

MIT MASSACHUSETTS INSTITUTE OF TECHNOLOGY

MIT Center for Transportation & Logistics



## SCM in Emerging Markets: Learnings from Latin America

*CLI Academic Workshop - Valparaiso*

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 Executive Director MIT SCALE Latin America

## Edgar Blanco – Research Themes



How to design distribution systems in mega-cities in the development world?



How will mobile phone technology enable innovation in emerging market supply chains?

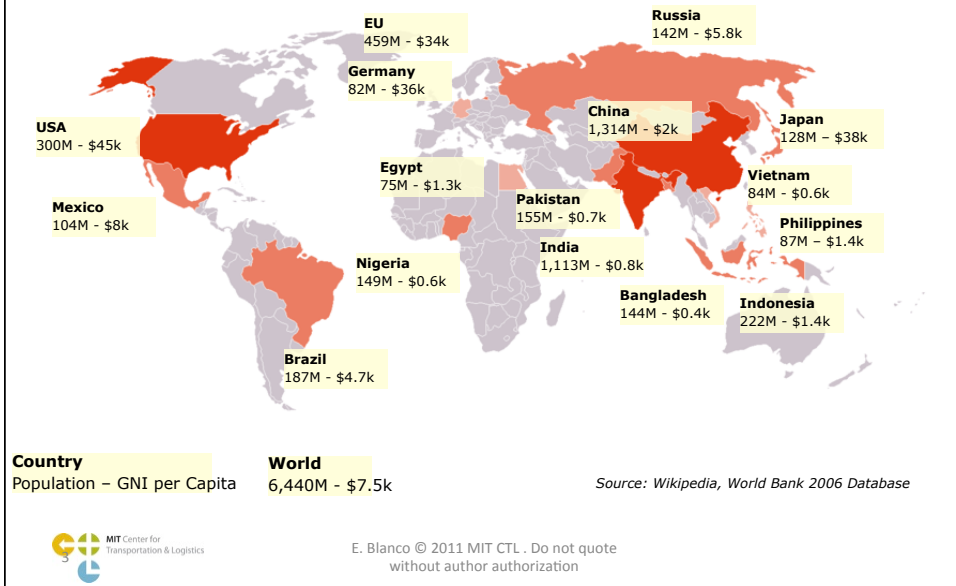


How should global organizations develop long-term green supply chain strategies?

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## Why are Emerging Markets important?



## Lesson 1: Urban density to “new” levels

## Mega-cities keep growing

- 100 mega-cities represent **38% of global GDP**
- Projected to **double** by 2025
- Complex environment ...

Source MGI - Urban world: Mapping the economic power of cities.

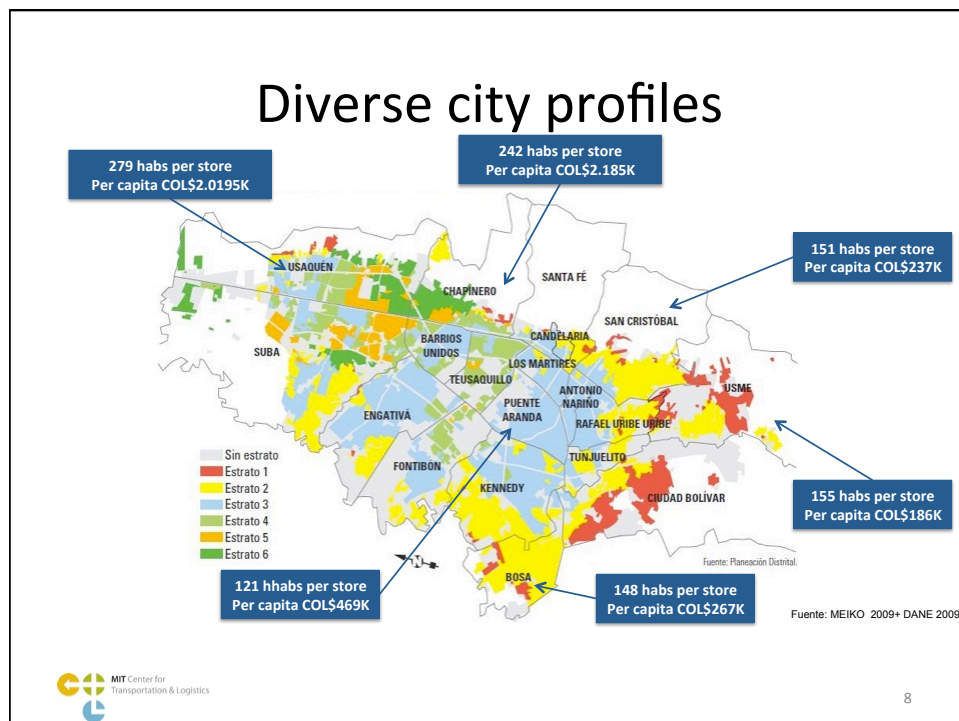
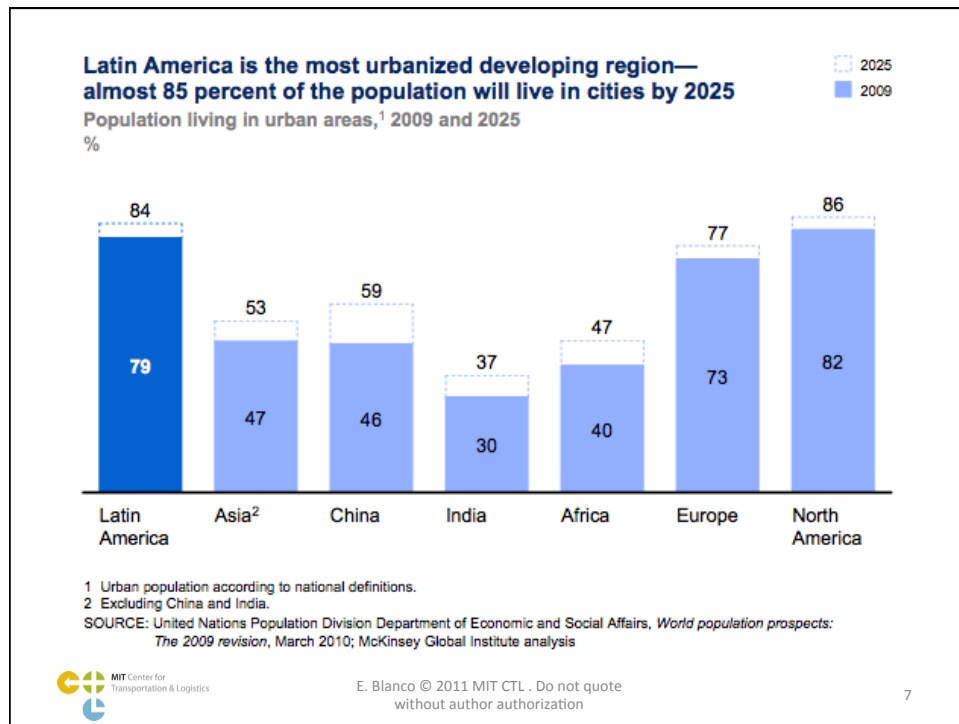


## Putting density in Perspective



Rank	City / Urban area	Country	Population	Land area (in sqKm)	Density (people per sqKm)
1	Mumbai	India	14,350,000	484	29,650
2	Kolkata	India	12,700,000	531	23,900
3	Karachi	Pakistan	9,800,000	518	18,900
4	Lagos	Nigeria	13,400,000	738	18,150
5	Shenzhen	China	8,000,000	466	17,150
6	Seoul/Incheon	South Korea	17,500,000	1,049	16,700
7	Taipei	Taiwan	5,700,000	376	15,200
8	Chennai	India	5,950,000	414	14,350
9	Bogota	Colombia	7,000,000	518	13,500
10	Shanghai	China	10,000,000	746	13,400
11	Lima	Peru	7,000,000	596	11,750
25	Sao Paulo	Brazil	17,700,000	1,968	9,000
27	Mexico City	Mexico	17,400,000	2,072	8,400
28	Santiago	Chile	5,425,000	648	8,400
35	Rio de Janeiro	Brazil	10,800,000	1,580	6,850
36	Monterrey	Mexico	3,200,000	479	6,700
39	Guadalajara	Mexico	3,500,000	596	5,900
42	Madrid	Spain	4,900,000	945	5,200
43	London	UK	8,278,000	1,623	5,100
46	Buenos Aires	Argentina	11,200,000	2,266	4,950
90	Los Angeles	USA	11,789,000	4,320	2,750
114	New York	USA	17,800,000	8,683	2,050





## Logistic Planning Implications

- Different objective function?
- Congestion & time-windows
- Uncertainty & Stochasticity
- Many, many, many more “nodes”
- Clustering & segmentation



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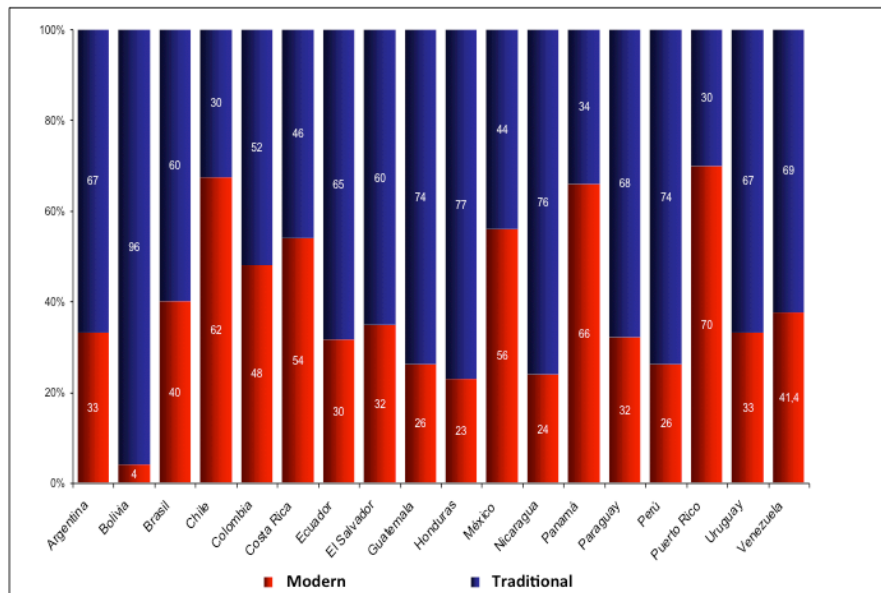
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## Lesson 2: **Small stores** matter



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## Channel Complexity

### MOM & POP STORE



- 200 – 1500 sq.ft.
- Owner operation & individual decision-making
- Counter
- Knowledge & proximity to community
- Informality (p.e. taxes, invoicing, financing)
- Smaller size products
- Slow volume, high frequency, few items (500 – 5,000 SKUs)
- Examples: Tiendas de barrio, ferreterías, panaderías, kioscos, mayoristas, droguerías, autoservicio independiente, etc.

### MODERN RETAIL



- 5000 sq.ft or more
- "Corporate" decision-making process
- Self-service
- Multiple outlets, shared brand
- Organizational structure, physical infrastructure, IT technology
- Regular size products
- High volume, high frequency, many items (30,000 – 150,000 SKUs)
- Examples: Supermercados, hipermercados, tiendas de conveniencia, cadenas de autoservicios etc.







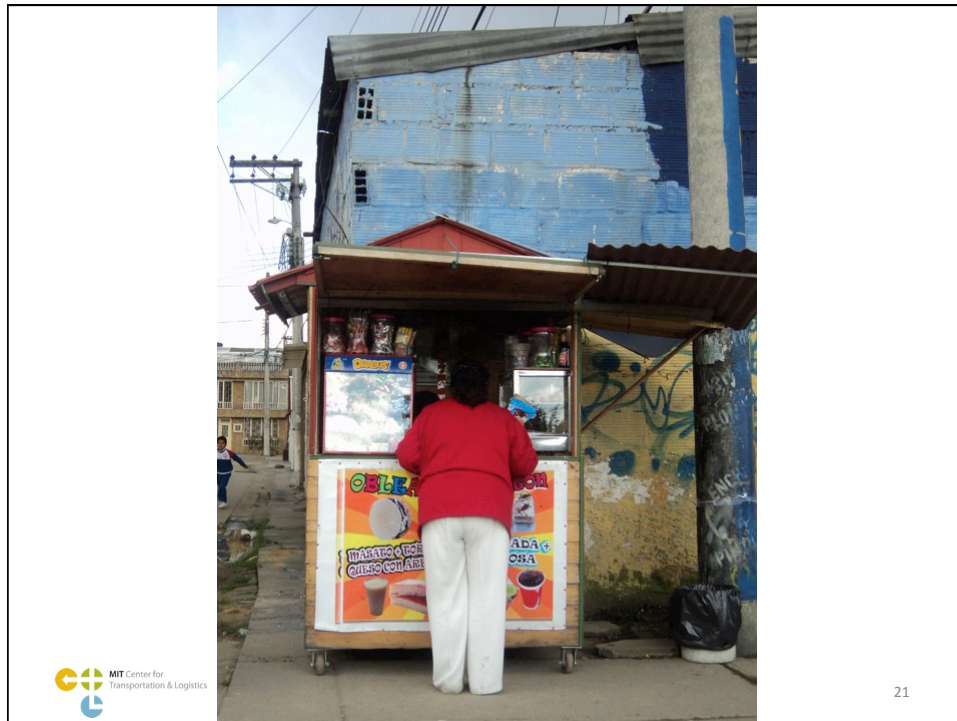












## SCM Implications

- Lack of information
- Shelf space / assortment
- Channel development
- Product handling & packaging

## Lesson 3: **Cash** is king



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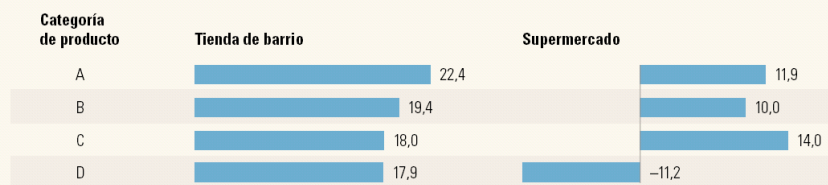




## Very different profitability profiles by channel

### Una relación rentable

Empresas de consumo masivo de Latinoamérica, EBITDA<sup>1</sup> como % de ventas, por tipo de punto de venta



<sup>1</sup>Beneficios antes de intereses, impuestos, depreciación y amortización.

## SCM Implications

- Financial flows & incentives
- Affordability
- Security



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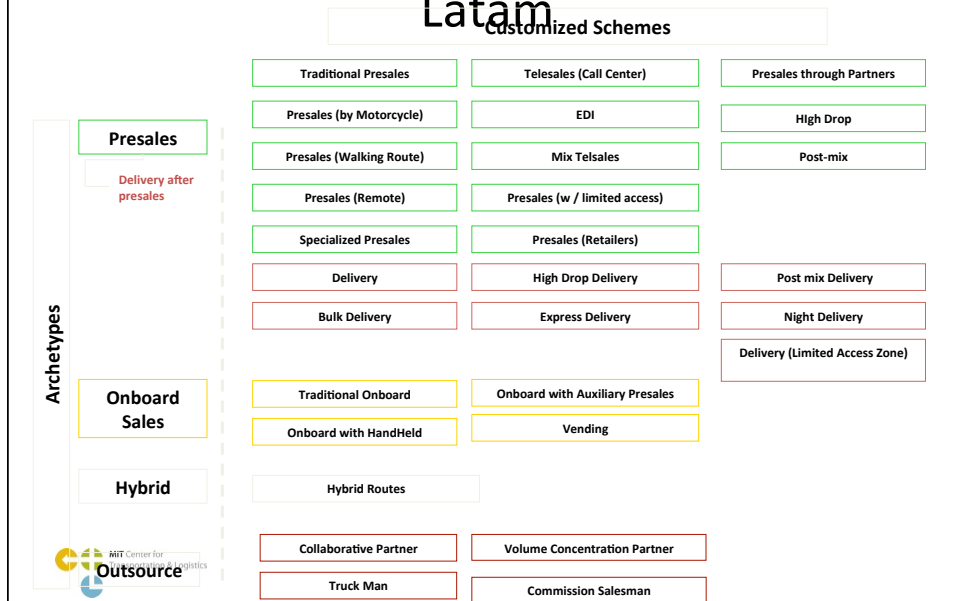
## Lesson 4: Do not ignore **sales & marketing**



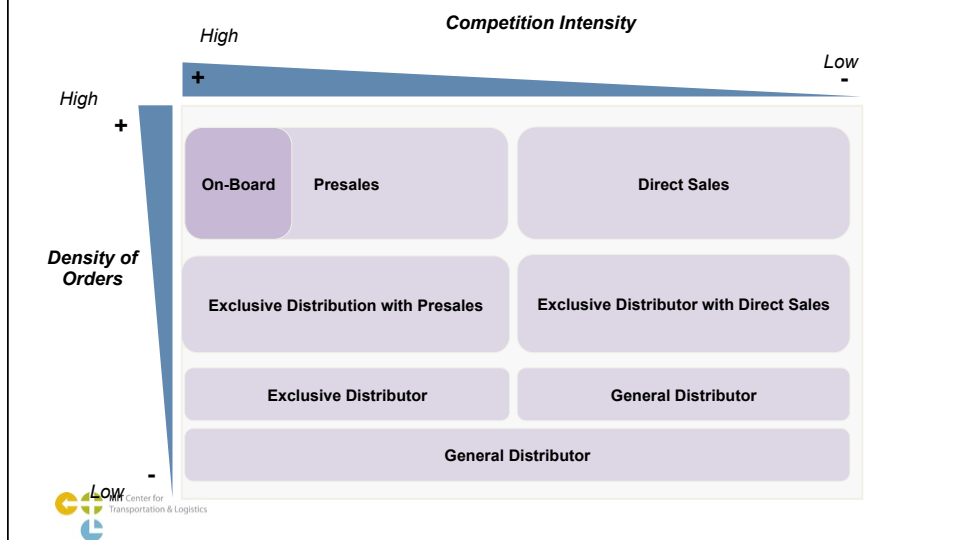
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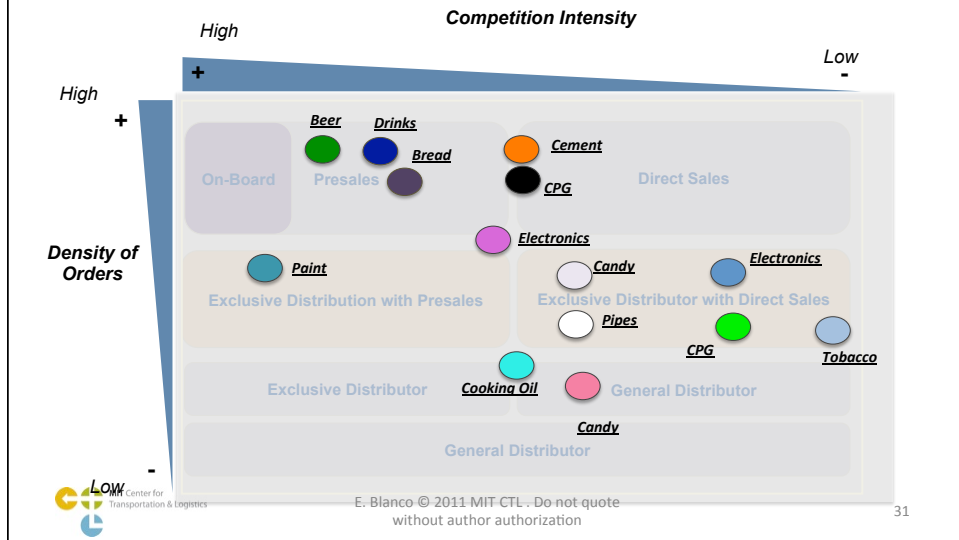
## Schemes used by leading companies in Latam



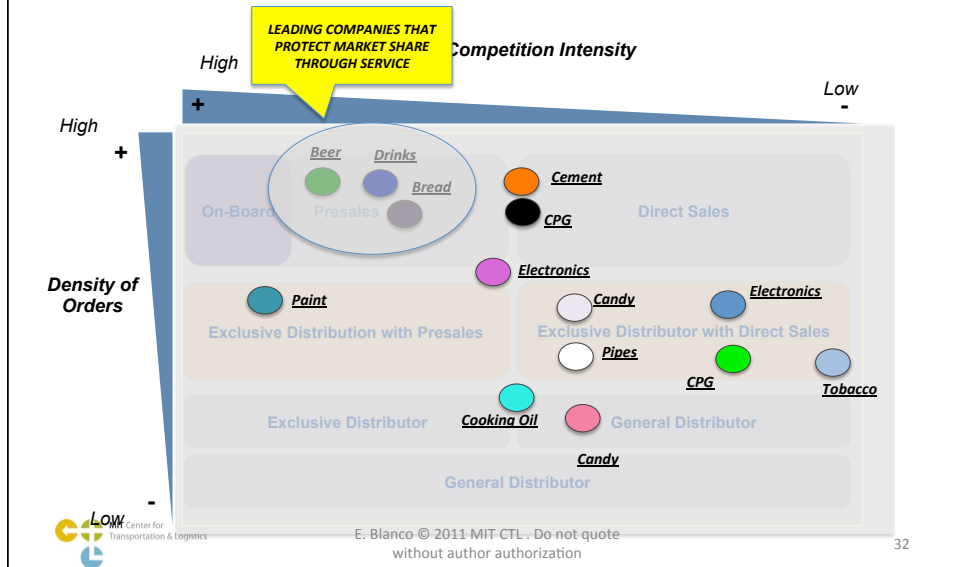
## Framework for Channel Design/ Selection



## Mapped cases study companies into the framework...

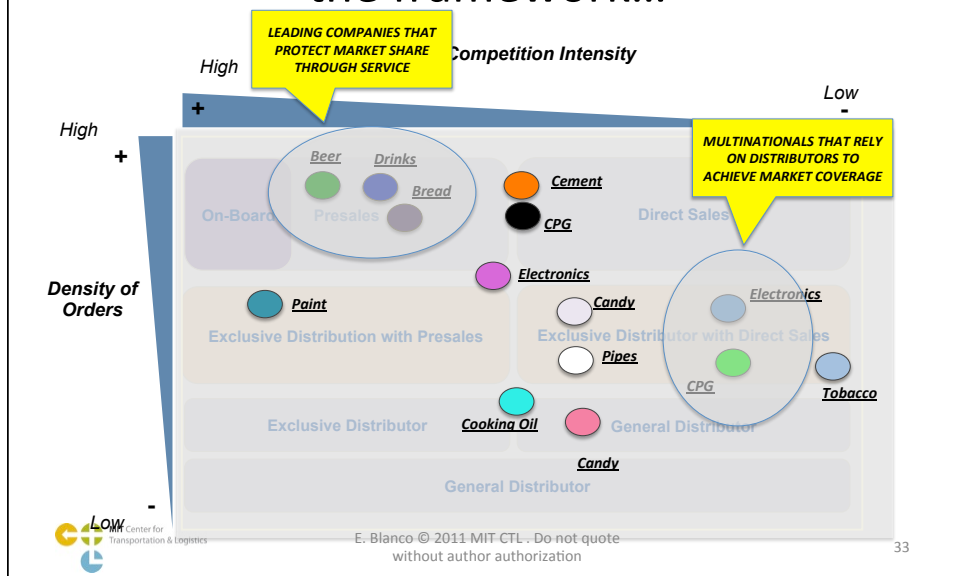


## Mapped cases study companies into the framework...





## Mapped cases study companies into the framework...



## SCM Implications

- Strategic asset
- Higher complexity

## Lesson 5: They call them **emergent** for a reason ...





## SCM Implications

- Unexpected processes
- Operational excellence as an asset
- Creativity needed ...



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## The Lessons

- Lesson 1: **Urban density** to “new” levels
- Lesson 2: **Small stores** matter
- Lesson 3: **Cash** is king
- Lesson 4: Do not ignore **sales & marketing**
- Lesson 5: They call them **emergent** for a reason





## Success stories ...



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## Ex: Nestle “Venta Directa a Changarros”



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## Complete logistics re-design

- 24 months: 13 cities, 140.000 "changarros", 500 trucks
- Structure
- Processes
- Technology
- EBIT = 19%



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## Ex: SMS Based Logistics Planning

 **HAMMOCK**



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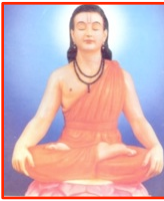
## Trade Credit & Financing @ Brightstar

- Brightstar conducts a **qualitative and quantitative analysis** of the financial situation of dealers.
  - The qualitative analysis looks at **commercial references, bank references, qualification** given by the carrier and a visit to the dealer.
  - The quantitative analysis includes **a financial analysis and a credit risk analysis**.
- In order to maximize the level of trade credit that Brightstar can give out to its dealers, Brightstar takes **trade credit insurance**. It is collaborating with COFACE, a credit insurance company who carries out financial analyses for each client, delivering a line of credit to each dealer
- Trade Credit could help Point of Sales grow their revenues from **10% to 25%**, depending on the terms of the financing.



॥ श्री गणेशाय नमः ॥

**एकमेकांस सहाय्य करु  
अवधेची धरु सुपंथ**



Sant Dnyaneshwar

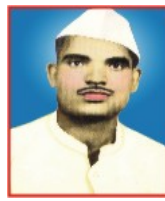


Lord Ganesha



**Founder**  
Late Shri Mahadu H. Bachhe





**Sr. Member**  
Late Shri Dhondiba Medge

**The Wonder Of Dabbawallas Unfolded**

**NUTAN MUMBAI TIFFIN BOX SUPPLIERS ASSOCIATION**

**Web Site : [mumbaidabbawala.org](http://mumbaidabbawala.org)**

## ABOUT NMTBSA

-  **History** : Started in **1890**
-  **Charitable trust** : Registered in **1956**
-  **Employee Strength** : **5000**
-  **Avg. Literacy Rate** : **8<sup>th</sup>** Grade Schooling
-  **Total area coverage** : **60 Kms to 70 Kms**
-  **Number of Tiffins** : **2,00,000** Tiffin Boxes
  - 400,000 transactions every day (including return)
  - i.e.  $400,000 \times 25 \text{ days} \times 12 \text{ months} = 120,000,000$
  - (120 million or 12 crore transactions per year)
-  **Time taken** : **8 to 9** Hours
  - Morning **3** Hours Wartime
  - (9 A.M. to 12 P.M. for the Collection and Delivery)**



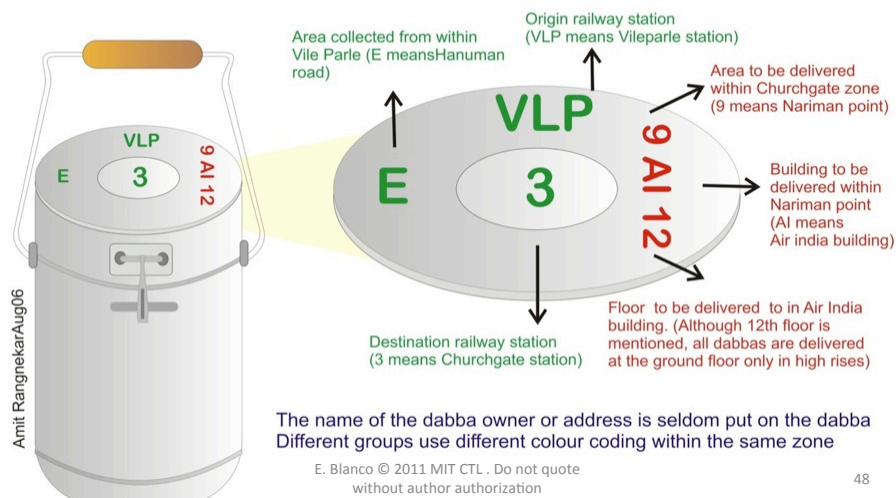
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## The Dabba coding system evolution



The Current coding system- Alphanumerics in oil paint.



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Thanks!

Q&A

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