

Business Development from Start to Scale
Prof. C Bhaktavatsala Rao
Department of Management Studies
Indian Institute of Technology, Madras

Week - 08
Corporate Development
Lecture - 38
A Logistics Start-up

Hi friends, welcome to the NPTEL course, Business Development from Start to Scale. In this week, which is week 8, we will consider the theme of Corporate Development. This lecture, the 38th in the series, has the topic of A Logistics Start-up. In the previous two lectures, we have considered the cases of a new IT-Start-up and an FMCG-Start-up.

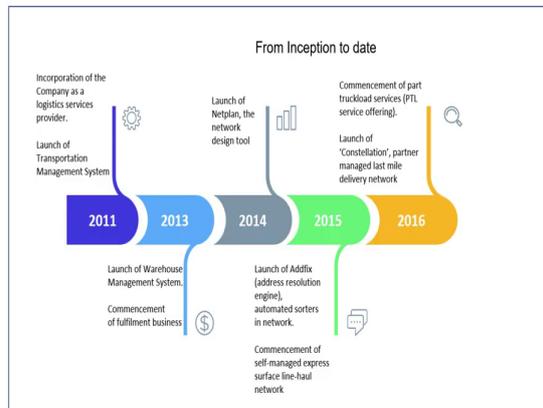
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In this lecture, as I said, we will consider the Digital Logistics Company which is Delhivery.

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Evolution - 1/2

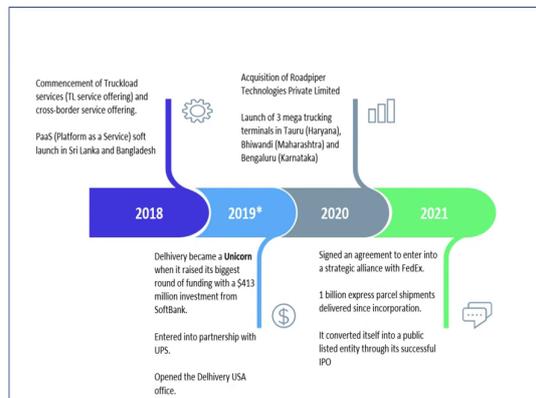


The company evolved to its state from its inception in 2011. The company was incorporated as a Logistics Service Provider and it launched the Transportation Management System in 2011. In 2013, it launched the Warehouse Management System and commenced fulfilment business. In 2014, it launched Netplan, the network design tool and it launched also Addfix address resolution engine, automated sorters in network. It commenced self-managed express surface line-haul network in 2015.

In 2016, it commenced part truckload services, PTL service offering. The launch of Constellation, partner managed last-mile Delivery network took place in 2016 again.

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Evolution – 1/2



In 2018, the company commenced Truckload services, TL service offering as the company called those services. It also offered cross-border service offering. PaaS, platform as the service soft launch was happening in Sri Lanka and Bangladesh in 2018. In 2019, Delhivery became a unicorn when it raised its biggest round of funding with a 413 million dollar investment from SoftBank.

The company entered into partnership with the UPS, a globally renowned logistics player. It opened the Delhivery USA office. In 2020, the company acquired Roadpiper Technologies Private Limited and launched 3 mega-tracking terminals in Haryana, Maharashtra and Karnataka.

In 2020, it signed an agreement to enter into a strategic alliance with FedEx, another global logistics provider. One billion express parcel shipments were delivered since incorporation in

the year 2021. The company converted itself into a public listed entity through its successful IPO in 2021. It deserves mention that in the Indian economic sector, a few sectors were considered very traditional and were considered not so amenable for modernization.

Pharmaceutical distribution was one such vertical. However, digitization has completely transformed pharmaceutical distribution particularly with the entry of new age digital e-pharmacists. Similarly, agroeconomics was considered beyond the reach of modernization. However, new sensor technologies and new ways of direct radiation between the farmers and the users have radically been transforming the agricultural landscape, although much work remains to be done.

In the transportation sector, which was dominated by single truck operators, it was considered that the contours of the industry cannot be ever changed. That is because of the preponderance of individual truck owners in the road transport industry. This was not really working out in favour of the truck operators because they did not have the business capability and they were always at the mercy of aggregators.

Other problems that plagued the industry was when the trucks were bought, there were no further technological upgradations. The routes were suboptimal. The loads were suboptimal. In many cases, the trucks would return either full empty or half empty. Over and above that, there was no way in which business can be booked by the clients directly.

However, the start-ups which are mediated by technology such as Delhivery completely reordered the truck transportation sector. Delhivery has been a pioneer and also a leader in the digital mediation of the trucking industry. The milestones which I have mentioned so, in the past two slides indicate how Delhivery has completely transformed the transport infrastructure and this has also come to the benefit of the smart truck owners also.

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Hyper-Local to E-commerce Logistics



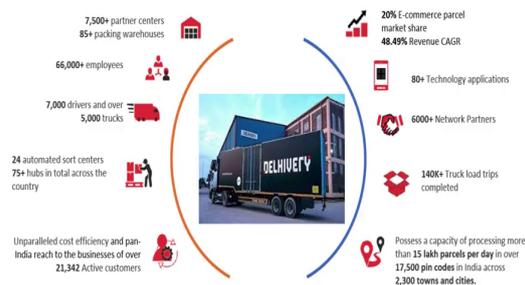
One of the things which Delhivery attempted was transformation from hyper local to E-commerce logistics. The company grew to become a unicorn in the industry. The way it disrupted the India's logistics industry was through its proprietary network design, infrastructure, partnerships and engineering and technological capabilities.

It was a fulfilment, omni-channel and data services driven company. The mission was to shrink time and distance, making the world a smaller place for its customers and over a billion consumers, the company serves. This has been the mission of the company. So, hyper local to E-commerce logistics were all covered by Delhivery. Delhivery used to transport not merely through trucks, but also through truck, trailers and also through two-wheelers.

All kinds of transportation were pressed into service by Delhivery to have total dynamism and total flexibility in the way the company transformed the transportation sector.

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Delhivery Today



Today, Delhivery is a giant in the digital transportation sector. 7500 plus partner centres, 85 plus packing warehouses, 66000 plus employees, 7000 drivers and over 5000 trucks. 24 automated short centres, 75 plus hubs in total across the country. Unparallel cost efficiency and planning they are reached to the business of over 21,342 active customers. 20 percent E-commerce parcel market share, 48.49 percent revenue, CAGR, 80 plus technology applications.

This is the prime move for Delhivery as digital transportation company. 6,000 plus network partners, 140000 plus truck load trips completed and a capacity that is installed of processing more than 15 lakh parcels per day in over 17500 pin codes in India across 2300 towns and

cities. It is remarkable that over a decade of existence the company could achieve this level of spread and depth in the Indian road transport industry.

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Funding & Investors

Date	Amount	Investors
September 24, 2021	\$125 million	Lee Fixel's Addition LLC
September 6, 2021	\$76.34 million	Lee Fixel's Addition LLC
July 16, 2021	\$100 million	FedEx Express
May 30, 2021	\$277 million	Fidelity Investments
December 15, 2020	\$25 million	Steadview Capital
September 9, 2019	\$115 million	Canada Pension Plan Investment Board
June 17, 2019	\$150 million	Canada Pension Plan Investment Board
March 24 2019	\$413 million	SoftBank Vision Fund, Carlyle Group, Fosun International
May 22, 2017	\$30 million	Fosun International
March 23, 2017	\$100 million	Carlyle Group, Tiger Global, Fosun
May 6, 2015	\$85 million	Tiger Global Management
September 8, 2014	\$35 million	Multiples Alternate Asset Management Private Limited
September 30, 2013	\$5 million	Nexus Venture Partners
April 2012	\$1.5 million	Times Internet Limited

Delhivery has raised a total of **\$1.39B** in funding over 14 rounds | Valuation - **\$3 Billion**



Another important feature of Delhivery has been the funding vision that has happened. Foreign investors, particularly the private equity investors were quick to understand and grasp the importance of digitisation of the often ignore transportation sector. So, a number of companies invested in the company starting from April, 2012 to September 24, 2021.

And many of the companies are also very well known companies – Nexus Venture, Multiples, Tiger Global, Carlyle Group, Fosun, Softbank, Canada Pension Plan Investment Board, Fidelity Investments, FedEx, Express, Lee Fixel's Addition LLC are all repeated names with interest in transportation as well as other segments of industrialization.

Delhivery thus raised a total of 1.39 billion dollars in funding over 14 rounds with the valuation of 3 billion dollars by the time it went to the IPO.

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The services that Delhivery offered comprised express parcel, part truckload and truckload. It catered to last-mile delivery. It also offered third-party warehousing with reverse logistics. Vendor to warehouse and vendor to customer service were also offered. Payment collection and shipping is done by the company itself and with cross-border services.

So, the shippers, marketplaces, D2C brands, logic operates, small and medium enterprises, banking, financial services and insurance, retail, global businesses were all in the customer list. There were several apps the company developed as part of its offerings for the transportation industry and the customers were within the borders and cross-border.

The deliveries were global with Indian customers as well as global customers well-connected. There were lots of national services that were offered by Delhivery in the transportation sector and there were also several logistics technology and data products services that were offered by the company. In this, the proprietary nature of the digital technologies which the company offered, served as a big differentiating factor compared to other transportation undertakings.

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Strategic Marketing

Delhivery operates one of the fastest express parcel transportation networks in India	Takes products to the world	Guarantees safe and reliable shipping
Offers flexible, same-day, next-day delivery options	Takes care of end-to-end logistics and supply chain management	Empowers the customer with data science capabilities
24x7 Contact Centre	In the forefront of logistics technologies	Selective acquisitions to fast-track growth



In terms of strategic marketing, Delhivery operates one of the fastest express-parcel transportation networks in India. It takes products to the world and also brings the world's products to India. It guarantees safe and reliable shipping. Offers flexible, same-day, next-day delivery options.

It takes care of end-to-end logistics and supply chain management. Empowers the customer with data science capabilities. This is again something to be underlined, empowering the customer with data science and analytics capabilities.

It has a 24 by 7 contact center operating to trace the state of the parcels at different points of the transportation value check. It is also in the forefront of logistics technologies. It has deployed selective acquisitions to fast-track growth. As a result, the company became holistic in its services and well-capable of performing within border and cross-border transportation transactions.

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Comparison of Business models

Country	US	China	India	
			Traditional SPL	Delivery
Typical Network design	Hub-Spoke	Hub-Spoke	Hub-Spoke	Mesh network
Typical Nature of Asset Holdings	Asset-heavy; Self owned infrastructure and fleet	Self-owned infrastructure; mix of self-owned and partner operated fleet and last-mile	Asset-light; mainly partner operated assets	Asset-light; leased infrastructure and fleet, selective ownership of strategic technology assets
Automation	High degree of hardware automation	High degree of hardware automation	Low automation; mainly manual operations	High degree of automation with full control over the value chain



When you look at the business models, different countries have different kinds of business models as far as transportation is concerned. There are three typical types that are offered.

Typical network design, typical nature of asset holdings and automation – these are the three pillars which could vary from country to country.

The US generally adopted a hub and spoke model in the network design. The nature of asset holdings tends to be asset heavy. It is a cell-phoned infrastructure and fleet by and large in the United States. FedEx owns its own fleet and so, does UPS. Automation is characterized in terms of high degree of hardware automation. China too follows a hub and spoke model. Lot of self-owned infrastructure, but a mix of self-owned and partner-operated fleet and last-mile. There is a high degree of hardware automation.

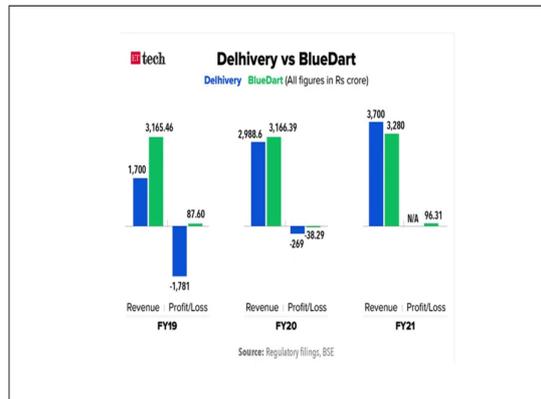
In India, there are two types of operators – one, the traditional 3PL operators and the other Delhivery kind of digital transportation operators. Traditional 3PL operators adopt the familiar hub and spoke model. But in India, they are asset-light, mainly partner-operated assets, taking advantage of the fact that transportation is a priority sector and there are many single truck owners spread across the country. Traditional 3PL operators deployed the partner operated assets and becoming asset-light in the process.

Automation levels are very low in the traditional model and most of the operations were manual. But, Delhivery completely changed the infrastructure as well as the mode of operation. It has a mesh network which is proprietary to Delhivery. It is at asset-light not because it is dependent only on the single truck operators, but because it has leased its infrastructure and fleet and bolstered the hardware with selective ownership of strategic technology assets.

The company deployed high degree of automation with full control over the transportation value chain. That is how the business models compare across three important countries – US, China and India.

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Competitor Analysis



In terms of the competitive analysis, you can see the difference. BlueDart is a very reputed and longstanding transport operator in India and fairly modern. BlueDart has a turnover of 3165 crores at the time of the analysis in fiscal year 2018-19 whereas, Delhivery was just about 45 percent of that size.

The BlueDart made profits. 87.6 crores was the profit on a turnover of 3165 crores whereas, Delhivery made as much loss as it made a revenue. That is the theory of new start-ups. Invest heavily, capture market, offer services at a discount and become omnipresent in the marketplace. In FY 1920, BlueDart remained at 3166 crores whereas; Delhivery rapidly scaled up to 2988.6 crores.

The loss of BlueDart was 38.29 crores whereas, Delhivery's loss reduced to minus 269 crores and the loss was therefore, compressed significantly whereas, BlueDart which was profitable

before the COVID times became unprofitable during the COVID times. In FY 21, Delhivery surpassed BlueDart with a turnover of 3700 crores as opposed to 3280 crores of Blue Dart.

The profit and loss figures were not computed, but BlueDart sprung back to profit with 96.31 crores profit and it may be surmised that Delhivery continued to be in losses. That is the corporate analysis that existed for you over the pre-COVID and COVID years.

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A Few Competitors: Digital Startups and Established Firms



ekart	RIVIGO	Ecom Express	FedEx	BLACKBUCK
Funding: \$509.9M Revenue: \$612.7M Employees: 10,000	Funding: \$300M Revenue: \$149.5M Employees: 3,000	Funding: \$509.9M Revenue: \$612.7M Employees: 10,000	Funding: \$3.1B Revenue: \$84.3 billion Employees: 650,000+	Funding: \$509.2M Revenue: \$563.8M Employees: 2,500
In-house supply chain division of Flipkart. Anyone can use eKart to ship the orders.	A technology-based logistics company that has introduced the concept of relay trucking.	A leading end-to-end technology enabled logistics solutions provider with a focus on speed, safe and reliable nationwide express delivery services to e-commerce industry.	An American multinational conglomerate holding company which focuses on transportation, e-commerce and business services.	A technology-enabled company offering an online marketplace for logistics transactions.



There are a few competitors. Delhivery is not the sole digital transportation in company in India. There have been many digital start-ups and established firms vying for space. Ekart logistics is one such company. It had a funding of 504 million dollars with revenue of 620 million dollars and an employee account of 10,000. It has been an in-house supply chain division of Flipkart and anyone can use Ekart to ship the orders however.

Rivigo is another famous name in the digital transportation sector. Had a funding of 300 million dollars, revenue of 144 million dollars and an employee is 3000. It is a technology-based logistics company that has introduced the concept of related trucking. It has not been however, very profitable.

Ecom Express, which was funded to the tune of 504 million, dollars boasted a revenue of 6 million dollars and an employee account of 10,000. It is a famous digital transportation company. It is a leading end to end technology-enabled logistics solution provider. It had it is focus on speed, safe and reliability and it offered nationwide express delivery services to E-commerce industry.

FedEx of course, is a globally-known company and name. It had a funding of 3.1 billion dollars, revenue of 84 billion dollars, a staggering level of revenue with employees of 650,000 across the globe. This is an American multinational conglomerate holding company which focuses on transportation, E-commerce and business services.

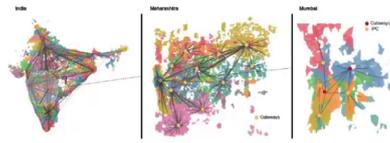
BlackBuck is a technology-enabled company offering an online marketplace for logistics transactions, funding of 303 million dollars, revenue of 363 million dollars and employee account of 2,500. Compared to these competitors, Delhivery has been of a higher scale and higher capability.

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Delhivery Competitive Strengths



- Rapid growth, extensive scale and improvement in unit economics
- proprietary logistics operating system
- Vast data intelligence capabilities
- Network design and engineering: Mesh Network
- Integrated portfolio of logistics services
- Strong relationships with a diverse customer base
- Extensive ecosystem of partners, enabling an asset-light business model and extended reach
- Highly qualified, experienced and entrepreneurial team.



The competitive strengths of Delhivery have been rapid growth, extensive scale and improvement in unit economics. It has a proprietary logistics operating system which serves as co-competence and the USP of the company. Vast data intelligence capabilities, network design and engineering, mesh network. Integrated portfolio of logistics services. Strong relationships with diverse customer base.

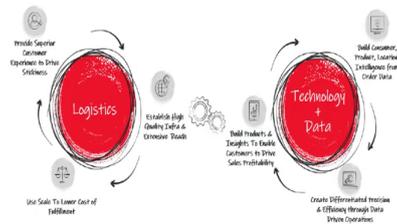
It has an extensive ecosystem of partners enabling an asset-light light business model and an extended reach. It has a highly qualified, experienced and entrepreneurial team. You can see how the mesh system operates all over India, in Maharashtra and in Mumbai. There are gateways, there are also IPC routes.

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Mission & Strategy



"Our mission is to enable customers to operate flexible, reliable and resilient supply chains at the lowest costs."



This is achieved through high-quality logistics infrastructure and network engineering, a vast network of domestic and global partners and significant investments in automation, all of which are orchestrated by the company's self-developed logistics operating system that drives network synergies within and across the services and enhances the value proposition to customers.



The mission and strategy of Delhivery have been distinctive. Our mission is to enable customers to operate flexible, reliable and resilient supply chains at the lowest cost. The rise of companies such as Delhivery has also been co-terminus with the rise of the importance of supply chain in corporate productivity and operational excellence.

So, there are two wheels for logistics companies such as Delhivery and un-particularity Delhivery specialized in that. The first wheel is logistics provides superior customer experience to drive stickiness; establish high quality infrastructure and extensive reach; use scale to lower cost of fulfilment. This is as per their annual report.

The other wheel is technology coupled with data. Build consumer product location intelligence from modern data; create differentiated precision and efficiency through data-driven operations; build products and insights to enable customers to drive sales

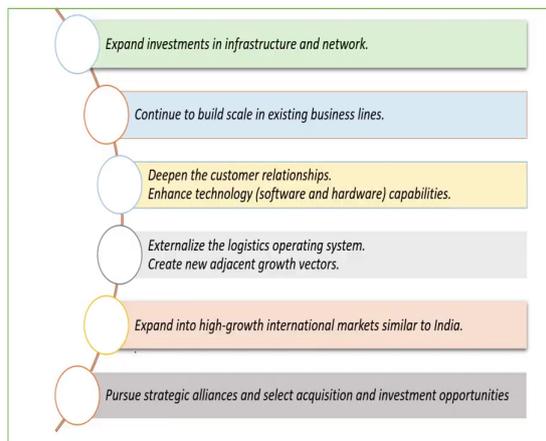
profitability. This level of profitability and productivity is achieved through high quality logistics infrastructure and network engineering.

A vast network of domestic and global partners and significant innovations in automation. Significant investments were also made in automation. All these were orchestrated by the company's self-developed logistics operating system that drives network synergies within and across the services.

And it enhances the value proposition to customers because of the digitization, warehousing, transport infrastructure and the turnaround times that are managed effortlessly.

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Corporate Strategy



The corporate strategy of the company has been as follows. Expand investments in infrastructure and network on a continuous basis. Continue to build scale in existing business

lines. Deepen the customer relationships. Enhance technology, both software and hardware in terms of capabilities. Externalize the logistics operating system.

Create new adjacent growth vectors. Expand into high growth international markets that are similar to India. Pursue strategy alliances and select acquisition and investment opportunities. These are the six pillars of Delhivery's corporate strategy.

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Key differentiators - Competitive advantage



- Integrated solutions** - Express parcel delivery, heavy goods delivery, PTL freight, TL freight, warehousing, supply chain solutions, cross-border express and freight services and supply chain software, ecommerce return services, payment collection and processing, installation and assembly services and fraud detection.
- Proprietary logistics operating system** - In-house logistics technology stack is built
- Data Intelligence** - ML extensively used to build intelligent geo-location, network design, route optimization, load aggregation, ETA prediction, product identification and fraud detection.
- Automation** - Operates 20 fully and semi-automated sortation centers and 86 gateways, automated material handling systems at gateways
- Unified Infrastructure and Network** - Operates a pan-India network and provides services in most PIN codes across the country.
- Asset-light operations** - Systems function as managed marketplaces that match partner capacity with Delhivery internal and third-party client demand based on partners' service quality ratings and pricing.
- Entrepreneurial team** - Drives service excellence and industry-first innovations.



You can see here the Delhivery warehouse that is typically available in a big hub. Similarly, you can see the Delhivery is distinct tractor trailer fleets. Tractor trailer is a combination of the truck with low wheel base, but has the ability to pull a long broad tractor which you can carry heavy loads.

So, the pillars of Delhivery's actual transportation excellence have been the following. Integrated solutions including Express parcel delivery, heavy goods delivery, PTL freight, TL freight, warehousing, supply chain solutions, cross-border expression freight services and supply chain software, e-commerce return services, payment collection and processing, installation assembly services and fraud detection.

It had a proprietary logistics operating system with in-house logistics technologies stack that has been built by deliveries IT people. Data intelligence was extensively deployed. Machine learning extensively used to build intelligent geo-location, network design, route optimization, load aggregation, ETA prediction, product differentiation and fraud detection.

There have been 20 fully and semi-automated sortation centers and 86 gateways with automated material handling systems and gateways powering the automation level in the company. There has also been a unified infrastructure network. The company operates a pan-India network and provides services in most pin codes across the country.

The strength, resilience and also the productivity of any transportation network lies in being a Pan-India network so that the loads can be optimized, return loads can also be optimized and part truck loads can be consolidated into truck loads based on the national logistics.

The company adopted an asset-light operations with systems function as managed marketplaces that match partner capacity with Delhivery, internal and third party client demand and that is based on partner service quality, rate, and pricing. Above all, being a start-up, it had an entrepreneurial team that drove service excellence and industry first-innovations.

So, integrated solutions, proprietary logistics operating system, data intelligence, data automation, unified infrastructure and network, asset-light operations and entrepreneurial passion drove the success of Delhivery making it one of the largest transportation companies in this part of the world within a period of 11 years.

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Competitive Business Strategy



The business strategy was competitive because it had its own uniqueness. It departed from traditional models. It did not deploy a traditional hub and spoke model. In this model of hub and spoke, products are ordered within a city are always routed through the hub before it reaches the spoke leading to significant delays. And, the movement through hub was designed to balance out the part truck loads and create truck loads and that was not going to be helpful to the clients.

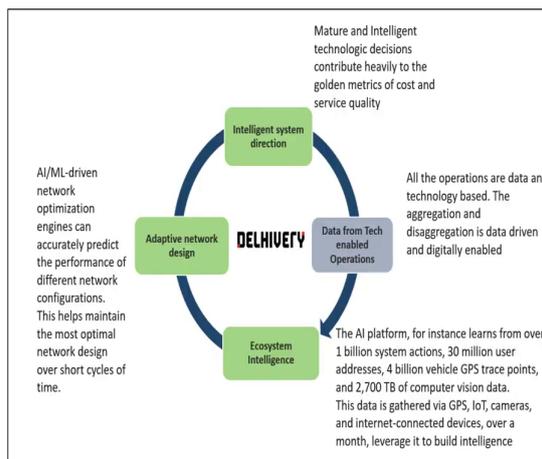
Secondly, it adopted a no-franchise model. It does not operate on a widely distributed franchise model because that model often leads to difficulties in standardization and control. Instead, it adopted distributed model and e-commerce methods. It provides B2B where a very branch can operate as the hub. Each can route packages straight to the customer's avoiding delays and with no hassles.

Each branch was used as a hub which is a significant difference with the traditional models when there were only few hubs and many spoke endpoints. And, it also deployed multiple modes of transportation to take packages faster via different flights throughout the day. Whenever a package needs to be delivered, the backend system plots the fastest route automatically, including which flight it should take.

And the mesh network has been very unique for Delhivery. The company has invested in a technology platform called mesh network that has allowed differentiation even in its delivery business. These are the elements of the business strategy competitiveness for Delhivery.

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Digital Transformation



And, how did it transform itself and how did it transform the transportation industry? First, it had an intelligent system direction that was happening. Mature and intelligent technological decisions contributed heavily to the golden metrics of constant service quality.

Secondly, data from tech-enabled operations helped to ensure that all the operations are data-driven and technology-based. The aggregation and disaggregation is data-driven and digitally-enabled. There was no human judgment or human intervention. There was also an ecosystem intelligence module that operated in the company.

The AI platform, for instance, learns from over 1 billion system actions, 30 million user-addresses, 4 billion vehicle GPS checkpoints and 2,700 terabytes of computer vision data. This data is gathered via GPS, IoT, cameras and internet-connected devices over a month, leveraging it to be intelligence.

And, fourthly, adaptive network design. Again, AI ML-driven network optimization changes that can accurately predict the performance of different network configurations. This helps maintain the most optimal network design over short cycles of time for Delhivery.

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Logistics tomorrow



The future will see new-age logistics players transforming themselves into collaborative, AI-powered platforms rather than simply continuing as owners and operators of fleets and facilities.

Organisations that embrace these tenets as integral to their functioning will continue to maintain a competitive edge over their peers, consolidating their leadership, technological and operational, in the market.



Delhivery envisages a logistics field of tomorrow. According to the company, the future will see new-age logistics players transforming themselves into collaborative, AI-powered platforms rather than continuing simply as owners and operators of fleets and facilities.

Organizations that embrace these tenets as integral to their functioning will continue to maintain a competitive edge over their peers, consolidating their leadership, technological and operational, in the market.

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Delhivery FY22 Highlights



Financial	Scale	Operational
<ul style="list-style-type: none">• ₹72,414 Mn Revenue from operations• 63% Revenue growth YoY• ₹715 Mn Adjusted EBITDA• 1.0% Adjusted EBITDA margin	<ul style="list-style-type: none">• 18.1 Mn Sq. Ft. Total infrastructure• 23,613 Active customers• 18,074 Pin-code reach• 220+ Countries served• 94,000+ Team size	<ul style="list-style-type: none">• 582 Mn Express parcels delivered• 1,579 K Tonnes PTL Freight delivered• 45,000+ TL Trips completed

Source: Delhivery Annual Report 2021-22

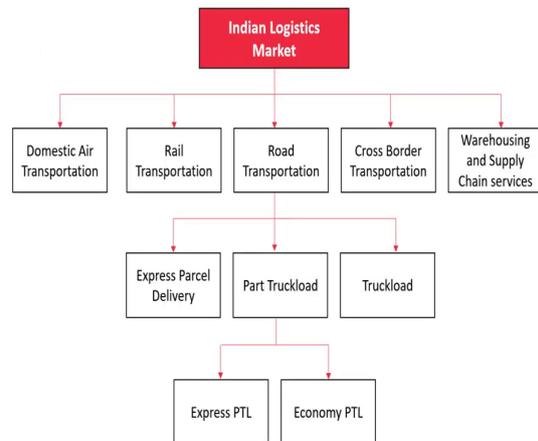


Let us look at some of the Delhivery FY22 highlights. The financial parameters work as follows. A revenue of 72414 million rupees from operations; 63 percent revenue growth year over year, that is 21–22 over 2021, 700 million rupees adjusted EBITDA and 1 percent adjusted EBITDA margin. There has been a criticism of course, that the adjusted EBITDA has been a facade to enable the company having successful IPO and post-IPO behaviour in the stock market.

Then the scale is simply stupendous. The total infrastructure of 18.1 million square feet in terms of warehousing and truck logistics; 23613 active customers; 18074 pin-code reach; 220 plus countries served and 94000 plus team size. Operationally, 582 million express parcels were delivered; 1579,000 tons of PTL freight delivered and 45000 plus TL trips completed. This is from the Delhivery annual report.

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Industry Structure



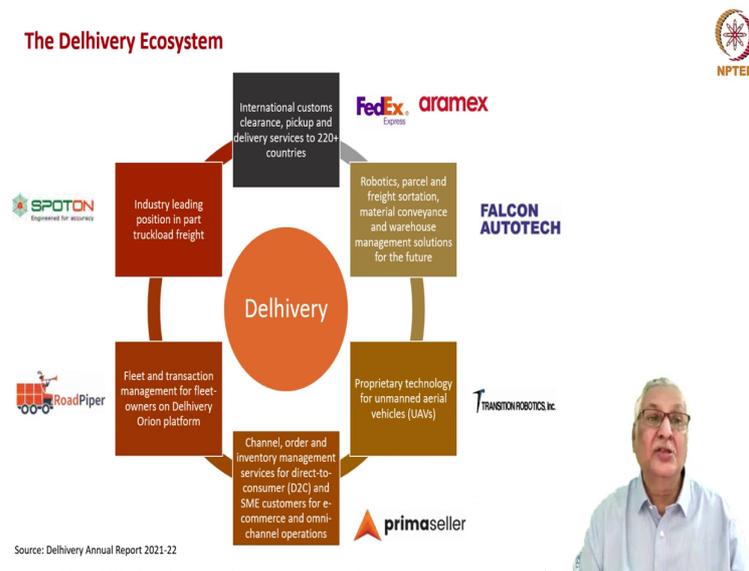
Note: Market structure excludes freight transport through ship, Inland Water Transport (IWT) and pipeline
Source: Delhivery Annual Report 2021-22



As I said, Indian logistics market has been very traditional and has also been single truck owner. We have domestic care transportation, rail transportation, road transportation, cross-border transportation, warehousing and supply chain services. The industry in which Delhivery operates, that is the road transportation it can be seen in terms of three types of services. Express parcel Delhivery, that is Delhivery within a day, part truck load and truck load.

Again, part truck load can be expressed part truck load and economy part truck load. This market structure excludes freight transport through ship inland water transport and pipelines.

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In this, the Delhivery ecosystem was one of organic growth as well as partnerships. FedEx and aramex help in international customs clearance, pickup and Delhivery services to 220 plus countries. Falcon Autotech helps in robotics, parcel and freight sortation, material conveyance and warehouse management solutions for the future.

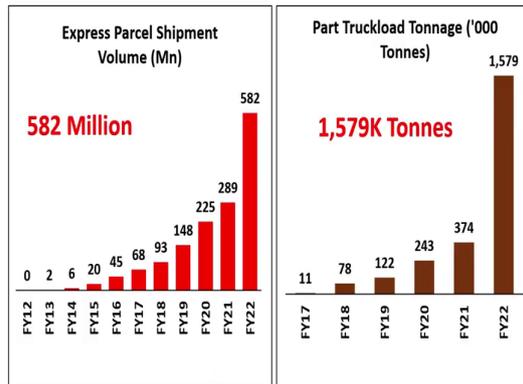
Transition Robotic Inc. helps in proprietary technology for unmanned aerial vehicles. Primaseller helps in channel order and inventory management services for direct to consumer and SME customers for e-commerce and omni-channel operations. RoadPiper helps in fleet and transaction management for fleet owners on Delhivery Orion platform.

And, Spot On is an industry leading position in what truck load freight that has been provided to Delhivery. You can see that by having an ecosystem that is based on alliances as well as

some selective acquisitions, Delhivery has been able to expand its offerings and also deepen the quality of its offerings.

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Rapid Volume Growth



Note: FY22 on pro forma basis

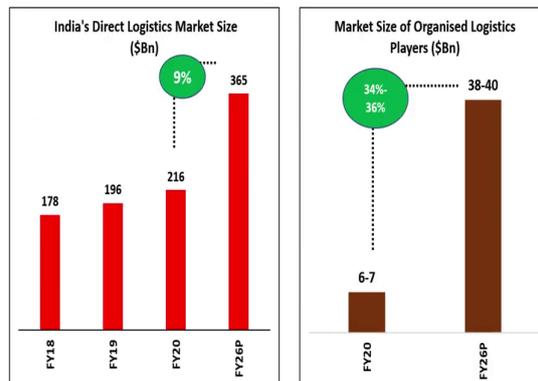
Source: Delhivery Annual Report 2021-22



As a result, the express parcel shipment witnessed very sharp growth from almost 0 in FY12 to 582 million express parcels that were shipped in FY22. The part truckload tonnage catapulted from 11 in FY17 to 1579, 1000 tons in FY22.

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India's Direct Logistics and Organised Logistics Players Market Size



Source(s): Chamber of Commerce - India, Report on Logistics, India Economics Survey 2017-18, 2019-20, RedSeer estimates
Note: (1) Includes both transportation (road, domestic air express, rail, cross-border) and warehousing & supply chain

Source: Delhivery Annual Report 2021-22



The Indian Direct Logistics Market Size is estimated at 216 billion dollars in FY20, that is fiscal year 2019-20. It represents a reasonable growth over the FY19 figure of 196 billion dollars. However, a 9 percent continued growth in the forecast period of FY20 to FY26 will ensure that the Indian Direct Logistics Market would grow to earn posing 365 billion dollars by FY26.

We think that the market size of organized logistics players is expected to increase substantially from 6 to 7 billion dollars to 38 to 40 billion dollars by FY26. Whereas the overall direct logistics market would only grow at 9 percent, the organized logistics would grow at a rapid 34 to 36 percent and that is the opportunity available to companies such as Delhivery to share this market and for other follow-on players to enter this market. These are based on the government of India data covering various modes of transportation.

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Technology

In 2022, Delhivery launched Unified Client Portal (UCP) which enables SME clients to self-onboard, access all services through a single application and customise pricing and operational parameters themselves.

Apps	Operational	Pud, Field Apps In-Facility Apps Order Tracking Fleet, Vendor Mgmt	Business	Client Panel Channel Integration Control Tower Billing, Invoicing Tools	Data Intelligence	location Intelligence Network Simulator Fraud Detection Product Identification	←	LSPs, fleet owners and local delivery cos. Access configurable modules and application as SaaS SW
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Marketplace	Marketplace	App registration	App Lifecycle Mgmt	App Discovery	App Exchange	Billing and Invoicing
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OS1 Platform	Libraries, APIs and SDKs	Participants Containers Dispatch Order Mgmt	Workflow Mgmt i18n / 10n Location Services Sys Interfaces	Foundation (Ind. Security Compliance)	Data Mgmt Sys Monitoring Dev Toolkit Event Sourcing	Data Isolation Data Security Auth / Access PII Mgmt	←	Log-tech developers, 3rd party dev partners can build their customer apps on OS1 platform
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Source: Delhivery Annual Report 2021-22



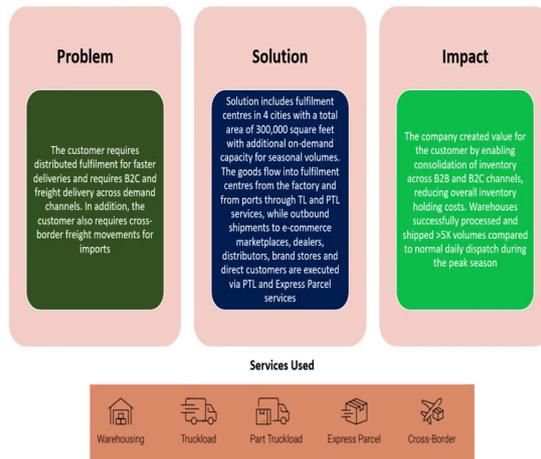
Technology is the backbone for Delhivery's success. In 2022, Delhivery launched Unified Client Portal which enables SME clients to self-onboard, access all services through a single application and customize pricing and operational parameters by themselves. So, the apps covered operational business data intelligence areas. The marketplace was in terms of app registration, app life cycle management, app discovery, app exchange and billing and invoicing.

The OS1 platform included libraries, APIs and SDKs covering the participants, workflow management, foundation including security and compliance, all data management systems monitoring, data isolation, data security, authorization and access management and several logitech developers, third party development partners can build their customer apps on OS1

platform and that is the foundation of Delhivery's expansive thrust in the transportation sector.

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Case Study: Integrated Distribution for a Consumer Electronics Brand



Source: Delhivery Annual Report 2021-22



There is a case study here of integrated distribution for a consumer electronics plan that was offered by Delhivery. You have to work with the customers to be able to transform them from a traditional trucking model to the digitized trucking model that Delhivery proposed. The problem was that the customer requires distributed fulfilment for faster deliveries and also requires B2C and freight delivery across demand channels.

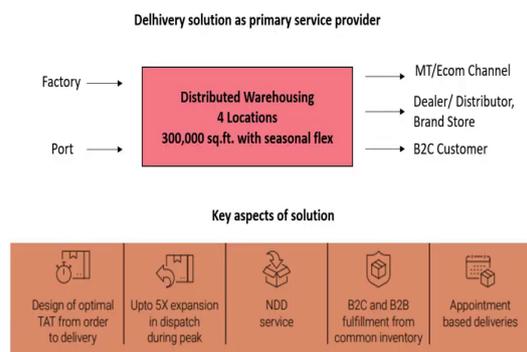
In addition, the customer also requests cross border freight movements for imports. The solution configured by Delhivery includes fulfilment centers in four cities with a total area of 300,000 square feet with additional on-demand capacity for seasonal volumes.

The goods flow into fulfilment centers from the factory and from ports through TL and PTL services that is full truckload and part truckload services, while outbound shipments to e-commerce marketplaces, dealers, distributors, brand stores and direct customers are executed via PTL and Express parcel services.

The impact of the solution was that the company created value for the customer by enabling consolidation of inventory across B2B and B2C channels, reducing overall inventory holding costs. Warehouse is successfully processed and shipped over 5 times volumes compared to normal daily dispatch during the peak season. The company used five types of services, warehousing, truckload, part truckload, express parcel and cross-border to be able to provide an integrated distribution model for the electronics brand.

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Integrated Distribution Solution for a Consumer Electronics Brand



Source: Delhivery Annual Report 2021-22



What did this integrated distribution solution comprise? First of all, it acted as a primary service provider. The company acted as a primary service provider to the consumer electronics company. On one side we have factory and port, and on the other side you have E-commerce channels, dealers, distributors, brand stores and B2C customers. The bridge for these two polarities has been the distributed warehouse with four locations and 300,000 square feet with seasonal flexibility.

So, the requirements for the solution were in terms of the following. Design of optimal TAT from order to delivery; upto 5X expansion in dispatch during peak; NDD service; B2C and B2B fulfilment from common inventory and appointment based delivery services.

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Trade Efficiency



Delhivery has introduced 175 tractor-trailers into their fleet operations in FY22. These trucks are significantly more fuel-efficient compared to traditional truck form factors that are the norm in the industry. Fuel saved per tonne as compared to other truck types is as follows:

Comparison Truck Type	Efficiency improvement % of 43-46 ft truck (litres per tonne saved)
32 MXL	17%
32 SXL	44%
24 SXL	39%

The company also continues to introduce CNG and electric vehicles across their network. It currently operates over 1,200 of these vehicles and continues to engage with EV OEMs to increase penetration in its carting and last mile operations

Source: Delhivery Annual Report 2021-22



The trade efficiency was also taken high note of by Delhivery management. Delhivery has introduced 175 tractor trailers into their fleet operations in FY 2022. These trucks are

significantly more fuel efficient in terms of 10 kilometre per litre compared to traditional truck form factors that are the norm in the industry.

There are two types of trucks – one rigid trucks; that means, the loading space and the cap or one integral form. Whereas, in tractor trailer the engine and the cap that is the prime mover will be short and will be a separate entity whereas, the trailer would be one which is not having any prime movement of its own, but gets moved when it is docked to the truck with the prime mover.

So, this truck-trailer combination has the ability to carry much higher loads and also provide flexibility in terms of leaving the trailer to be unloaded and take on an empty trailer and do something else. So, the movement and the flexibility are very high in a truck trailer combination and when the company operates on an all India basis and consolidate huge amounts of tonnage, these tractor-trailer itself has very efficient modes of transportation for the company.

The fuel saved per ton as compared to other truck types is as follows. If you compare with a 32 MXL truck the efficiency improvement of 43 to 46 feet truck in terms of litres per ton saved is 17 percent. If you compare with 32 SXL it is 44 percent efficiency improvement and with 24 SXL it is 39 percent efficiency improvement.

The company also continues to introduce flex fuel options like CNG. The company currently operates over 1200 CNG and electric vehicles and continues to engage with EV OEMs to increase penetration in its cutting and last mile operations. Electric vehicles as currently designed and offered are very helpful in the last mile operations rather than through full length national operations. A day will come and there will be full length national carriers too.

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Financial Performance

Amount (₹ in Million)

Particulars	Standalone - FY ended		Consolidated- FY ended	
	March 31, 2022	March 31, 2021	March 31, 2022	March 31, 2021
Revenue from Operations	59,109.96	34,997.81	68,822.86	36,465.27
Other Income	1,698.59	1,993.94	1,561.41	1,917.64
Total Income	60,808.55	36,991.75	70,384.27	70,384.27
Less: Total Expenses	69,421.85	39,899.45	80,645.30	42,127.04
Loss before exceptional Items, share of net loss of associate and tax	(8,613.30)	(2,907.70)	(10,261.03)	(3,744.13)
Less: Exceptional Items	21.8	655.25	-	413.30
Loss before tax and share of loss of associate	(8,635.17)	(3,562.95)	(10,261.03)	(4,157.43)
Less: Tax Expense	-	-	(183.30)	-
Loss after tax before share of loss of associate	(8,635.17)	(3,562.95)	(10,077.73)	(4,157.43)
Add: Share of loss of associate	-	-	(32.27)	-
Loss for the year	(8,635.17)	(3,562.95)	(10,110.00)	(4,157.43)
Other Comprehensive Income	9.64	10.04	14.37	2.06
Total Comprehensive Loss for the year	(8,625.53)	(3,552.91)	(10,095.63)	(4,155.37)

Source: Delhivery Annual Report 2021-22



The financial performance of the company over the last two years on standalone basis as well as on a consolidated basis is provided here. In terms of the consolidated basis the revenue saw a big spurt in March 31, 2022 ending fiscal year FY 2022. The revenue was 68822.86 million rupees and the total income was 70384 million rupees and the loss was of the order of 10261 million rupees which is high.

And, when you compare with other companies which are in the traditional model certainly, they do not have the same level of losses and the losses are because of the heavy investment in infrastructure and digitization. What the traditional companies did for several decades with judicious business models and what they could not do in terms of heavy deployment of digitization has been attempted and accomplished by Delhivery within a period of just a decade.

And, this has led to severe capital intensity of its operations and therefore, significant loss making capacity of the operation as opposed to a required profit making performance of the transporter.

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Delhivery Peer Comparison



Company Name	Revenue (Cr)	Operating Expenses (Cr)	Profit Before Tax (Cr)	Profit After Tax (Cr)	EPS (Rs)	PE	PBV	OPM %	ROE (%)
Blue Dart Express	4437.5	3705.2	503.5	376.4	158.7	42.38	18.58	22.67	18.8
Mahindra Logistics	3640.6	3451.5	32.7	24.4	3.4	95.61	6	4.84	5.24
TCI	2937.2	2204.2	156.2	134.8	17.5	49.28	12.8	15.91	26.24
Delhivery	4180.0	3650.0	-898.7	891.1	-12.3	-	-	-3.37	-15

Note: Data as of 9MFY22

Source: IPO analysis: Here's how Delhivery stacks up against its competition (livemint.com)

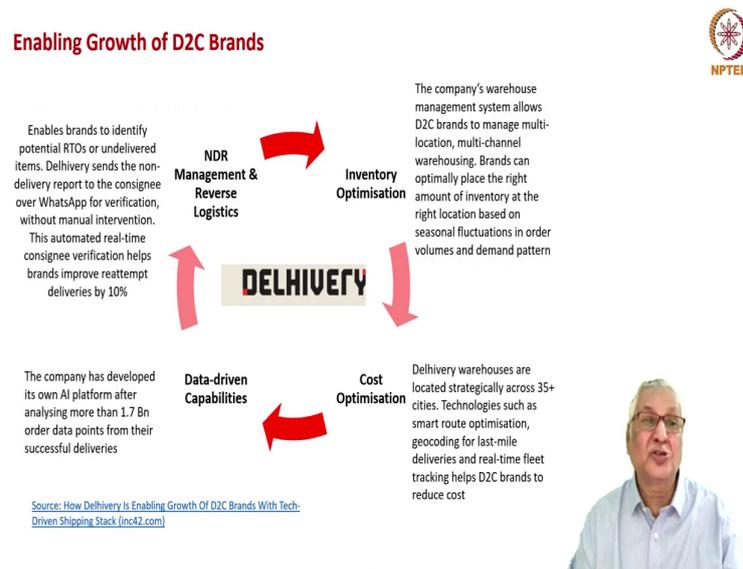


So, let us look at the Delhivery peer comparison. Blue Dart Express, Mahindra Logistics, TCI are compared with Delhivery. In terms of the revenue parameters, they are more or less in the same range with 3000 to 4000 400 crore. Revenue levels compared to deliveries 4180 crores. Operating expenses are also more or less in alignment.

However, in terms of the profit before tax the traditional transporters have got profitability levels which are positive whereas, Delhivery has a huge negative profit before tax. And, the EPS is negative so, is the operating profit margin as well as return on equity.

The business of traditional transportation has shown continued positive profit movement over the period of comparison. But, if Delhivery continues on its growth path and gets full returns out of its capital investments as well as digitization potentially it can at least break even sooner than later.

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Delhivery has also been enabling the growth of direct to consumer brands as we have seen elsewhere direct to consumer is an extremely important aspect of customization in distribution and making customers feel happier with lower levels of pricing. So, there are some aspects of D2C brand management.

Firstly, you have to have inventory optimization. Delhivery's warehouse management system allows D2C brands to manage multi-location, multi-channel warehousing. Brands can

optimally place the right amount of inventory at the right location based on seasonal fluctuations in order that volumes and demand pattern are better managed.

Then cost optimization comes. Delhivery warehouses are located strategically across 35 plus cities. Technologies such as smart route optimization, geocoding for last-mile deliveries and real-time fleet tracking help D2C brands to reduce cost. Then we have data-driven capabilities. The company has developed its own AI platform after analyzing more than 1.7 billion auto data points from their successful deliveries.

And finally, you have NDR management and reverse logistics. It enables brands to identify potential RTOs or undelivered items. Delhivery sends the non-Delhivery report to the consignee over WhatsApp for verification without manual intervention. This automated real time consignee verification and this helps brands improve re-attempt deliveries by 10 percent.

And, in direct to consumer marketing ability to catch the customers when they are at the office or at the homes is vital and, not missing a consignment Delhivery is of utmost importance. Therefore, the automated real time consignee verification is a technology that has been put in place by Delhivery to ensure that the parcels reach properly and there are no costs that are embedded because of the return of undelivered parcels.

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Delhivery Innovation Lab



- ❖ In 2021, Delhivery partnered with Mumbai-based Startup Réseau and launched the Delhivery Innovation Lab
- ❖ With an objective to enable technology partnerships, strategic engagements and proof-of-concept development on pre-defined use cases with emerging tech start-ups, Delhivery is aiming to discover tech solutions for logistics and supply chain industry.



Delhivery has set up an innovation lab understanding the importance of technology in development of the transportation capabilities. It partnered in 2021 with a Mumbai based start-up Réseau and launched the Delhivery innovation lab. The objective is to enable technology partnerships, strategic engagements and proof of concept development on pre-defined use cases with emerging technology start-ups.

As a result of this initiative, Delhivery is aiming to discover technological solutions for logistics and supply chain industry.

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Futuristic and Collaborative through ONDC



ONDC (Open Network for Digital Commerce), a UPI of e-commerce, seeks to democratise digital or electronic commerce, moving it from a platform-centric model to an open-network.

On Dec 15, 2022, Delhivery went live on ONDC and has successfully integrated with sellers. The company is ready to begin inter-city express parcel movement through ONDC

With this move, Delhivery will be able to access customers in the remote corners of India as the sellers can leverage Delhivery's extensive network of more than 18,000 pin codes in the country

Source: [Logistics services platform Delhivery now live on ONDC \(siasat.com\)](https://www.siasat.com)



More recently it has also moved into the bandwagon of ONDC. As we are aware ONDC stands for open network for digital commerce which is an innovation brought in by the government of India to connect small businesses across the country. This entry into the ONDC network has been futuristic and collaborative on the part of Delhivery.

ONDC is a UPI of e-commerce. It seeks to democratize digital or electronic commerce, moving it from a platform centric model that is Amazon or Flipkart kind of platform centric model to an open network which can be accessed by anyone wanting to do digital commerce.

On December 15, 2022 Delhivery went live on ONDC and has successfully integrated itself with the sellers. The company is ready to begin intercity express parcel movement through ONDC. With this move, Delhivery will be able to access customers in the remote corners of

India as the sellers can leverage Delhivery's extensive network of more than 18,000 pin codes in the country.

And, as companies try to have their own digital platforms their own DTC models, deliveries participation in ONDC will be of great help for such companies to extend themselves into the far interiors of the country.

So, when you look at Delhivery over the last several years which has actually not too long just a short decade you will find that investment in hardware that is warehousing, investment in mobile hardware that is trucks and tractor-trailers and investment in digital technologies most of it proprietary along with a flexible mesh based business model or transportation routing network model have helped Delhivery to become a pioneering and leading and dominant digital transportation player in India.

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The Logic of Business Development from Delhivery



Source: Logistics services platform Delhivery now live on ONDC [israt.com]



So, what is the lesson of business development that we can take from Delhivery? First, be an early starter in digitally disrupting the transportation industry. Bring in modern fleet and fleet management systems. Create a vast warehousing infrastructure because for any transportation activity warehousing the two modern contemporary digitally mediated warehousing is essential. So, create a vast warehousing infrastructure.

Raise ample funds to establish itself in the investment intensive industry. Leverage data and digital for the most efficient transportation. Create a vast all-India network of trucks and drivers. You could have observed that the drivers of 7500 and the trucks were 5500. It enabled rotation of drivers over 24 bar 7 operation and providing adequate trust periods to the drivers. Create a value proposition based on the earliest Delhivery benchmark.

Creative therefore, a distinctive brand image in the transportation sector of the digital efficiency and effectiveness. Professionalize the management and management process. Pioneer the IPO route at the appropriate time in digital transport start-up community. Move towards globalization with cost board realizes with refuted players. In this case it has been with FedEx as well as UPS. Become a role model in the mobility space.

This has been the logic of business development by Delhivery over the last few years and it has really shown how a sector that is road transport sector which is considered not being amenable for modernization has been in one go transformed into a digitally savvy, efficient and customer oriented transportation network. So, with this we come to the end of this lecture.

I thank you for your attention and hope to look up again in the next lecture.