Understanding Procurement, Inventory Management & Machine Learning

# 1. Procurement Processes: P2P vs S2P

Procure-to-Pay (P2P) is the process of requisitioning, purchasing, receiving, and paying for goods and services. Source-to-Pay (S2P) includes all the steps of P2P but starts earlier by including strategic sourcing and supplier selection. P2P is more transactional, while S2P is more strategic.

Key Differences:

* - P2P starts from purchase requisition; S2P starts from supplier discovery.
* - S2P includes sourcing strategy, P2P does not.
* - S2P aims for long-term vendor relationships, P2P focuses on transaction efficiency.

# 2. Inventory Management in IT Companies

Inventory Management in IT services ensures smooth tracking and handling of hardware, software licenses, and peripheral equipment. It involves maintaining stock levels, issuing items, auditing inventory, and managing vendor relationships.

AI can help in:

* - Demand forecasting
* - Automating reordering
* - Real-time inventory tracking

# 3. Machine Learning Workflow

## 3.1 Data Acquisition and Preprocessing

This involves importing and cleaning data from various sources. Tools like Orange help import data, handle missing values, and normalize features.

## 3.2 Training

After selecting a model, it’s trained using preprocessed data. Orange offers user-friendly interfaces to adjust parameters and train models effectively.

## 3.3 Non-Linearity in ANN and CNN

Non-linearity allows neural networks to learn complex patterns. Activation functions like ReLU or sigmoid introduce this non-linearity.

# 4. CNN vs ANN

ANNs are general-purpose neural networks good for structured data, while CNNs are specialized for grid-like data such as images or videos. CNNs use convolutional layers to capture spatial relationships.

Below is a flowchart comparing CNN and ANN:

