins, she is on the board at Mill Race Senior Services in Columbus, an active member of her church, and a busy mom of three.

She earned a bachelor’s degree in liberal arts from Lenoir-Rhyne College in 1993 and completed her Masters in Business Administration at Indiana University in 1999.
Evonik Industries is a multinational company based in Germany that is involved in multiple different chemical manufacturing platforms, one being contract pharmaceutical manufacturing at the Tippecanoe Laboratories in Lafayette, Indiana. Bill Ensign and Dave Williard bring extensive experience in the pharmaceutical and chemical manufacturing business. In their respective roles at Evonik Industries they collaborate daily with internal resources, customers, and suppliers. During their presentation they utilized a recent example of a new equipment purchase and manufacturing process to demonstrate the importance of best practices of collaboration. Bill first shared the external partnerships with suppliers and the Evonik technical and commercial alliance in equipment and construction services. Dave then focused on the internal manufacturing planning and supply chain flow along with describing departmental collaborations and the sales and operations planning process.

Student Summary-Gustavo Amorim (MBA 2015)
With over $14 billion in sales and 33,000 employees, Evonik is watching close high-growth megatrends such as health, nutrition, resource efficiency, and globalization. The mission of the company is “to deliver high-quality products which consistently meet or exceed customer requirements in a safe and environmentally responsible manner.” During the 2015 GSCMI Spring Conference, Bill Ensign and Dave Williard explained how collaboration plays a crucial role at Evonik. Both Dave and Bill work at the Tippecanoe Laboratories (formally owned by Eli Lilly and acquired in 2010), located in Lafayette, Indiana, close to Purdue campus. This is a pharmaceutical plant that operates as a contract manufacturer and is the second largest Evonik plant in the United States. One of the unique features of this plant is the capacity to make high-potency ingredients for cancer treatment. They explained how collaboration helps them deliver their mission when a customer asks them to develop and manufacture a new drug. Bill explained how his responsibilities include working with product managers and engineers to make sure that the plant has all of the equipment that they need in order to develop and produce this new drug. There is also collaboration between Evonik procurement and vendors to make sure the equipment and materials are available on time. Dave focused more on the internal collaboration for producing a new drug. The manufacturing part of the business starts with an order where the raw material and equipment is matched, then the drug is manufactured and all the documentation related to it is issued. At the end the drug is either stored or sent to the customer. Collaboration is essential to this industry. Coordination between sales, procurement, and manufacturing (including quality control) is key to the company’s success. Evonik is working in a highly regulated industry, and they need to be effectively collaborating externally and internally in order to be a world leader.

Student Summary-Stephanie Kruse (MBA 2015)
Bill Ensign and David Williard started the presentation with “Shh…Collaboration is Everywhere in Chemical Manufacturing”. To make their mission a reality, collaboration is key. Bill spoke briefly about the process of manufacturing a new drug before handing off the presentation to David. The manufacturing process has three categories of activities: pre-manufacturing activities, manufacturing activities, and post manufacturing activities. In all three categories there is an enormous amount of collaboration. David first focused on external collaboration in production planning and scheduling. One example David used was that manufacturing orders have both a time and quantity element that are then passed on to purchasing. Each
department must work together to keep all the components aligned and on schedule. On the manufacturing side, the operation depends on the forecast, raw materials, correct documentation, and many other crucial items. As actual manufacturing is a relatively short period of time, each group must work together to ensure accuracy and timely production. After manufacturing, collaboration is also very important as the product needs to packaged, documented, and transported. There is also an intensive sampling and analysis process during and after production. Only after this entire process is complete, is the final product approved for distribution. Each step relies on the other to get to this point. At Evonik, internal collaboration is more informal and external collaboration is more formal. Internally, the team meets weekly and monthly to determine short and long-term goals to ensure everyone is on the same page. My biggest takeaway was the level of detail that goes into manufacturing one batch of a product and then one thousand batches could be produced at their 24/7 facility each day. It became quickly apparent how important collaboration was to maintain smooth operation. I believe it is more important in the pharmaceutical industry than in most industries as one mistake can have very harmful effects. Another point that I found particularly interesting was the need to specialize equipment and rooms to produce some chemotherapy medications to avoid harmful affects to the workers. Manufacturing in the pharmaceutical industry requires not only collaboration but also a tremendous amount of strategic and actual planning.

Bio: Manager of Production Planning

Dave Williard is the Manager of Production Planning for Evonik Industries at the Lafayette, IN site. Dave has worked at this site with Evonik and Eli Lilly and Co. for twenty years. During these years he has held several roles in master scheduling and spent three years with Lilly implementing a corporate ERP system. Prior to Lilly, Dave worked in the automobile industry at the Lafayette SIA plant, and the food industry with The Pillsbury Company in various master scheduling, purchasing, and production and inventory control roles. Dave received his BS in Business Administration from Bowling Green State University and was APICS Certified in 2006.

Bio: Senior Procurement Agent

Bill Ensign is currently responsible for the purchasing of equipment, supplies, and services for Evonik Corporation Tippecanoe Laboratories (formerly owned by Eli Lilly). He has worked in supply chain roles during his entire twenty-four years of employment. He received his bachelor’s degree from Krannert in Industrial Management with an Industrial Engineering minor in December 1990. He has established the academic/business partnership between Evonik Corporation and Purdue. He is the co-founder of the Supplier Diversity Development (SDD) Coalition of Greater Lafayette - a group of major employers that for the last thirteen years has invited diversely owned firms to present their capabilities to the major community firms. The coalition also shares procurement best practices amongst the members. Bill is recognized for his negotiating skills, his networking capabilities, and his ability to “think outside of the box.” One of his most challenging career opportunities was leading the supply chain component of Tippecanoe Laboratories through the changes associated with the sale and purchase of the facility from Eli Lilly to Evonik. This included the establishment of all new supply chains for the products and services that the site requires to meet its mission. Bill has received many awards associated with his procurement role including the 2003 Eli Lilly Global Chief Procurement Officer Award, the 2008 Small Business Administration (SBA) Minority Small Business Co-Champion Award (along with Larry Pherson of Purdue), the 2007 Leadership and Vision Award from the SDD Coalition of Lafayette, and the 2003 Indiana Minority Supplier Diversity Council Buyer of the Year Award.
DAVID POLLARD, FEDEX CUSTOMER SOLUTIONS
“COLLABORATION: STRENGTHENING THE LINKS OF YOUR SUPPLY CHAIN”

Businesses need to be laser-focused on critical initiatives such as achieving nimble, sustainable supply chains and achieving top-line growth. Companies are challenged with managing both lower inventory levels while at the same time satisfying customer demand. In today’s global economy, companies must create supply chains that are both nimble and more responsive. To accomplish this, businesses must rely more and more on their business partners to manage components of the supply chains, making collaboration and communication critical success factors. Collaboration ensures all parties upstream and downstream in the supply chain are more attuned to how changes to components of the supply chain affect profitability, competitive advantage, growth opportunities, and risk exposure. Cross-functional collaboration, to both grow top-line revenue and drive efficiencies in the supply chain, are top of mind, and Mr. Pollard shared his experiences which demonstrate the value of collaboration as one of the key cornerstones to an efficient supply chain and an effective business environment.

Student Summary-Gisela Condado (MBA 2016)
FedEx is a global service delivery company that for years has focused on identifying innovative logistics solutions for their customers in order to improve an efficient supply chain and guarantee growth under a current challenging global economy. As Managing Director of FedEx customer solutions, David Pollard has lead a team of supply chain consultants in order to provide end to end business solutions that connect customers and companies worldwide. In his presentation David Pollard explained the importance of collaboration among different links of the supply chain, especially under current world challenges. Some of the main challenges of collaboration that he mentioned included managing businesses in more than 220 countries and territories, creating adequate services and processes that support customers and their different business models, as well as assisting partners in the latest best practices and supply chain trends. He also stressed the relevance of collaboration with the quote, “You don’t need to be the smartest person in the world, just pick the smartest colleagues.” In this way, he highlighted that collaboration has to be part of the business culture and part of each employee’s values. Personally, I found very interesting his explanation about the three pillars of a collaborative supply chain. According to Mr. Pollard, the primary supply chain catalysts are connectivity, culture, and innovation. Connectivity supports time sensitive information, is necessary for training people and analyzing systems and developing valuable employee performance evaluations. Also, he mentioned that collaboration is what really drives innovation. Collaboration needs to take place with external and internal partners in order to combine the knowledge, expertise and skills throughout the whole supply chain. Finally, culture refers to guaranteeing a trusted component in the overall business environment so that people will feel comfortable while working with each other and creating synergies in efforts and unique projects. Finally, he highlighted how collaboration is leveraged today through technology, economy and culture. With the latest expansion of ecommerce, companies need to find innovative logistic solutions to compete under challenging international economic conditions and to still have a strong united culture that will allow all employees of the organization to have the same level of knowledge and collaborative skills regardless of their location.

Student Summary-Daniel Terayanont (MBA 2015)
Currently the Managing Director of FedEx Customer Solutions for FedEx Services, David Pollard returned to speak at the 2015 GSCMI Spring Conference. In his role at FedEx Services, he is responsible for providing customers with customized logistics
As a Managing Director of FedEx Customer Solutions for FedEx Services, Dave Pollard understands the critical role that an optimized supply chain plays in every company’s competitive strength and long term success. His intense focus on identifying innovative, customized solutions for FedEx customers has delivered supply chain improvements that enable growth, efficiency, and sustainability in the global economy. Dave is responsible for leading a team of supply chain consultants charged with understanding a customer’s global business strategies and supply chain goals in order to design, develop and execute customized logistics solutions. These improvements deliver quantified business value to a customer’s bottom line through improvements to revenue, expense, and current or fixed assets. Pollard encourages his organization to work across all aspects of a customer’s business requirements to determine how FedEx can provide unique solutions for any supply chain component. Under his leadership FedEx Customer Solutions assesses the three flows that are essential to any component of the supply chain (physical, information, and financial) and then develops comprehensive solutions. The results range from strategy development, global supply chain optimization, mode optimization, direct distribution, network modeling, and system integration that can improve the inbound, outbound, and returns stages of distribution.

Since joining FedEx in 1999, Pollard has been a strategic contributor in the creation of the Customer Solutions team. Through the FedEx portfolio of operating companies, Pollard and his organization provide end-to-end business solutions that connect companies and their customers to over 220 economic markets throughout the world. Pollard is an author and frequent speaker on topics including optimizing global supply chains and supply chain risk management. He earned his Bachelor’s degree in Business Administration-Finance from Auburn University and is the past Vice Chairman of the Supply Chain Risk Leadership Council.

Bio: Managing Director

As a Managing Director of FedEx Customer Solutions for FedEx Services, Dave Pollard understands the critical role that an optimized supply chain plays in every company’s competitive strength and long term success. His intense focus on identifying innovative, customized solutions for FedEx customers has delivered supply chain improvements that enable growth, efficiency, and sustainability in the global economy. Dave is responsible for leading a team of supply chain consultants charged with understanding a customer’s global business strategies and supply chain goals in order to design, develop and execute customized logistics solutions. These improvements deliver quantified business value to a customer’s bottom line through improvements to revenue, expense, and current or fixed assets. Pollard encourages his organization to work across all aspects of a customer’s business requirements to determine how FedEx can provide unique solutions for any supply chain component. Under his leadership FedEx Customer Solutions assesses the three flows that are essential to any component of the supply chain (physical, information, and financial) and then develops comprehensive solutions. The results range from strategy development, global supply chain optimization, mode optimization, direct distribution, network modeling, and system integration that can improve the inbound, outbound, and returns stages of distribution. Since joining FedEx in 1999, Pollard has been a strategic contributor in the creation of the Customer Solutions team. Through the FedEx portfolio of operating companies, Pollard and his organization provide end-to-end business solutions that connect companies and their customers to over 220 economic markets throughout the world. Pollard is an author and frequent speaker on topics including optimizing global supply chains and supply chain risk management. He earned his Bachelor’s degree in Business Administration-Finance from Auburn University and is the past Vice Chairman of the Supply Chain Risk Leadership Council.
“SUPPLY CHAIN COLLABORATION IN THE TECHNOLOGY INDUSTRY”

The tech industry is one of the most rapidly changing and fast evolving of all industries. Supply chains are complex based on geographies, product development timelines, short product life cycles, and extreme innovation and competition. This presentation examined cases where Ingram Micro, as a technology distributor, depends and thrives on collaboration for success for consumers as well as manufacturers.

Student Summary—Daniel Terayanont (MBA 2015)
A Fortune 100 company with over $40 billion in revenue and 20,000 associates with operations in 38 countries, Ingram Micro is the world’s largest wholesale technology distributor. Srisu Subrahmanyam, currently the Vice President of Global Engineering, began his presentation of “Supply Chain Collaboration in the Technology Industry” by highlighting the differences between the normal and technology industry supply chain challenges. The technology industry involves a supply chain that is much more complex because of the “Constant Churn” in the supply chain, diverse product portfolio, and the reverse logistics conundrum where required capabilities are very complex (triage, diagnose, and repair). Aside from the unique set of challenges within the technology industry, Srisu also highlighted the barriers that Ingram Micro currently faces towards collaboration, and these are:

i) Perceived “Zero Sum Game” – The lack of both incentives and goal alignment. ii) What have you done for me lately? This forces a short term thinking mentality and leads to non-sustainable small wins. iii) Flying blind – Disparate infrastructure, technologies, and visibility. iv) Too busy to collaborate – The industry unique high “Churn Rate.” Srisu discussed two real life examples of collaboration that led to success. The first one was collaboration in network optimization where Ingram Micro’s customer has two locations supporting all of Europe, and it was believed that they were operating below par. In the end Ingram Micro was able to utilize the customer’s data and leverage Ingram’s broad footprint to support the customer’s requirements leading to a savings of twenty-nine percent over baseline network. The second example was collaboration in packaging optimization and sustainability where Ingram handles approximately over 150 SKUs on a daily basis with fill rate approximated to be only fifty to sixty percent leading to customers’ dissatisfaction towards environmentally unfriendly packaging. With collaboration from suppliers, in terms of product dimensions and end-consumer’s satisfaction, Ingram was able to implement a “Carton On Demand” technology thus eliminating “void fill” and increased the fill rate to eighty percent. In the end, Srisu solidified the importance of focusing on long term value creation, leveraging your company’s size, and optimizing your solutions based on the intelligence within the company.

Student Summary—Stephanie Kruse (MBA 2015)
Ingram Micro is “the global leader in technology and supply chain services with an extensive array of resources to drive market and customer growth, while bringing unique insights that enable businesses to Realize the Promise of Technology.” A leader in technology and supply chain services, Ingram Micro is 69 on the Fortune 100 list with over $46 billion in revenue. They service over 200,000 customers by utilizing 1,700 vendors. With sales in over 160 countries, Ingram Micro ships more than 200 million units per year. Srisu Subrahmanyam, the Vice President of Global Engineering, presented a few of the mega trends in their industry. I found particularly insightful the idea that the number of connected mobile devices will be triple the world’s population by 2017 and the wearable technology market will be worth $19 billion by 2016. He then spoke about challenges in technology such as data transparency, cost pressures particularly in the supply chain, getting the right product in the right place at the right time and seamless integration in the network. In a technology supply chain,
chain, there are many unique challenges such as the “constant churning” of the supply chain in which contracts and lead times are getting shorter, shorter product lifecycle, and problems in reverse logistics. Ingram Micro cannot simply put returns back on the shelf like an average retailer. Srisu then spoke about obstacles with collaboration. The four he mentioned were 1) it can be a zero sum game, 2) the “what have you done for me lately?” mentality, 3) flying blind by not knowing how to use data effectively and 4) people are too busy to collaborate. But collaboration can be successful. One example was in network optimization where the European network was supported in two suboptimal locations. To determine and solve the problem, many teams and departments had to work together to analyze the data and develop a solution. How does one make collaboration work? Srisu recommended finding win-win-win scenarios across the value chain, focusing on the long term, and utilizing sustainability will be increasingly important. They win by leveraging their size and business intelligence and focusing on the long term. I was impressed by the vast number of locations and opportunities. I also found the collaboration example of the European network particularly insightful. Often speakers talk about the general benefits of collaboration, but Srisu’s real world case shows how powerful collaboration can be to solve problems. I also enjoyed his explanation on how to make collaboration work by creating wins and focusing on the long term. As I look past my MBA, this advice will be extremely helpful in my professional career.

Bio: Vice President of Global Engineering

Srisu Subrahmanyam is currently Vice President, Global Engineering for Ingram Micro (NYSE:IM), a Fortune 100 company recognized as the world’s largest wholesale technology distributor and a global leader in IT supply-chain, mobile device lifecycle services, and logistics solutions with over $40B in revenue and operating in almost 40 countries. In this role, he leads global functions in supply chain planning, operations and customer solution engineering, real estate, quality, continuous improvement, EH&S, sustainability, and overall program management. Prior to this he served as Executive Vice President and Chief Operations Officer for BrightPoint Americas, a business unit of Ingram Micro based in Indianapolis, Indiana. Subrahmanyam was previously co-founder and Principal at Orchard Group, a consulting firm focused on business performance improvement and execution of business improvement initiatives. Prior to his role at Orchard Group, Subrahmanyam was Senior Vice President and Chief Procurement Officer at Career Education Corporation (NASDAQ:CECO), Vice President of Continuous Improvement and Business Transformation for United Airlines (NYSE:UAL), and Managing Director in Information Technology at United. Before joining United Airlines, Subrahmanyam was a practice leader in process modeling at Advanced Process Combinatorics, a supply chain consulting firm that specializes in advanced planning and scheduling, pharmaceutical pipeline management, portfolio management, capacity analysis, batch process design, and planning of research and development to maximize return. Subrahmanyam holds a doctorate in chemical engineering from Purdue University and a bachelor’s degree in chemical engineering from Birla Institute of Technology and Science in Pilani, India. Subrahmanyam has taught courses and given lectures on topics in optimization, design and scheduling in the process industry and supply chain at Purdue University and the American Production and Inventory Control Society (APICS). He has published a number of papers and presented at industry conferences on these topics, as well as business transformation, developing productive cultures, and organizational change management. He serves on the Logistics Council of Conexus Indiana and is also a member of the Airline Group of the International Federation of Operational Research Societies (AGIFORS), Institute of Supply Management (ISM), and McKinsey’s CPO Roundtable in Chicago. Subrahmanyam serves on the board of the Boys and Girls Club of Indianapolis. He currently sits on the executive committee for Corporate Social Responsibility at Ingram Micro.
Industry Engagement Opportunities

Thank you.

Dedicated industry partnerships are at the heart of success for the DCMME- GSCMI Center. We thank our many distinguished industry partners for their significant and ongoing involvement and support.
To our current industry partners,

Thank you.

Our mission and the many important objectives set for the Center could not be accomplished without you.
“The TVS Internship experience is an outstanding opportunity to explore the Indian business culture and broaden your view on international business. This study abroad program is a fast paced problem-solving scenario with unique challenges faced by a developing nation. You are given the opportunity to travel, experience a new culture, and test your skills developed during year one of the MBA program.”

-Ryan P. Case, MBA 2016
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.

This innovative and challenging global program is celebrating its ninth year of success with a total of 118 students having participated, represented by MBAs, MSHRM, and engineering students. 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 in May with a three week visit to Bangalore, India where students continue work on their projects with TVS mentors and present their final work to TVS Company representatives.

This year eleven students headed for the airport on May 10th 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 30th. Students received intimate exposure to TVS Motors and its strong culture through presentations and discussions from company leadership, a plant tour, and a visit to one of their corporate social responsibility villages. TVS also ensures that students get a taste of Indian culture outside of the office by coordinating 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 arranged a visit to the beautiful Bangalore Infosys campus where students learned about how the company develops its human talent. Students also enjoyed dinner with Purdue alum Rohan Chandrashekhar; Rohan is the CEO of data-driven content marketing boutique BUZZVALVE, a columnist for the Wall Street Journal, and serves as the President of the Purdue Alumni Association in India.

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 that 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 and Supply Chain Management, Human Resources Management, Sales, and Management Information Systems, naming just a few.
WHO IS TVS?

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.

2015 TVS PROJECT CHARTER

Shane McGuire
Daigo Tatushiko

Project Objective: The purpose is to understand the consumer-brand relationship across a range of categories to better appreciate the personality dimension in the brand positioning equations and its value.

Yafeng Hu
Pablo Martinez

Project Objective: Improving employee satisfaction of middle managers in operations by studying employee engagement indices.

Ying Li
Gini-Denise Sanchez

Project Objective: Enhancing performance management systems in operations by studying target setting and alignment-to-policy targets. The goal is improved target achievement levels and established performance management systems in operations.
RYAN CASE
JAMES POINDEXTER

Project Objective: Reducing waste in outbound supply chain and improve profitability. Study handling, loading and unloading, packing methods and truck configurations. Suggest and implement actions to address the root causes for transit damage.

AMIT KUMAR

Project Objective: Contributing to an improved work order service level by improving the planning and supply chain systems. Improving model production by benchmarking best-in-class planning and supply chain practices.

AIMEE KAPPE-ARMSTRONG
GEORGE SYMONS

Project Objective: Preparing an efficient and comprehensive demand supply map that will enable efficient operations under a potential Goods and Services Tax.
Taj Mahal weekend excursion
Agra, Uttar Pradesh, India
My TVS internship was an extraordinary opportunity. I gained valuable professional and business skills, broadened my intercultural understanding, and furthered my educational experience. As a weekend MBA student working for a non-profit institution, I observed how business principles learned in the classroom are implemented in an international commercial firm through company site visits and meetings with TVS personnel. I gained greater appreciation for India’s culture not only while touring historical landmarks and visiting rural villages, but also by observing the behaviors, customs, beauty, and diversity inherent in Indian daily life. I also became increasingly aware of the political, religious, and technological influences on Indian society and its economy. In retrospect my TVS internship was an invaluable opportunity through which I cultivated not only long-term professional relationships with my TVS mentors and full-time MBA peers, but also gleaned firsthand knowledge of the key dynamics and complexities of international business.

--Aimee Kappes-Armstrong, MBA 2016

The TVS internship has been a great learning experience for me. It has given me an opportunity to apply classroom knowledge in real time business problems. At the Hosur plant, I had the opportunity to see and learn from the TVS manufacturing practices which have won many international awards. We also received briefing from many senior officials at the company who gave us insight on the core business principles, history, and the company’s vision going forward. I feel this to be a great opportunity to contribute towards TVS’s success story. I am really satisfied with everything I have learned and experienced during this internship.

--Amit Kumar, MBA 2016

“Having the opportunity to travel to a new country is one thing—being able to work and dive into the culture is so much more. Through the TVS India internship I was not only able to apply what I’ve learned in the classroom but also interact and learn about a new culture through this hands on experience. My daily activities and work allowed me to better understand India as a country and as a leading developing country.

--Gini- Denise Sanchez, MBA 2016

I have found the TVS Motors internship to be one of the richest and most fulfilling experiences in my life. At every stage, I have been challenged in different aspects, not only professionally, but personally as well. This internship has proven to be a must for anyone interested in doing business abroad. TVS Motors was a great supporter, and the project I undertook was a great opportunity to push myself to think outside the box. What an amazing opportunity as a foreigner overseas in an exotic country, challenging myself to understand the culture, to learn at every step, to work under pressure and to formulate the best recommendation in a short period of time.

--Pablo Martinez, MBA 2016