# Freight Digitalisation in India: *Possible Way Forward*

**Joining Dots • Connecting People • Shared Prosperity**

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*Freight marketplaces are internet-based platforms where goods- and fleet-owners can bypass brokers and interact directly by posting or picking loads. These platforms are attempting an uberisation of the trucking industry. They hope to remove market imperfections created by brokers and intermediaries by offering a marketplace where buyers and sellers can interact directly.*

*By 2022, the shortage of drivers is expected to reach 50 per cent. This has become the single most crippling factor for fleet owners seeking to maximise haulage and minimise idle time. Some startups are working on marketplace models to overcome market imperfections in the labour industry.*

*Internet of Things (IoT) brings a huge amount of value to the logistics industry and meager costs. The government has become the principal driver of digital transformation through its two principal programmes of mandating Global Positioning System (GPS) devices. The other flagship government-driven initiative is FasTAG, which has also added a layer of visibility.*

*The digitalisation of logistics and supply chain management remains the final frontier for the heavy paper-driven road transport system. The government will build digital platforms and enable Indian startups to build user interfaces to provide hassle-free IT services to clients. A close and successful partnership between the government and the private sector software companies can go a long way towards the 'Digital India' mission.*

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## Introduction

In India 80 per cent fleet owners have less than five trucks. Many of them are still dependent on "booking agents" for cargo. Despite all the market development, agents have survived because of their Unique Selling Point (USP) – relationships and trust. Even though it may come at a cost as high as 20 per cent of freight charges.[1]

But market dynamics are changing even though ever so slowly. With the advent of digital freight marketplaces and 'load matching' platforms, a new force has emerged in the industry, a "digital booking agent". New logistics startups are fueling digitalisation of logistics in India, but some are only being able to do so with the backing of big funds and high burn rates. It is clear that some do view these initial losses as a way of changing customer preferences, much on the lines of the Amazon and Uber model.

The rise of some giants is owed partly to venture capital funding, however, only some like Delhivery have been able to narrow their losses (by 90 per cent this year) where as others seem to have their's only growing. The jury is still out on whether this model will sustain.



India's road transport *marketplace* – this image best describes India's state of digitalisation of logistics

It is unclear whether the logic which applied to consumer behavior will replicate itself in a business-to-business (B2B) world. VCs are becoming increasingly concerned about business models' ability to sustain consistent losses for garnering breakneck growth businesses by offering unrealistically low prices.

Businesses are not like consumers; they have complex and long procuremnt systems and contracts. Companies cannot follow the same system of dynamic pricing the way the some B2C companies could to recover lost revenue. Businesses however are also prone to also having more loyalty than customers are.

This is a double edged sword; on one hand it means it requires even more discounting to dislodge someone who may have the "comfort factor" on their side and who may have already been L1 at one point of time which still remains the most common form of procurement in India. The benefit, however, of the B2B transactions are that once you are in, you can stay – but at the same low margin, loss making price. Contracts are usually entered into for years and it is near impossible to get a company agree to a higher price than before.

The question to be asked is whether Indian businesses care about the gains in logistics efficiency, or are they being incentivised (temporarily) to ditch their comfort zone with attractive prices? Eventually, market forces will determine the sustainability of marketplace models and what Indian businesses value more – trust & relationships or lower costs?

Researchers generally believe that digitalisation of supply chains can bring a reduction of cost by about six per cent. National Institute for Transforming India (NITI) Aayog's report, "Goods on the Move", states: "*Efficient logistics are a cornerstone for the*

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*continuation of India's economic development over the coming decades. The robust growth in manufacturing envisioned through the "Make in India" initiative will demand high levels of logistical efficiency, which means that goods must not only be produced, they must also be efficiently transported to markets at reasonable prices."*

The report goes on to add: *"As of 2017, India's logistics share of GDP was 13.5 per cent and on average, embodied logistics costs accounted for 18 per cent of the final price of goods. In developed economies, the logistics share of GDP is typically 8-10 per cent and logistics costs as a share of the final price of goods are typically on the order of 9-10 per cent. Bringing Indian logistics cost to Organisation for Economic Cooperation and Development (OECD) levels in the face of rising incomes represents a powerful pathway to ensuring robust economic growth in the Indian manufacturing sector."*

This brings us to the moot question: How can India improve supply chain efficiency and bring down logistics costs? Digitalisation of logistics can be boxed into four categories:
- market place models - load matching - that is the actual hiring of trucks on marketplaces and platforms at best possible rate;
- On-demand manpower services for the transport industry;
- bringing visibility to movement of goods through IoT (Internet of Things) devices - tracking and tracing the cargo; and

- the digitalisation of paper-based record keeping and manual processes in supply chain management.

It is also important to note that though these technologies have been around for a long time, it was the COVID-19 pandemic that forced the industry towards 'adoption' as companies grappled to work from home and remotely manage operations (technology service providers saw a jump of 30 per cent in digital transformation deals since the pandemic's outbreak, industry body NASSCOM and McKinsey said in a joint report).[2]

## The Struggle of Digital Freight Marketplaces

### On-demand Freight

Freight marketplaces are internet-based platforms where goods- and fleet-owners can bypass brokers and interact directly by posting or picking loads. The likes of Uber or MakeMyTrip inspired these platforms.

Uber, with a market cap of US$100bn, is one of the most visible and successful examples of the successful disruption of traditional transport systems. By automating driver-passenger matching, Uber scored over traditional taxis. Today it has gone on to become the way people commute. Many platforms are also attempting an uberisation of the trucking industry. They hope to remove

market imperfections created by brokers and intermediaries by offering a marketplace where buyers and sellers can interact directly.

An example to comes to mind is Porter, a platform which works as simply as Uber does. These marketplaces bring transparency in rates. Through the process of dis-intermediation and competition, rates are expected to come down. The 'marketplace' model is also expected to overcome a significant hurdle faced by fleet owners of not finding cargo on 'return journey' in long haul movement.

However many companies now seem to be trying to find a balance of being "digitally enabled in the back-office" but having the same kind of offline and contractual based dealing with the end clients; a hybrid model. The end result? A decent level of visibility, like in the courier industry as well as operational efficiency, but with everything else offline – they are the ones more able to actually attract the larger clientele and corporates because most large company's procurement policy would make it close to impossible to use an "uber for trucks" anyway.

**On-demand Manpower**

Drivers are one of the most prominent unorganised employment groups in India. In the1990s, India had 13 drivers for every 10 trucks. Now we have only six drivers for every 10 trucks. By 2022, the shortage of drivers is expected to reach 50 percent. This has become the single most crippling factor for fleet owners seeking to maximise haulage and minimise idle time.

Startups like Humara Truck have created a niche marketplace for drivers. Humara Truck is a job portal only for drivers and bus conductors; a pure marketplace. The application is in five different regional languages and allows fleet owners or employers to find drivers per route, vehicle, experience, salary, etc.

Many other similar startups have also been providing staff to companies like Flipkart, Amazon, Delhivery for meeting their needs for warehousing personnel and riders. They take on the responsibility of training them, providing immediate replacements and using

their platforms for providing automatic attendance reports.

However here again, a large battle seems to be one of trust; most of old-age transporters are used to finding drivers via references and find it difficult to be "digitally trusting" even despite all the verifications and eKYC tools that have been implemented by some of the platforms. This is not the case with the newer aggregators though – they have quickly realised the power internet and "references" are not enough to power the giants.

**IoT Devices - Visibility and Traceability**

IoT companies can provide customers with a clear value proposition and thus, customers are willing to pay accordingly. Customers can immediately realise the benefits of visibility. However, many of the IoT companies are providing simple platforms that have been whitelabled for them by the hardware provider himself, which come pre-configured, limiting visibility to a fleet owner for himself. The bulk of the transporters have been procuring trackers from companies like them and getting devices and platforms on rental charges for as low as INR10 per day.

Another trend seems to be of manufacturers giving pre-fitted GPS tracking in commercial vehicles – but then again, the same issue of visibility for goods owner persists. However, over 10 million old commercial vehicles in India have to still be retrofitted with GPS devices to impact the near term.

In addition to a technical constraint, few fleet owners are prepared to host services that give real-time notifications to cargo owners. This has opened a new and complex market of goods owners wanting visibility through innovative means and methods; without

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actually owning any part of the suppy chain; this is where a lot of value lies.

New-age startups are bringing cutting-edge technologies such as Artificial Intelligence and blockchain to provide better analytics, visibility and more meaningful tracking of the goods for owners. Businesses that care for efficiency are willing to pay for these services. Since most transporters, though having GPS-enabled fleets, do not provide this feed to their customers, the efficiency-centric business has turned to using portable asset trackers or GPS locks to track cargo with the additional feature of pilferage prevention.

Lynkit, for example, has a multi-device platform where they provide clients with portable trackers and GPS locks that sends real-time alerts in case of any unauthorised opening, records the exact time of locking and unlocking, and identifies the user. The locks can be operated via RFID cards and Bluetooth smartphones. These IoT devices serve the needs of the owner of the goods - thus making them self-reliant instead of being dependent on the fleet owners sharing data.

The government too has become one of the principal drivers of digital transformation. The government's move of mandating AIS140 (Automotive industry standard) GNSS (Global Navigation Satellite Systems) devices has seen a massive surge in government tenders for GPS devices.

Another government-driven initiative is FasTAG, which works on radio frequency identification (RFID) technology, adding a layer of visibility. The National Highways Authority of India's (NHAI) regulation has allowed many companies to provide RFID installation and maintenance services. Though Fasttag has made a massive improvement in the payment front by offering digital and seemless payments, the same may not apply on the logistical side of things.

NHAI and NPCI has still not made scanning data available to companies in a transparent and secure manner for being able to offer value added visibility and analytical data to customers. It is only available via private agreements with a few banks who have built the infrastructure to share this and they too can share data only of their own issued fasttags. It is time the authorities take a step towards providing this data to others the same way is was done with e-VAHAN and Parivahan!

It is interesting to note that NHAI has also wanted to migrate from RFID to a fully GPS-enabled system[3], which brings in improved equity through a 'pay per kilometers used' system. RFIDs provide only for point-to-point tracking (only the locations where readers have been placed) and comes with the drawback of flat charges, which some of the industry has deeply resented.



## Supply Chain Optimisation

The document is shown here (Goods Receipt or *Bilti)* is the most critical piece of paper for moving anything via road. This document is mandated under 'The Carriage by Road Act, 2007'. The Act provides the legal basis for the carriage of goods by road in a commercial vehicle accompanied with associated documentation.

The Act defines a 'common carrier' as a person engaged in collecting, storing, forwarding, or distributing goods to be carried by vehicles under a goods receipt from place to place by motorised transport on the road. It also includes a goods booking company, contractor, agent, broker and courier agency engaged in the door-to-door transportation of documents, goods or articles utilising the services of a person, either directly or indirectly, to carry or accompany such documents goods or articles.

The Act mandates that every consignor shall execute a goods forwarding note (GFN), including a declaration about the value of the consignment. Every common carrier is liable to the consignor for the loss or damage under the Goods Receipt (GR). This document has all the potential to be the building block for Goods and Services Tax (GST).

However, the lawmakers chose to foist yet another document called e-way bill on the industry, with additional complications around days of validity and renewal requirements. This has led to even more importance of having digital platforms that can help manage this complex web of documents and regulatory hurdles. E-way bill or not, invoice or not, this Lorry Receipt (aka *bilti*) carries the same importance as a bill of lading in the maritime trade.

Many companies provide software as enterprise solutions (SaaS) to small and large transport companies for digitalisation of the paperwork. However, these systems come with the drawback of not bringing all stakeholders on a single platform. The goods owner, consignor, consignee, buyer and transporter do not have shared real-time visibility.

Recently, some companies have forayed into this sector with SaaS solutions or enterprise solutions. Lynkit.io is one such application to be launched in India. It has taken technology to another level by building it on blockchain for that additional layer of trust, visibility and immutability of data. It has earned the company a place in Linux Blockchain Showcase. The application has digitalised the entire process of carriage of goods prescribed under the Act.

It makes it possible to bring together all stakeholders to the transaction on the same platform. The application can also integrate IoT devices. When coupled with Trade Receivables Discounting System (TReDS) and GSTN, it can make commercial frauds as something that happened in the past. Unless systems like these is adopted as an industry standard, digitalisation of the logistics industry will remain stunted.

## In Lieu of a Conclusion

In 2018, Forbes published an article citing a survey of more than 400 senior transportation-focused executives. It said that 65 percent of them expected tectonic shifts in the logistics industry and anticipated an era of profound transformation was upon them.

As a practitioner in the digital world trying to penetrate the logistics industry, inertia and traditional practices are hardest to break. Companies will happily allocate millions in executing a 'digital transformation' but overlook their business's logistics and transportation side. If they chose to digitally transform the supply chain operations, studies would indicate a six percent bump to the bottom lines through timeliness, prevention of pilferages, and shorter turnaround times.

Some industries spontaneously graduate to higher levels of digitalisation, while others have to be lifted from their bootstraps. The government can play this vital role in persuading a digital transformation in logistics. A vital void has been filled by setting up a Department of Logistics in the Ministry of Commerce and Industry. It may well be the precursor for the sector acquiring a status of 'industry'.

## A close and successful partnership between the government and the private sector software companies can go a long way towards the 'Digital India' mission

The Secretary, Department of Logistics, Government of India has recently been quoted in the press. A National Logistics Policy is in its final stages and has been developed after broad consultations with all Central ministries and other stakeholders.

Similarly, the NITI Aayog and the Department for the Promotion of Industry and Internal Trade have been leading the initiative of developing a Unified Logistics Interface Portal, which will bring visibility and all statutory processes together.

All these efforts are not only laudable but also ambitious. The success of such initiatives will critically depend on the user interface, customisations and glitch-free services. The government will do well to build digital platforms and enable Indian Startups to build user interfaces to provide hassle-free IT services to clients. A close and successful partnership between the government and the private sector software companies can go a long way towards the 'Digital India' mission.

One such good example of a successful private-government partnership is the United Nations Development Programme (UNDP) inking a Memorandum of Understanding with Spices Board of India to build a blockchain-based traceability interface for Indian spices industry to enhance transparency in supply chain and trade.[4]

A similar initiative can be thought for encouraging regional supply chain visibility amongst the Bangladesh-Bhutan-India-Nepal (BBIN) group of countries with the support of multilateral initiatives underway by the World Bank Group, the Asian Development Bank and/or the United Nations Economic and Social Commission for Asia and the Pacific. Bringing buyers and suppliers in the region on an application like lynkit.io can be a game-changer for regional value-added manufacturing, trade and compliance.

### Endnotes

1. Deloitte: The time of reckoning - road logistics in India

2. https://www.thehindu.com/business/covid-19-has-accelerated-digitisation-process-study/article33243203.ece

3. https://economictimes.indiatimes.com/news/economy/policy/nhai-to-conduct-pilot-run-of-gps-based-tolling/articleshow/62819198.cms?from=mdr

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