AI Disruption in Logistics

A Case Study of DHL

Leveraging AI to Overcome Last-Mile Challenges and Optimize Operations

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OUTLINE

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02 Industrial Analysis

03 AI implementation of DHL

04 Future Outlook for AI + DHL

05 Next Step & QA

Connect people and improve their lives through logistics

1969
founded

220
countries serviced

400000
employees worldwide

Warehouse
+
Frieght
+
Supply Chain

Three key challenges lie ahead despite unprecedented growth and opportunities

Cost Optimization

- Cost optimization ensure financial well-being
- Includes route optimization, fuel cost and labor allocation

Last-mile Delivery Inefficiencies

- Last-mile delivery are crucial yet face uncertainties
- Includes complex routes, weather conditions and local traffic

Environmental Concerns

- Social and environmental responsibility are increasingly important
- Includes carbon footprints, fuel emissions and community contributions

Three key adaption on AI for Forecasting in DHL

time series analysis

- Classically done through time series analysis
- AI presents potential for improvement and transparency

customer expectations

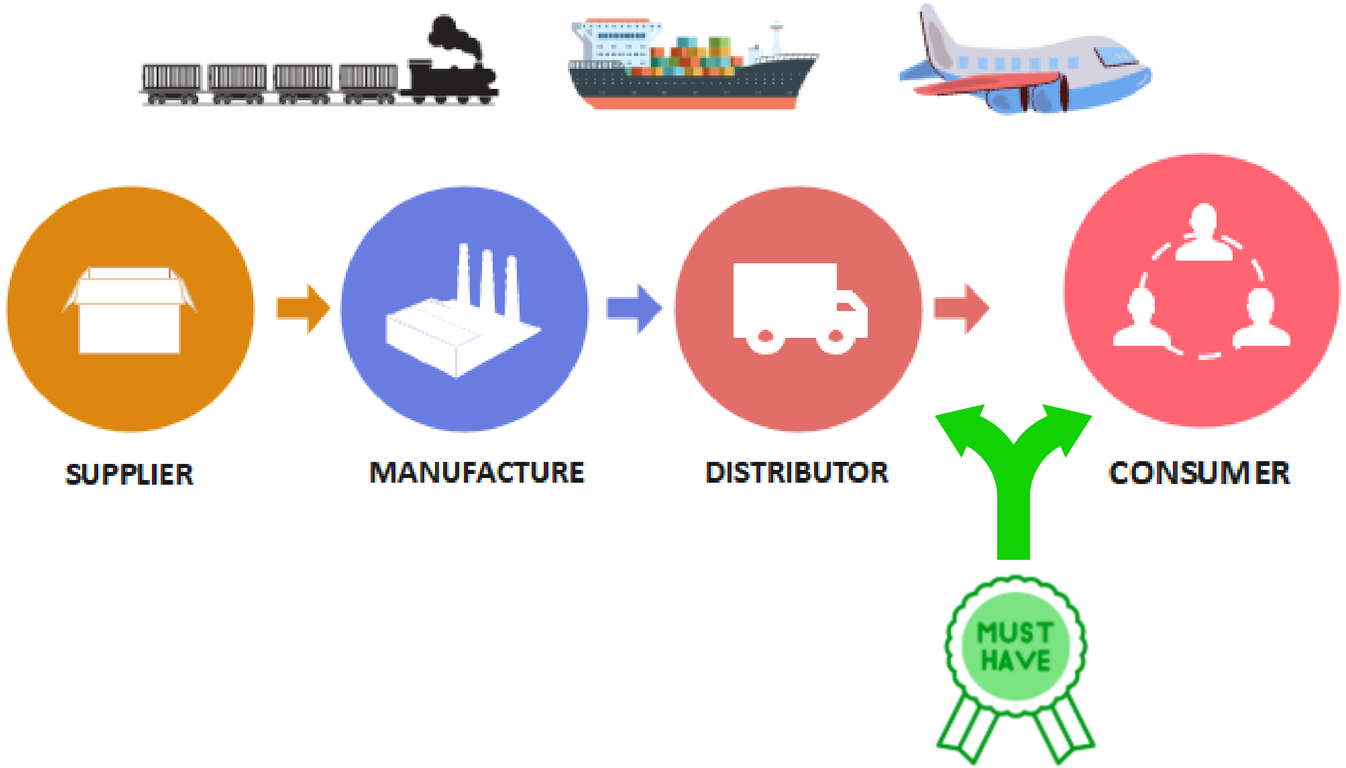
- We can use AI to measure and manage customer expectations
- We can better have our finger on the pulse, and take prescriptive action

optimization

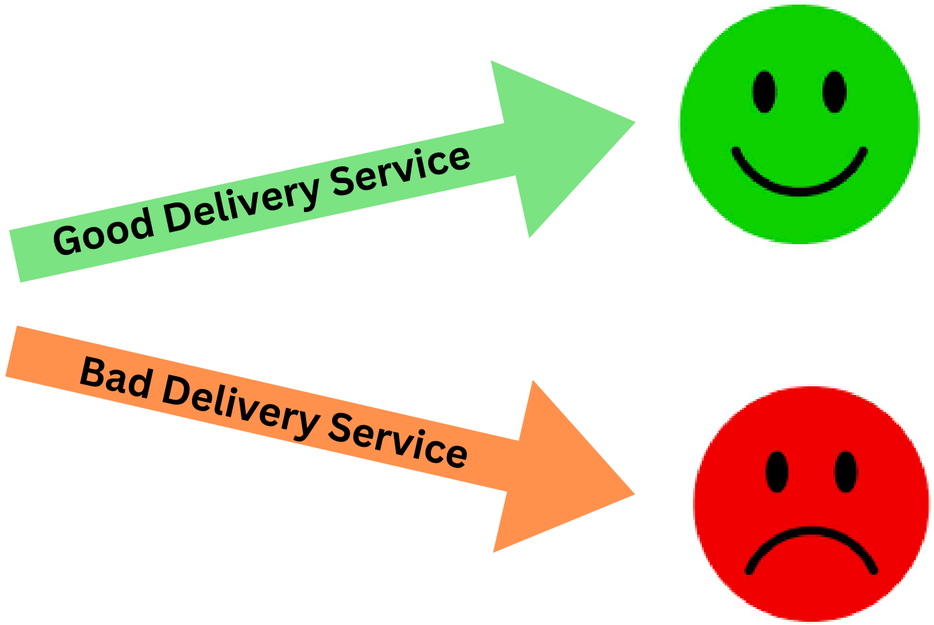
- AI can be used to optimize our forecasting of Last Mile deliveries
- This will allow us to save fuel costs, and provide better data to customers

The Last-mile: The Last but Most Important Part of the Supply Chain

Consistent On-time Delivery



AI Injection:
Optimize Process Efficiency

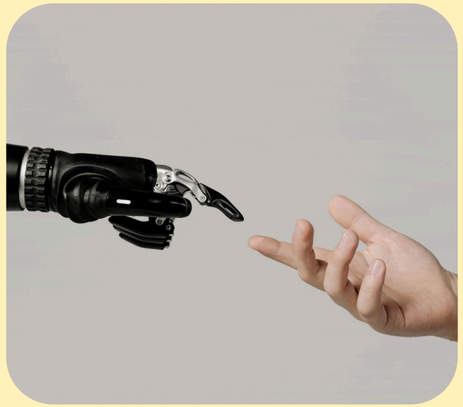


DHL can leverage AI to reduce its carbon footprint, create new job opportunities, and enhance customer value, all while reducing costs

Environmental Responsibility

- AI route optimization = mileage and CO2 reductions
- AI fleet management system: battery usage and off-peak charging optimization

Social and Corporate Responsibility



- AI-based training: upskilling employees in robotics and AI.
- New opportunities in supervision, analytics, and robotics maintenance.

Economic and Customer Value

- AI warehouse automation: reduces errors and labor expenses.
- AI behavioral algorithms: match customer availability and reduce missed deliveries.

DHL should invest more in the realm of autonomous driving and AI to remain leading position

Future Outlook

- Innovation and prevalence of **autonomous driving systems**
- Improved accuracy and efficiency of **AI-powered logistics forecasting**
- Enhanced **real-time tracking** with advanced technologies and abundant data

Proposed Strategies

- Build upon current AI innitiatives to drive **lower costs** and **higher operational efficiency**.
- Invest in **AI infrastructures** such as data storage and scalable cloud computing resources.
- Focus on **hiring** top AI talent and **upskilling** existing employees to foster innovation and expertise.

Q&A