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The global air cargo industry is attempting to replicate the success of passenger electronic ticketing (ET) to the air cargo industry since 2006 with its e-Freight initiative. Recently, IATA has introduced eAWB360 – a "call-to-action" initiative at selected airports having a favourable regulatory and operational environment.

The key to success for air freight industry lies in innovation, particularly in IT, as a means to excel across the entire air freight value. It has been experienced that innovation today comes from niche IT providers, who are knowledgeable and flexible to the changes required. For decades, leading integrators have demonstrated the benefit that was generated with such an approach in terms of reducing data duplication, transparency, self-service kiosks and mobility solutions. Many industry players worldwide are eager to join this technology revolution.

Thus the question arises, "Why is it taking so long for the air cargo industry to adapt to technology which is as simple & basic as the e-freight?"

Technology advancements in air cargo:

When discrepancies were observed in communicating this automated information, then collaborative platforms were

introduced enabling seamless exchange of information between internal operational systems and those used by the external trade partners in the value chain. The organizations that introduced IoT (Internet of Things) into world of logistics are able to monitor a multitude of assets within a supply chain simultaneously using interconnected technologies. However, IoT applications currently focus only upon improving capacity, efficiency, manageability, reliability and cost reduction.

Noteworthy disruptive technologies worldwide

Industry trends reflect that displacing of established logistics firms is likely in the coming years with disruptive innovation in technology coming in force in airfreight' logistics.

Innovation using disruptive technology goes beyond automation, e-business or digitization. It's about 'paradigm shift in efficacy' of services & core competency in the business.



Disruptive Innovation in Air Cargo Technology

Drone based deliveries to replace cargo carriers

Drones are nothing but small unmanned cargo planes that can carry a parcel of 5 pounds or less weight to the customers within 30 minutes. Air Cargo Industry will benefit the most, if the large cargo carriers can go pilotless. This will help the industry cut fuel costs and reduce its carbon footprint by using planes that are lighter and more efficient. However, the impact of this on Air Cargo is yet to be fully gauged.

Bluetooth based smart sensor networks

A smart sensor network is composed of sensor nodes for monitoring physical conditions such as temperature, humidity, pressure, motion etc. This technology can be used to track shipping containers around the world in real time. By analysing this data alongside historical data for a container's planned route, it can identify likely bottlenecks and shrinkage areas, alerting shippers of potential disruptions. Thus potential savings by reducing cargo shrink and supply chain disruptions across the industry are enormous.

3D printing & autonomous vehicles

There are potential applications for 3D printing, such as on the spot printing of replacement parts, which will impact the logistics industry by reducing the need for parts and goods to be shipped. This could reduce the number of shipped parts and supplies as products would be produced locally on demand, instead of being shipped from overseas.

True single window platforms

Trade facilitation has evolved from EDI based electronic customs declaration systems to **Community Systems**. These have evolved into **Fully Integrated Single Windows** to connect traders, Customs, regulatory authorities and private-sector participants. Then came the **True National single windows** between two economies and among several economies within a regional grouping. The Single Window can enhance the availability and authenticity of information thereby reducing fraud and expediting and simplifying information flow between trade centres and governments resulting in greater harmonization and sharing of relevant data across parties involved in cross-border trade.

Kale Logistics Solutions created the next generation Cargo Community Systems (CCS 2.0). It has built a digital cargo community of importers, exporters, Forwarders, Customs brokers, airports, airlines, freight stations, Customs, Chambers of Commerce, banks. These community solutions are very different from the traditional CCS; they play a much wider role than just a forwarder for an airline or forwarder to Customs EDI. These also allow the SME players to run their entire business on the CCS application. These solutions are not transaction centric but stakeholder centric.

A Future Perspective

As per industry reports, the UN Single Window concept could therefore be a next logical step in trade digitization. It will help to facilitate international trade and allow governments to give businesses an opportunity to reduce their overheads and simplify international shipments while at the same time keeping borders secure and documentation updated and in check. Digitalization is the game changing chance for air cargo industry to create a new future

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The largest air cargo plane in the world is the Antonov An-225 Mriya, which can take off with a maximum weight of 640 tonnes