# ISB CTO

## Week 12: Digitisation of the Value Chain

### Video 1: Introduction to Business Analytics

- Data is at the core of business analytics, particularly in supply chain and value chain management.
- Visualizing data and conducting confirmatory data analysis are vital steps in understanding and optimizing operations.
- The future of analytics lies in harnessing unstructured data, such as images and videos, to adapt to emerging technologies and transform supply chain dynamics.

### Video 2: Supply Chain Vs Value Chain

- Supply chain management involves input, resources, and output, with data and analytics at its core for optimization.
- A value chain perspective stresses the need for processes to add value and eliminate unnecessary costs.
- Supply chain and value chain, though distinct in approach, are closely linked and integral to various industries.
- Holistic views are essential for leveraging data and enhancing processes in both supply chain and value chain management, with a focus on operational efficiency and customer service.

### Video 3: Examples of Supply Chain

- Supply chain management should adopt a holistic perspective, with a focus on data-driven improvements.
- Traditional companies like Dell and Toyota have leveraged data analytics to optimize their supply chains.
- Intangible supply chains, such as airlines and tech companies like Google, present unique challenges due to the blurred lines between inputs, outputs, and resources.
- Data plays a critical role in managing intangible supply chains, reducing process variability and ensuring efficient operations.
- Shifting perspective and culture is necessary when dealing with non-traditional supply chains, like education, to create value and manage resources effectively.

### Video 4: Logistic View of Supply Chains

- Even the simplest supply chains involve complex logistics, demanding data-driven solutions.
- The Boeing 787 Dreamliner case illustrates the challenges of data sharing and its impact on supply chain efficiency.
- Analytics play a pivotal role in reducing logistics costs and transforming the supply chain and value chain for societal benefit.
- Global logistics costs vary due to a combination of factors, including product types, infrastructure, efficiency, data usage, and analytics.
- Supply chain analytics offers significant opportunities but requires overcoming challenges related to understanding, data availability, and bureaucracy for widespread adoption.

### Video 5: Drivers of Supply Chain Performance

- Data analytics are pivotal in optimizing supply chains, making them efficient and responsive.
- Companies like Amazon, Walmart, and service-oriented businesses rely heavily on data-driven approaches for supply chain management.

- The trade-off between efficiency (cost reduction) and responsiveness (quick customer response) is a fundamental challenge in supply chain management.
- Efficient supply chains are essential for navigating disruptions, such as the toilet paper shortage during the COVID-19 pandemic.
- Modular product designs and rapid information transfer are key data-driven solutions for enhancing supply chain flexibility and responsiveness.

## Video 6: Supply Chain Analytics

- Data is instrumental in enhancing supply chain efficiency and responsiveness.
- The late 90s and early 2000s witnessed a surge in data collection, driven by the internet, ERP systems, and sensor technologies.
- RFID tags offer real-time data and have improved visibility and tracking in supply chains.
- Blockchain technology fosters transparency and security, resulting in better decision-making.
- Supply chain analytics encompass descriptive, predictive, and prescriptive stages, with room for growth in the prescriptive realm.

## Video 7: Supply Chain Analytics: Examples

- Supply chain analytics leverages techniques like time series methods and prescriptive analytics to enhance decision-making.
- Real-world applications showcase how companies optimize supply chains through analytics, from product rationalization to fleet planning and multi-echelon inventory management.
- The focus on reverse supply chain management and data-driven customization highlights the evolving landscape of supply chain analytics.