Securing the Supply Chain Forum: The Digital Transformation of Supply Chain

April 26th, 2018

Highline College

Bryn Heimbeck

Trade Tech CEO

Choose technology in Transportation based on 2 items: 1) What is available and 2) What will apply to your organization.   The state of the market is a driving force when lack of sales and pricing leads to frustration. Bryn stressed a business must make a commitment on choosing the right technology on what will deliver. Each industry has specific needs, but must involve sales in this choice.

He also stressed block chain technology could be the next application for global transportation. He felt that the current system of reentry of the same data for every handler was a large waste. Block chain is linking the many computers and business into a single cloud storage. Therefore, the reentry of data became more of an assembly line process. The system would have fire wall with the outside server. The benefit was supplier and sales could use the same currency. Getting the business practice in place to encode the new technology will help set up the manufacturing chain.

Three types of currency used in global transportation: 1) Document currency. This is driven by the exchange rate for document and line item. 2) Local currency for tax. 3) Head company, possibly a global corporation can use exchange rate on the day for overall billing.

Panel #1: Disruptive Technologies.

Moderator Bryn Heimbeck

Panel Guests: Laura Hill, Jagan Nemani, Chuck Benson

Laura Hill is an attorney with Perkins Coie LLP in Seattle. Her practice focuses on product liability law, unmanned and autonomous technologies, and aerospace. Autonomous vehicle by definition performs a task or function without human intervention, i.e. lane-keeping assist. It is not new in autos, the new development is the unmanned aspect. Its use help in efficiency, cost of fuel and operational safety. The problem is the risk when used: 1) barrier to entry when put in place, 2) unknown benefits, 3) no track record on safety, and 4) public perception.

Product liability is a large part of current AI application. Currently liability is close to what human does statistically, but better on new technology. The questions are when a system and

human both are involved, who bears the blame on a failure. Manufactures bear the cost if strait system based technology.

Jagan Nemani is a Global Strategy and Innovative Executive. Jagan indicated supply chain transportation would benefit in 5 areas: 1) Action from data using advanced analytics, 2) robots taking over 1 in 10 jobs especially in repetitive level, 3) AI Artificial or Assistant data taking action on automatic movement, 4) IOT Internet of Things controlling process all way through chain, and 5) Block Chain for security. AI strength is the ability to learn from data, i.e. change the supply chain order and supply process to fit a need shown by analytic data. But this is only as good as data entered and questions asked to process the data. Analytical field is vast, with the computer learning as it develops and accepts more data.

Chuck Benson is Assistant Director for IT at U of WA. Chuck stressed IOT is now. IOT is all over the world and expanding exponentially. The use of IOT is variable by what is inside the devise: parts come from various global manufactures, unknown effects when data is added in a current system, multiple organizations use the same device, and they tend to be out of sight –out of mind embedded in a device. Therefore, they can be a security risk.

Chuck stressed IOT implementation of IOT must be considered carefully by the organization. Risk. Bad investment. Facility management vs IOT. Good place to start is automation of a repetitive task. Checking if the retirement of current employees will leave a gap that future work force will not want to fill. Liability risk if move the technology in too fast. Public and labor force alienation, against a lowering of cost with reduced labor force. How do you choose a future path? Analytical data. Did the system actually do what we thought it was designed for? Can it be used and integrated in the current government regulatory network, i.e. drones vs government

Terry Dell

Managing Partner for Autonomous products for The Movement Company.

Terry states we need 4 steps to develop AI: 1) Digitization of the whole process (i.e. not read handwriting efficiently), 2) compliance monitor the cloud, 3) IOT complex not linking many applications, and 4) Block Chain. AI has to link complex steps which we ae still developing. He sees AI will be applied to agriculture commodity chain to reduce spoiling, improve shelf life, traceability, and increase yields for growth and profit.

Terry says check out Amazon "Bee Hive" model for autonomous product delivery, warehouse robotics, and multimodal delivery system. Boeing analytics of 10 terabyte data collected every 30 minutes a plane flies. These applications are using fleet learning of normal to allow the system to spot the abnormality.

 Robotics and automation won't eliminate all jobs: however the type of work we will do will change. Creation of a highly skilled and specialized job force, reduced physical labor, safety and a reduction of "tribal knowledge" is in the future. Talent development will be the most

important part employees must be included in system and solution. Curriculum needs to start in the first grade so student knows they can do technology.

Panel #2: Student Panel.

2020 will be 50 billion interconnected. The danger will be criminal are always one step ahead. We need to train and retain the brightest to block the criminal. Currently system beaches are employ error based, i.e. often password.

Shane Moore noted IOT need to view business continuity aspects. What are the plans? Bringing down the system can lead to a cascade of failure.

Panel #3: Policy Panel

Moderator: Sam Kaplan

Panel Guest: Steve Marshall, Alisha King, Joseph Williams

Steve Marshall is Transportation Technology Partnership Manager for City of Bellevue. He advocated the future beyond oil based transportation - ACES (Automated, Connected, Electric, & Shared Vehicles. Seattle is the 6th worse traffic in US. Bellevue is switching to electric busses.

Alisha King is Certified Emergency Manager educator working for resilient communities. One application of AI and IOT would be Dept. of Homeland Security requirement for vehicles be equipment for notification of flooding. This would need crowd source data, knowledge of road conditions, and privacy of individual vs. social notification. "Scrub data" is a current issue of crowd sourcing: who views the data, political use most of the people data are not suspects, and globally where and how is the data held.

Currently transportation and medical systems are targets for random ware because they can't have down times. Negotiation with terrorist is a mistake even if the system is recovered. The terrorist owns all the system information. WA is the first in the nation to have NIMS cyber response teams.

Joseph Williams is WA ICT Sector Lead since 2016. Currently WA is losing some of businesses to other states. For example, Texas offers $5000 per employee move incentive and a lower cost of living. He advocated WA need to set policy at the state level for block chain applications. He feels block chain automation does not have the data infrastructure needed for the vast level of storage. Tracking level will need improvement on government policy, for example, a box using for tracking may need to be mounted on a public pole to mine data.   This box may need the capability to "scrub data" and only send relevant data for storage.

Panel #4: Faculty Panel

Moderator: Lindsay Williams

Panel Guest: Linda Cradra, Alan Van Boven, Steve Lettic,

Alan Van Boven questions how information technology should be taught to students. He advocated not teaching actual technology it in dep, rather teach the impact.

Steve Lettic focus is on technology used in criminal justice. Can automated vehicle be used in crime? Will analytics force discrimination in police deployment, i.e. high crime rate cause police to concentrate on one area? High concentration can lead to more criminal apprehension, but removes and penalized larger % of population. Starts to create a negative spiral in targeted neighborhood. Is it resource deployment or discrimination targeting? Automation could lead to issue of evidence rulings: date used in crash, search warrant, and cell phone evidence collection.

Usage of new technologies and how do we address it in classrooms? Adapting curriculum to new emerging technologies.

It is important for students to understand how technology might change their role in their respected career path. They need to understand or at least have an idea on what the future will look like and how their work will be impacted.

CJ perspective – What nefarious reasons these new techs could be used for. How do we prepare students for this? Some of these issues deal with privacy (criminal and civil aspect).

Data collecting – How specific in what you want to get out of it.

- Operational – collecting data
- Prioritization
- Critical thinking

Some students have to deal with difficult situations in their past. Instructors are noticing certain students come into their program with a low sense of self-worth. It is important for instructors to help identify what each student needs in order to help them be successful.

Students obtaining jobs – There is a boom in the CJ/Corrections field. Students only need to be 21 years old and have a clean background. However, the background checks are proving to be more of a problem for students. Some are unable to pass the required drug tests when applying for a job. This is a problem, not only in CJ/Corrections, but in many different fields as well.

There is a growing trend of students getting jobs while still pursuing their degrees.

A high percentage of Supply Chain students are obtaining jobs, but they need to understand that they are most likely have to start from the bottom and work their way up. Alan Van Boven suggest students get into trucking as a way to get their foot in the door when it comes to Supply Chain.

Takeaways

Linda Crerar: Alice Madsen said, never too old to go back and get education. Never stop learning.

Steve Lettic: AI will bring lot of challenge to law enforcement.

Selina Thompson: Coding is a universal language that needs to be brought to K12 skill set.

Jennifer Bitson: Combine courses to strengthen first and second grade skill and competence for coding.

Shane Moore: Don't change business product, not matter what technology used.

Courtney: AI not a general system, systems may vary.

Alan Van Boven: 1) Never too late to educate and 2) Talent problem not a technology problem.

Nancy Aird: Education need to use apprentice programs to channel students in white and blue collar jobs according to interests. Train students first then have them come back to college for additional specialized learning.