**CHAPTER-2**

**INTRODUCTION**

Any trade transaction, be it domestic or global, involves exercising certain processes to complete. Domestic trade is the exchange of goods within country boundaries in contrast to between different countries in global/international trade. We describe the different processes involved in goods trade using a global trade transaction in figure Fig. 2. Shippers initiate a trade transaction by sending a purchase order (PO) which consists of details of the requested goods to the suppliers. Suppliers typically package the goods into intermodal containers either by themselves or with the help of Origin Cargo Management (OCM) team. Suppliers issue despatch advice (DA) that describes the goods packed details, and commercial invoice (CI) that describes the terms together with the details of the amount that shipper must pay for the goods supplied. Since global trade involves freight transportation across country borders, a typical freight journey involves multiple modes (e.g., road, rail, or sea) of carriers contributing to the container movement from origin to the destination. Moreover, freight transportation may also involve drayage providers to move containers a short distance via ground fright (e.g., move containers from truck to a ship). Once freight reaches the delivery center at destination, the goods receiving team of the shipper verifies if the received goods can be accepted or not. If there are any damages to the received goods or discrepancies in terms of received quantity/price against PO, then the receiving team records the same via receiving advice (RA). The different carriers involved in freight movement also issue their respective invoices for their services. Once the shipper has access to invoices of carriers and the supplier, its accounts payable team needs to process the invoices. First, the accounts payable team raises a claim for the discrepancies reported in RA in the form of claim advice (CA). Second, the accounts payable team deducts the amount captured in CA from the appropriate invoice (either from the supplier’s invoice or from a carrier’s invoice whoever is accountable) and generate payment advices (PAs), where each PA captures the net amount payable by the shipper either to the supplier or to a carrier.

**2.1 LITERATURE SURVEY:**

### **1. Title:** [**Security and privacy for the internet of medical things enabled healthcare systems: A survey**](https://ieeexplore.ieee.org/abstract/document/8936335/)

**Author:** Y singh

**Abstract:** Goods trade is a supply chain transaction that involves shippers buying goods from suppliers and carriers providing goods transportation. Shippers are issued invoices from suppliers and carriers. Shippers carry out goods receiving and invoice processing before payment processing of bills for suppliers and carriers, where invoice processing includes tasks like processing claims and adjusting the bill payments. Goods receiving involves verification of received goods by the Shipper’s receiving team. Invoice processing is carried out by the Shipper’s accounts payable team, which in turn is verified by the accounts receivable teams of suppliers and carriers. This paper presents a blockchain-based accounts payable system that generates claims for the deficiency in the goods received and accordingly adjusts the payment in the bills for suppliers and carriers.

### **2. Title:** [**Blockchain based accounts payable platform for goods trade**](https://ieeexplore.ieee.org/abstract/document/9461053/)

**Author:** VP Yanambaka

**Abstract:** This paper presents a blockchain-based accounts payable system that generates claims for the deficiency in the goods received and accordingly adjusts the payment in the bills for suppliers and carriers. Primary motivations for these supply chain organizations to adopt blockchain-based accounts payable systems are to eliminate the process redundancies (accounts payable vs. accounts receivable), to reduce the number of disputes among the transacting participants, and to accelerate the accounts payable processes via optimizations in the claims generation and blockchain-based dispute reconciliation.

**3. Title:** [**All Aboard! Major Shipping Lines Secure Antitrust Immunity for TradeLens Blockchain Agreement**](https://heinonline.org/hol-cgi-bin/get_pdf.cgi?handle=hein.journals/rail3&section=55)

# Author: En Cheng

**Abstract:** Despite the growing interest in blockchain technology, there are few examples of business value being delivered by live solutions. One exception is TradeLens, a blockchain- enabled platform for tracking shipping containers and related documentation in global supply chains. This article describes the TradeLens journey from initial prototypes and pilots to its live deployment. Although TradeLens still has a long way to go, its vision to substantially improve global supply chains has kept participants engaged and committed to adopting and growing the ecosystem.

**4. Title:** [**Ultra low power ECG processing system for IoT devices**](https://link.springer.com/content/pdf/10.1007/978-3-319-97016-5.pdf)

# Author: Guihua Er

**Abstract:** The Internet of Things (IoT) represents a set of interconnected smart objects and people at any time and at any place. The IoT incorporates wide spectrum that can impact businesses, healthcare, social and political aspects. It is a platform that extends from sensors, local processors, wireless transmitters, and central management stations

### **5. Title:** [**Health-CPS: Healthcare cyber-physical system assisted by cloud and big data**](https://ieeexplore.ieee.org/abstract/document/7219371/)

# Author: CW Tsai

**Abstract:** The advances in information technology have witnessed great progress on healthcare technologies in various domains nowadays. However, these new technologies have alsomade healthcare data not only much bigger but also much more difficult to handle and  
process. Moreover, because the data are created from a variety of devices within a short  
time span, the characteristics of these data are that they are stored in different formats and  
created quickly, which can, to a large extent, be regarded as a big data problem..