

FIFTH EDITION

SUPPLY CHAIN MANAGEMENT

Strategy, Planning, and Operation



Sunil Chopra | Peter Meindl | D. V. Kalra

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of the business in the decision process. If trends in a company's industry indicate that insignificant characteristics will become crucial in the future, managers need to make sure their IT choices take these trends into account. As IT systems often last for many more years than was originally planned, managers need to spend time exploring how flexible the systems will be if, or rather when, changes are required in the future. This exploration can go so far as to include the viability of the supply chain software developer itself. If it is unclear whether a company will be able to get support from a software company in the future, management needs to be sure that the other advantages of this product outweigh this disadvantage. The key here is to ensure that the software not only fits a company's current needs but also, and even more important, that it will meet the company's future needs.

17.10 IT APPLICATION TO STREAMLINE INDIA'S AIR CARGO TRANSPORTATION

An IT application designed to streamline the movement of air cargo in India and speed up its passage and that of the documentation connected with it, through the labyrinth of procedures, multiple agencies and officialese, has been developed by Kale Logistics Solutions Pvt Ltd. The application titled UPLIFT has, effectively eliminated most manual processes. It has been implemented in the air cargo industry with good results. This innovative application which has transformed the functioning of all agencies connected with airfreight movement is reproduced as a case study in the next page.

17.11 SUMMARY OF LEARNING OBJECTIVES

1. Understand the importance of information and information technology in a supply chain. Information is essential to making good supply chain decisions because it provides the broad view needed to make optimal decisions. IT provides the tools to gather this information and analyze it to make the best supply chain decisions.

2. Know at a high level how each supply chain driver uses information. Each of the supply chain drivers that we have discussed in previous chapters (facilities, inventory, transportation, sourcing, and pricing) requires information for decisions to be made. Information is the factual component on which decisions about each of the other drivers are based. In essence, information is the glue that holds the entire supply chain together and allows it to function, making information the most important supply chain driver.

3. Understand the major applications of supply chain information technology and the processes that they enable. A company's supply chain processes can be grouped into three main macro processes. CRM includes processes that enable interaction between an enterprise and its customers. ISCM includes processes focused on the internal operations of an enterprise. SRM includes processes that enable interaction between an enterprise and its suppliers. IT enables these processes as well as the integration across these processes. Good IT systems allow not only the collection of data across the supply chain, but also the analysis of decisions that maximize supply chain profitability.

Discussion Questions

- Which processes within each macro process are best suited to being enabled by IT? Which processes are least suited?
- What are some advantages of the software as a service (SaaS) model? Why has it been successful in the CRM space?
- Why is supply chain management software dominated by the ERP players like SAP and Oracle?
- Identify a few examples of when the availability of real-time information has been used to improve supply chain performance.
- Discuss why the high-tech industry has been the leader in adopting supply chain IT systems.

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Case Study: Transformational Technology¹

Air Cargo Transportation in India: Problems, Solutions and Prospects

Existing Scenario

Movement of air cargo in the Indian scenario is adversely affected on account of multiple factors that contribute to higher lead time in its movement, increased paper work, delays and other inefficiencies. The stakeholders of the cargo community in India—freight forwarders, Custom House Agents (CHAs), consignors, consignee airports, seaports, airlines, transporters, and customs amongst others—have to grapple with many challenges to perform their core job of transporting the cargo, timely, safely, and within budget.

Situation Analysis

Almost all the key stakeholders were facing their own set of operational hurdles that practically converged

into one single issue of smooth and timely exchange of information across the players and their diverse technology platforms with different capabilities. More specifically, their individual problems were:-

- **Consignors:** Lack of shipment visibility across the supply chain prompted the consignors to stock larger inventory to minimize stoppages in assembly line production. For lack of end-to-end automation, even world class Enterprise Resource Planning (ERP) systems on part of consignors could not be of much rescue due to lack of similarly capable interactive systems on the part of other stakeholders (Forwarders, CHA, Transporter, Banks and Consignee) in the supply chain.
- **Freight forwarders:** Forwarders' role on coordinating shipment's entire movement involved interaction with several stakeholders, but

¹ Re-produced with the kind permission of Kale Logistics Solutions Pvt Ltd.

via manual/semi-automated media, entering the same data in at least 6-7 different systems during the transit of goods which ultimately resulted in delays, increased costs, and errors.

- **Airlines:** Given that most of the forwarders did not have the capability to electronically create and transmit the shipment data, the clients (a leading Indian private airline and a leading middle-eastern airline) too used to receive enquiry and booking requests manually which added to its costs, reduced profitability, impaired planning, and delayed transportation. Also, there was no audit trail for future reference. In case of loss of papers, airlines' failure to reproduce critical documents resulted in penalties. Inappropriate charges on waybills cause erroneous Air Way Bill (AWB) information which in turn leads to revenue leakage and redundant data entry. Above all, several clients missed market opportunities due to inability to reach the highly fragmented freight forwarding industry in India.
- **CHAs:** Clients like Transline Air Cargo Services Pvt. Ltd. had to manually handle a lot of documentation (related to operations, finances and forwarding) in addition to communicating through phone/e-mails including those related to job status. Also, several CHAs' systems were unable to maintain customer contracts/quotations.

The Solution

To address these challenges, Kale Logistics in association with Air Cargo Agents Association of India (ACAAI) and other stakeholders from the air cargo industry developed Universal Platform for Logistics & Freight Transport (UPLIFT)—a first-of-its-kind communitywide automation platform for the air cargo industry. The product addressed most of the challenges faced by the industry stakeholders by mutually integrating a variety of clients; freight forwarders, CHAs, consignors, consignee airports, seaports, airlines, transporters, and customs besides others.

- **Consignors:** UPLIFT provided clients with complete shipment visibility and also ensured seamless interface to directly exchange data between consignors' systems and UPLIFT, thus ensuring end-to-end automation across the supply chain.
- **Freight forwarders:** Challenges that originated due to forwarder's (Links Forwarders' and United Shipping Services Pvt. Ltd.) complex coordination with multiple stakeholders were resolved by pro-

viding a single window for interactions with all involved entities. Forwarders no longer needed to re-enter the data that had been entered by shipper at his end as this data now got automatically updated into the UPLIFT system and was made available to all the constituents in the cargo supply chain.

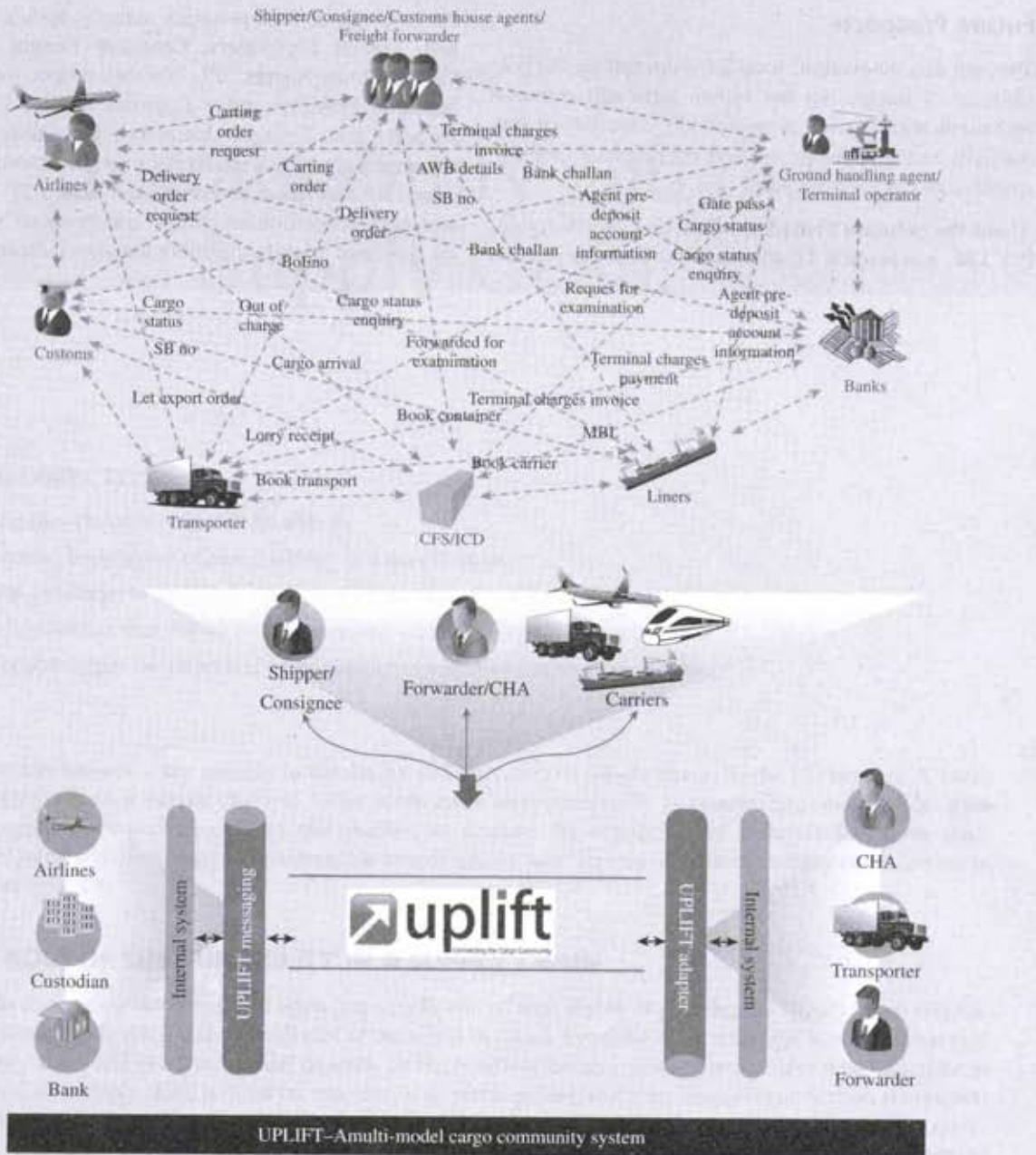
- **Airlines:** UPLIFT enabled electronic receipt of waybill data like Master AWB/House AWB for airlines. Post UPLIFT implementation, airlines (a leading Indian private airline and a leading middle-eastern airline) received alerts from custodian/agent regarding Freight Status Update (FSU) messages and GALAXY (enterprise wide cargo handling system for cargo ground handlers) messages. Such electronic communication prevented revenue leakage and redundant data entry. Further, UPLIFT, staying updated always, helped airlines remain compliant with global initiatives such as e-freight, without which airlines would have to bear the costs in storage/maintenance of physical documents.
- **CHAs:** UPLIFT resolved the complications of CHAs too (Sanco Trans Limited & Links Forwarders); they can now electronically execute multi-modal air-ocean transactions, resulting into significant cost saving with UPLIFT's multi-branch feature that can be accessed from anywhere and anytime.

The Outcome

Kale Logistics's innovation in the form of UPLIFT has practically overhauled the entire supply chain of its clients across the industry segments bringing about a near total transformation in the way air cargo moves seamlessly through the supply chain, harnessing the power of information technology. In this regard, industry scenarios as these existed before implementation of UPIFT and after it, are graphically illustrated below.

Specifically, UPLIFT benefited the clients by the following points:

- Successfully eliminated manual operations, paperwork, redundant data entry and brought end-to-end shipment visibility across the supply chain
- Addressed key concerns of Indian custodians like MIAL by directly interacting with its present system (GALAXY), by reducing data entry effort and time, thus improving user productivity by 70 percent
- Benefiting smooth transportation of around 28 percent of India's air cargo shipments, since



currently 70+ freight forwarders and CHAs get benefited from the UPLIFT Air Cargo process (representing). The system is connected to India's largest airport terminal operator MIAL-Mumbai International Airport for custodian operations and is exchanging EDI messages with 7 large airlines and with Indian Customs.

- Indian forwarders moving from manual operations to online filing through UPLIFT can look

forward to at least 2/3 savings from its current costs per shipment which can be around 8–10 Euros for filing a single shipment as per EU regulations.

- Even the Airlines experience significant time and efforts saving due to electronic filing of AWBs coming from UPLIFT directly to their system, which they otherwise have to capture manually. This also avoids errors in data entry.

Future Prospects

Through this innovation, Kale have opened up the possibilities of integrating the Indian airfreight transport operations with operatives worldwide, contributing substantially to the development and operation of more responsive global supply chains.

About the Solution Providers: Kale Logistics Solutions Pvt. Ltd. is a leading IT solutions provider focused on

the Logistics & Transportation industry. Kale's solutions help Freight Forwarders, Container Freight Stations, Custom House Agents, 3PL, Warehouse operators, Transportation Providers, other Logistics Service Users and Airport Cargo Terminal Operators achieve faster growth, standardized processes and operational efficiencies. With over 150 man years of experience, Kale's IT solutions and next generation electronic collaboration platforms are designed to unify the entire logistics industry.

A world map in shades of blue with several white arrows pointing in various directions (up, down, left, right) overlaid on it, symbolizing global supply chain management.

FIFTH EDITION SUPPLY CHAIN MANAGEMENT


Strategy, Planning, and Operation

Sunil Chopra | Peter Meindl | D. V. Kalra

Supply Chain Management employs a strategic framework to identify and illustrate facilities, inventory, transportation, information, sourcing, and pricing as the key drivers of supply chain performance. This approach will help students understand what creates a competitive advantage. The concepts discussed in the text are supplemented with a variety of global examples that show how a combination of strategies is needed to achieve significant enhancements in performance. A strong coverage of analytic skills is also provided so that students can gauge the effectiveness of the techniques described in the text.

SALIENT FEATURES

- Case studies explain how companies are successfully using the key drivers of the supply chain.
- Several new mini-cases have been included throughout the text.
- Key points in the chapters summarize the important concepts.
- Indian examples from Jaipur Rugs, Asian Paints, Simbhaoli Sugar, Subhiksha, and Dr Reddy's Laboratories contextualize discussions.
- This edition focuses on designing global supply chains and provides a detailed example that looks at the on-shoring/off-shoring decision as a real option in the context of uncertainty.
- A new chapter on sustainability and the supply chain introduced in this edition helps students understand the role of sustainability, measure it, and identify opportunities for improving it in the supply chain drivers.
- Appendices contain additional information, including topics such as safety inventory calculations and inventory cost consequences of variability demand.

 Online resources available at
www.pearsoned.co.in/sunilchopra

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