



Next Generation supply chain for the emerging economy

Process metrics and risk assessment for Automotive Industry

Presentation Partners:

Honda Siel Cars India Limited (HSCI)

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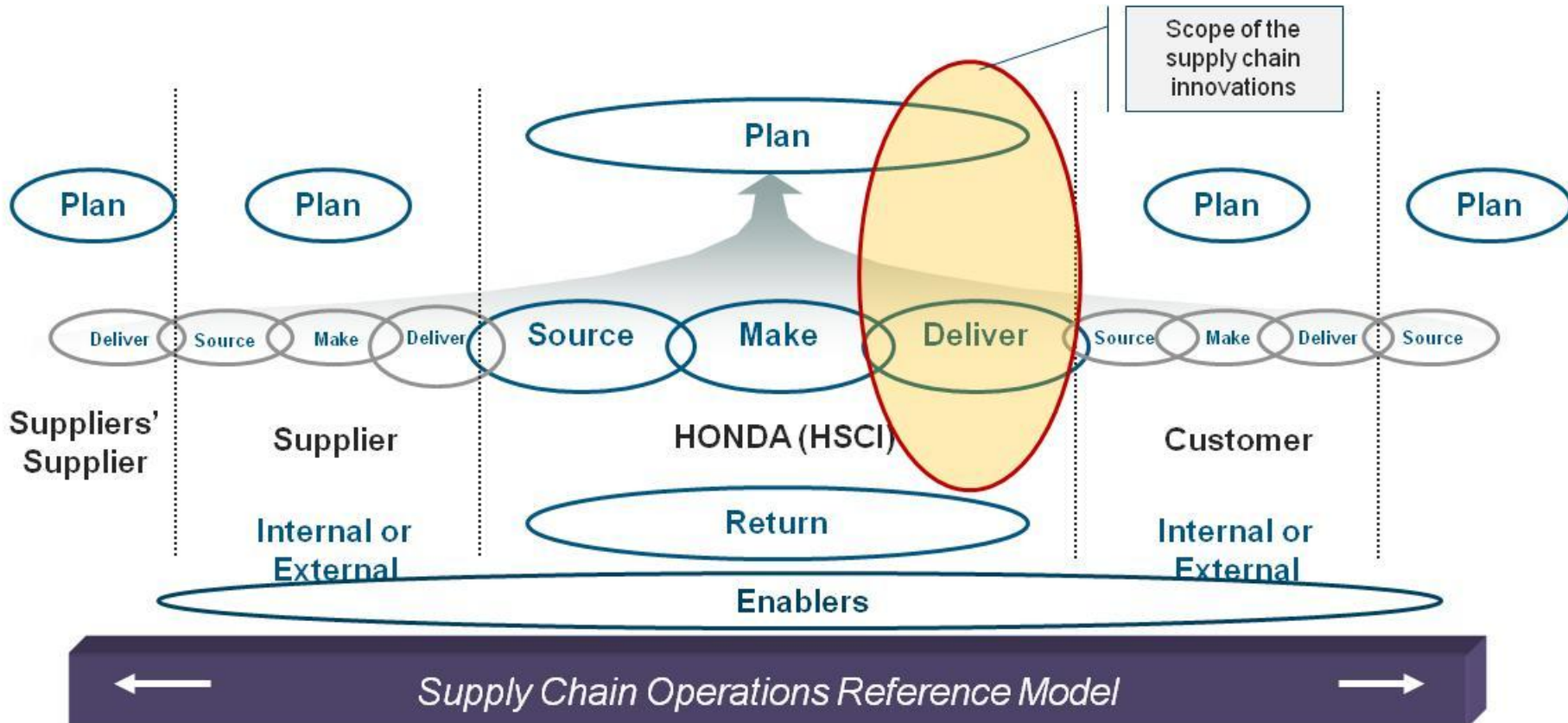
Infosys Technologies Limited

Sudripto De (Principal Management Consultant)

Defining the scope of operations – Plan and Delivery focus at Honda



Scope of supply chain innovation in Honda encompassed Plan and Deliver

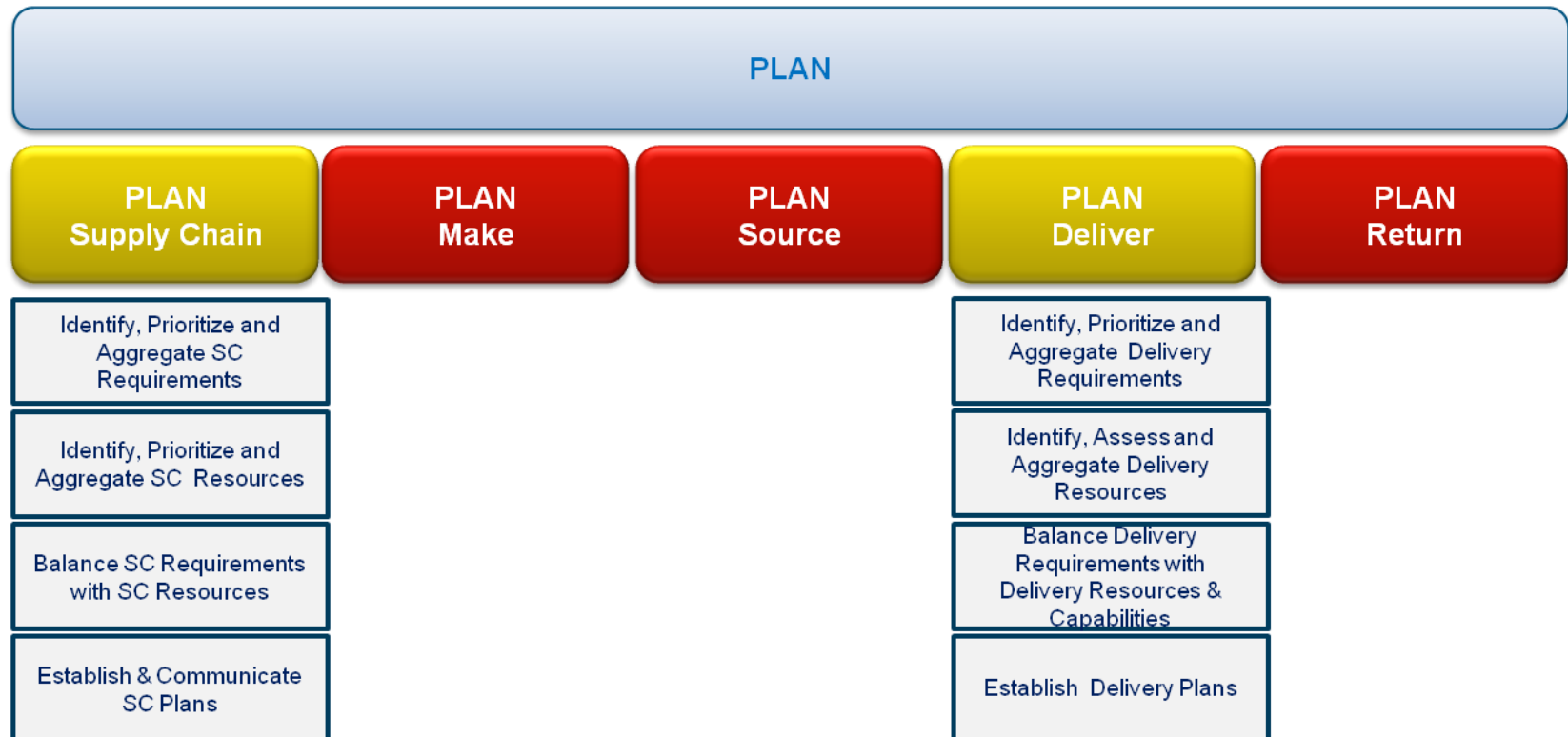


Detailing out the PLAN stage



As PLAN involves defining Supply chain planning and Delivery planning for the HSCI vehicle supply chain operations, these are being detailed out further.

Source, Make and Return stages are not in the vehicle supply chain operations



In scope of vehicle supply chain



Out-of scope of vehicle supply chain



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Supply Chain Planning

All processes involved in the Allocation Planning of vehicles

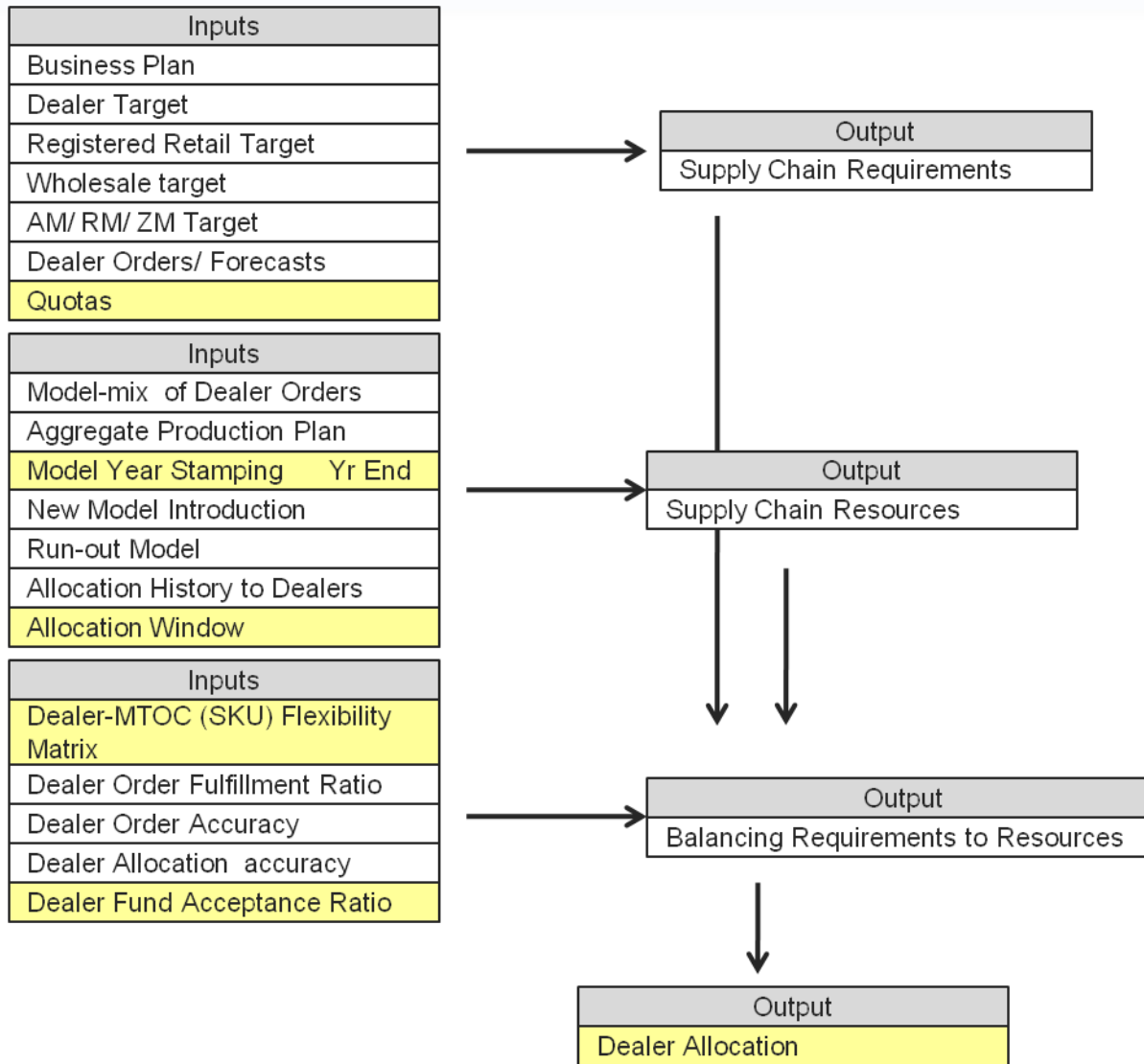


In the Supply Chain Planning processes, a set of innovations have been introduced with the objective to make the supply chain lean and agile.

Requirements are matched with the available resources to create a balance and then develop the Allocation Plan. The allocation is then published to dealers.



Break-up of Inputs and outputs in Supply Chain Plan



At each stage of the Supply Chain Planning for deriving the Allocation Plan, the specific innovation steps of HSCI are required to generate outputs which match industry needs and challenges in the emerging economies like India.

Innovation elements of HSCI

Performance attributes and metrics for Supply Chain Plan



The 5 aspects of performance displays the focus towards Reliability and Agility in the Supply Chain Planning process

Performance Attributes	Metric
Reliability	Target Achievement / Order Accuracy / Allocation Accuracy / Order fulfillment Ratio
Responsiveness	Order Planning TAT
Agility	Days before FTP / % Flexibility of Orders / Periodicity of Ordering / % Production Plan change
Cost	Cost of Allocation Planning
Asset Management	Fund Acceptance Ratio

FTP = Freeze to Production
TAT = Turn-around-Time



Innovation elements of HSCI



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Delivery Planning

All processes involved in the Dispatch Planning and Transportation Planning



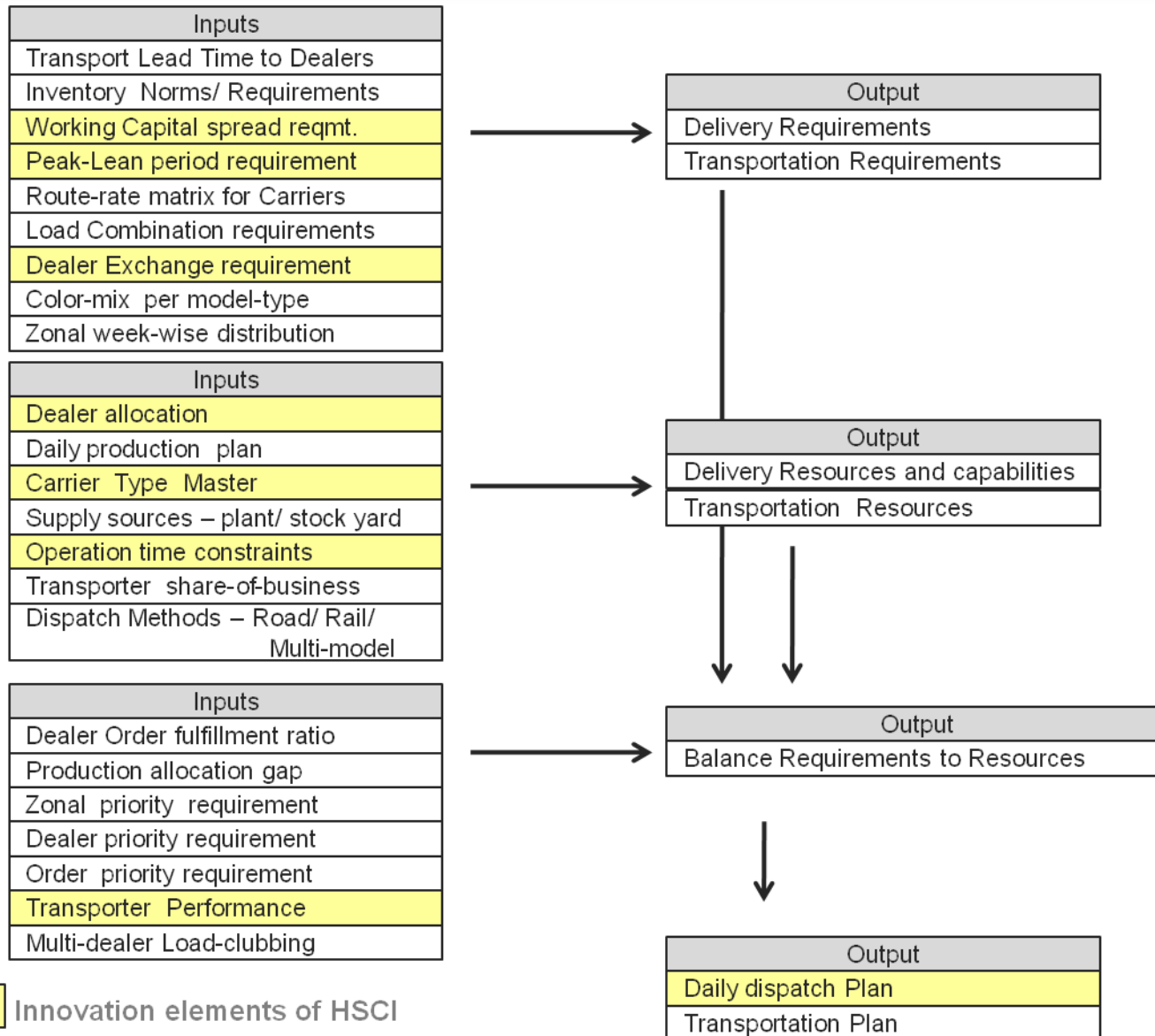
As in Supply Chain planning, innovations have been carried out in Delivery planning stage as well

Here again the requirements are matched with the available resources to create a balance and then develop the Dispatch Plan and the Transportation Plan

PLAN Deliver		Innovations in Supply Chain
Identify, Prioritize and Aggregate Delivery Requirements	<ul style="list-style-type: none"> Daily delivery requirements Daily transportation requirements 	<ul style="list-style-type: none"> Working Capital plans Peak & lean period history Dealer exchange
Identify, Assess and Aggregate Delivery Resources	<ul style="list-style-type: none"> Supply source aggregates Operations and Lead time constraints Load availability 	<ul style="list-style-type: none"> Dealer Allocations Carrier type constraints Operation time constraints
Balance Delivery Requirements with Delivery Resources	<ul style="list-style-type: none"> Balance Requirements to Plans : Production-to-dispatch plans Policies for priority setting Policies for load clubbing 	<ul style="list-style-type: none"> Transporter Performance
Establish Delivery Plans	<ul style="list-style-type: none"> Daily Dispatch plan for dealers for each MTOC Daily Transportation plans Supply chain information collaboration 	



Break-up of Inputs and outputs in Delivery Plan (Dispatch Plan and Transportation Plan)



Innovations in Delivery Plan are ingrained in each step of the Delivery Planning (Dispatch Plan and Transportation Plan) to derive realistic and accurate plans

Innovation elements of HSCI

Performance attributes and metrics for Delivery Plan (Dispatch Plan and Transportation Plan)



The 5 aspects of performance displays the focus towards Reliability in the Dispatch Planning and Transportation Planning process

Performance Attributes	Metric
Reliability	Target Achievement / Dispatch accuracy / Transporter Performance / Order fulfillment Ratio
Responsiveness	Dispatch Plan TAT / Transportation Plan TAT
Agility	Zonal mix change% / Color mix change%
Cost	Cost of Dispatch Planning / Cost of Transport Planning
Asset Management	Daily Working capital % / Carrier FTL %

TAT = Turn-around Time



Innovation elements of HSCI



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Detailing out the DELIVER stage



DELIVER

DELIVER Stocked Product	DELIVER Made-to-Stock	DELIVER CTO (Automotive)	DELIVER Engineer-to-Order	DELIVER Retail Product
Process Enquiry and Quote	Process Enquiry and Quote	Order Classification	Obtain & respond to RFP	Generate stocking schedule
Receive Enter & Validate Order	Receive Enter & Validate Order	Order Priority setting	Negotiate & receive contract	Receive product at store
Reserve Inventory & determine delivery date	Reserve Inventory & determine delivery date	Payment of Funds	Enter Order, commit resource & Launch program	Pick product from back-room
Consolidate Orders	Consolidate Orders	Validation – Funds, Inventory, Carrier	Schedule installation	Stock shelf
Build Loads	Build Loads	Billing & Invoice	Build Loads	Fill shopping cart
Route Shipments	Route Shipments	Carrier Reporting	Route Shipments	Check-out
Select carriers & rate shipments	Select carriers & rate shipments	Carrier attachment	Select carriers & rate shipments	Delivery and/ or Install
Receive products	Receive products	Carrier Inspection	Receive products	
Pick product	Pick product	Transit Documentation	Pick product	
Pack Product	Pack Product	Pick and Load carrier	Pack Product	
Load vehicle & generate shipping docs	Load vehicle & generate shipping docs	Transporter Payment Advice	Load vehicle & generate shipping docs	
Ship Product	Ship Product	Goods Receipt	Ship Product	
Install Product	Install Product	Deduction Advice & Insurance for transit damage	Install Product	
Invoice	Invoice		Invoice	

An Automotive Delivery process is unique with CTO semblance. Process break-up has discrete steps

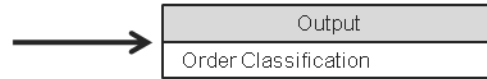
CTO = Configure-to-Order



Break-up of Inputs and outputs in Delivery -1



Inputs
Manual Billing Orders
Contract Sales Order
Corporate Direct Billing Orders
Export Orders
Internal use & Homologation
Zonal / HQ Quota Orders
Dealer stock Orders
Dealer exchange orders
Hi-Seas CBU-Import Orders



Inputs
New Model Launch
Sunset Model (Obsolescence)
Contracted back Orders
Pending stock orders
Corporate priority
Quota priority
Import/Export Priority



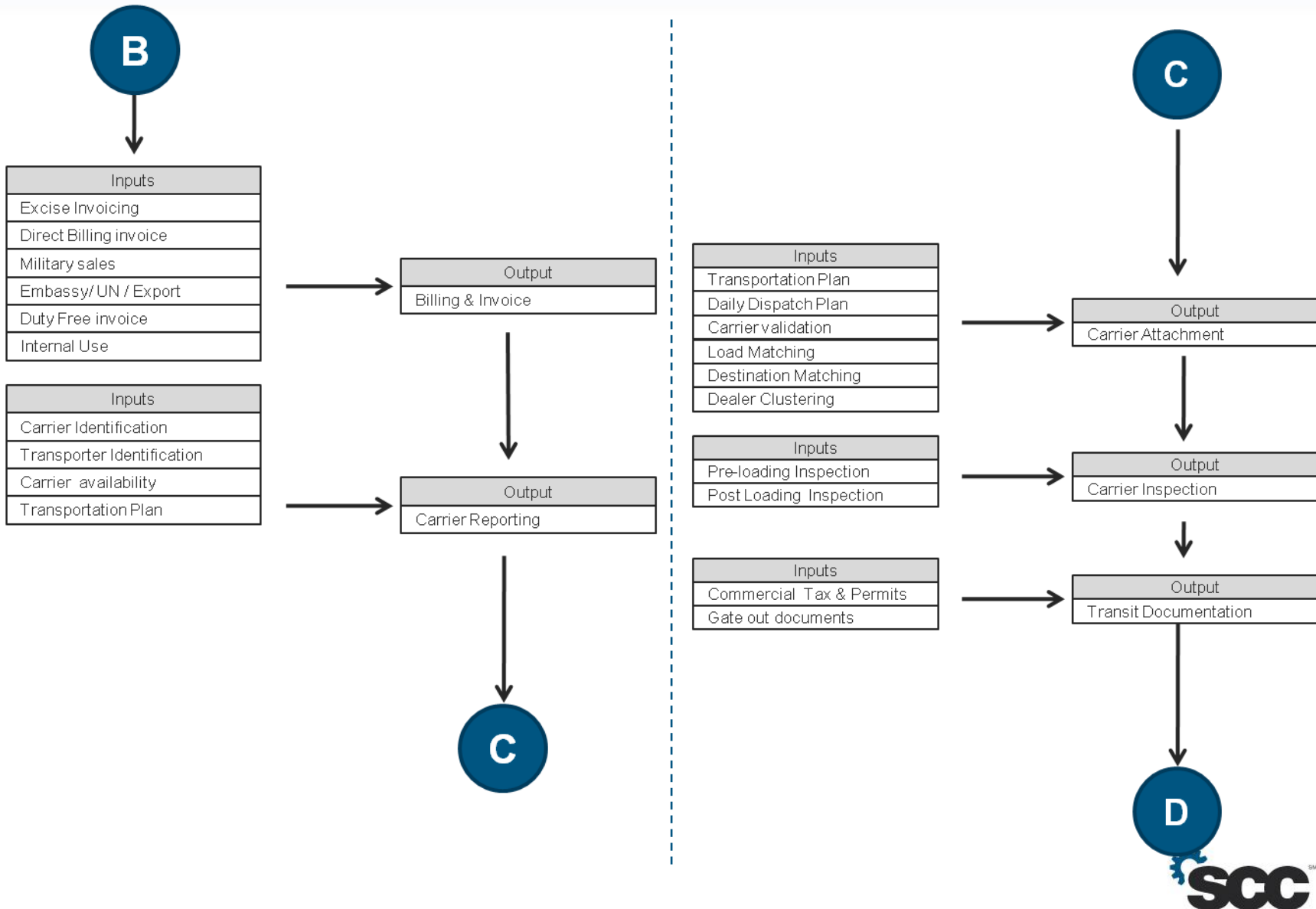
Inputs
Floor Funding
Bank Transfer (RTGS)
Letter of Credit
Bank Guarantee
Credit to Dealers



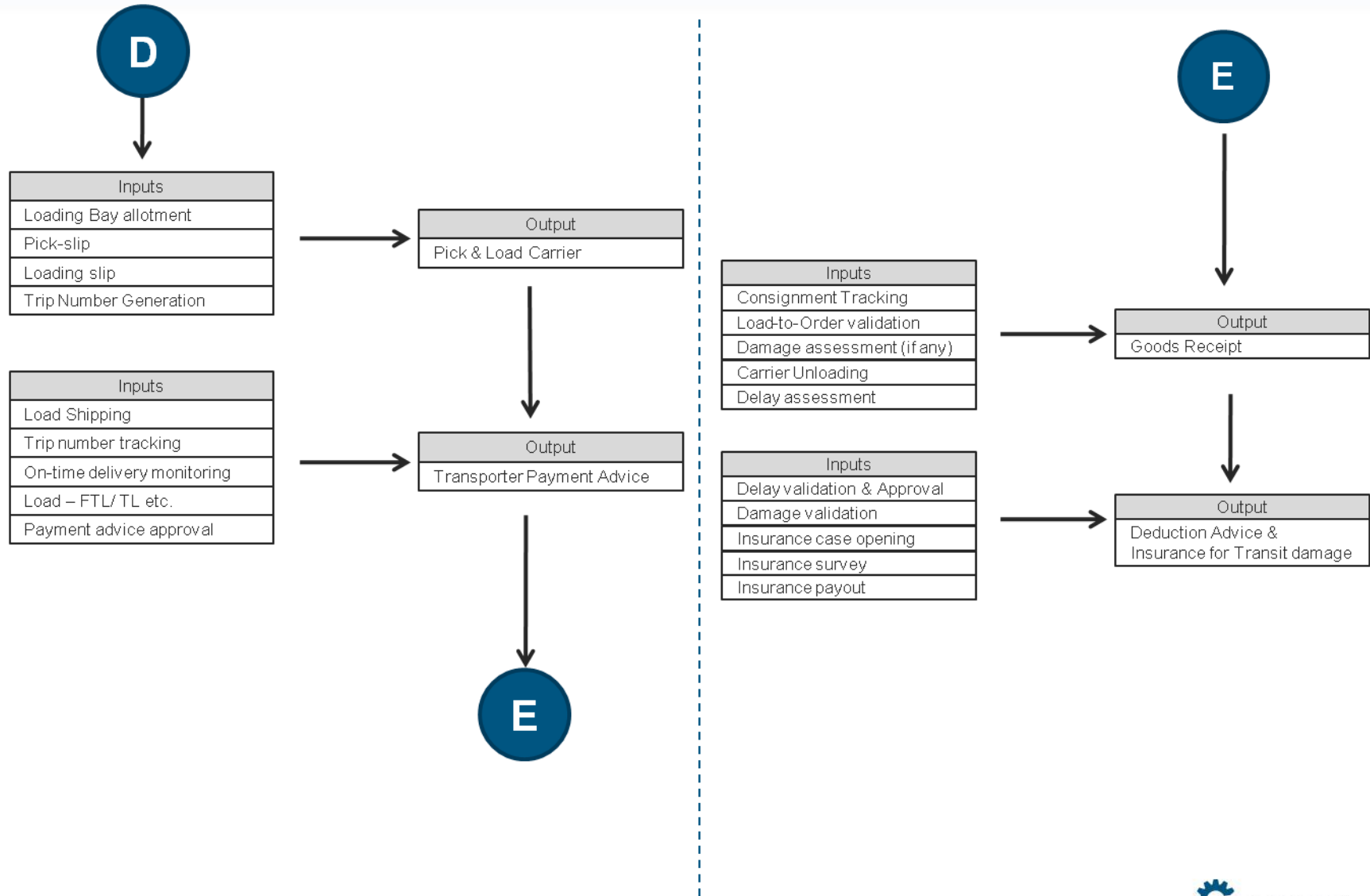
Inputs
Fund Validation
Partial Fund Validation
Inventory Validation
Partial Inventory validation
Carrier Validation
Validation Sequence f
Net Dealer price validation
Dealer ratings
Fund/ Inventory/ Carrier fail



Break-up of Inputs and outputs in Delivery -2



Break-up of Inputs and outputs in Delivery -3



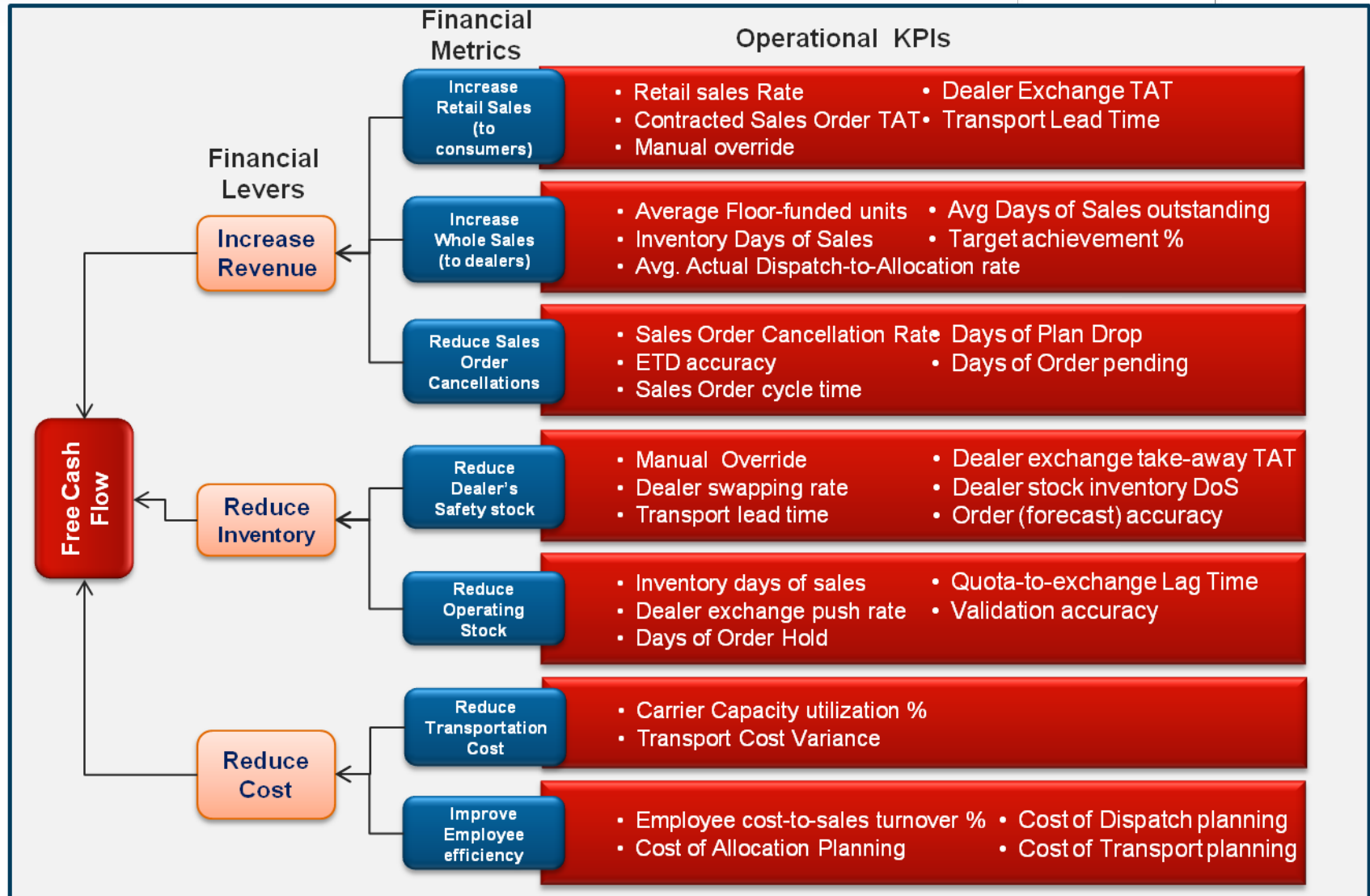
The 5 aspects of performance displays the focus towards Responsiveness, Asset management and Agility

Performance Attributes	Metric
Reliability	Average Days of sales outstanding / Average Target achievement / ETD accuracy / Validation accuracy /
Responsiveness	Contracted Sales order TAT / Manual Order over-ride rate / Dealer exchange take-away TAT / Quota-to-exchange Lag time / Days of Order pending/ Days of Order Hold / Transport lead time
Agility	Sales order cancellation rate / Dealer swapping rate / Manual Override Dealer exchange push rate / Carrier change rate / Days of Plan drop
Cost	Employee cost-to-sales turnover / Transport cost variance
Asset Management	Retail Sales rate / Average floor-fund units / Inventory DoS / Carrier capacity utilization / Whole-sale rate / Fund utilization ratio

ETD = Estimated Time of Delivery
DoS = Days of sale

 Innovation elements of HSCI

Assessment of Risk for the Supply chain through metrics management for Financial Robustness



Source: VRM® Framework of Infosys Consulting



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Implementing Supply Chain innovations in the Automotive Sector, especially in the emerging economies like India, needs a blend of standard practice adoption and innovation implementation, to overcome challenges and develop competitive advantage

THANK YOU

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