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CHAPTER 3: Trends for more effective LMD logistics

UNIT 1: Logistic coping mechanisms in the urban environment

Capsule 3.1.1

Organisation and methods vs technologies

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To be done prior to this capsule:	1.4.6, 2.1.1, 2.1.4, 2.2.4
Capsule linked with:	To the rest of capsules of the chapter 3, as it is a introductory capsule
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Objectives of the Capsule

The effectiveness of Last Mile Delivery is measured by indicators, specially, Key Performance Indicators (KPI´s). The objective of this introductory capsule is to show learners that there are different ways to improve them, and although technology could be an important tool in last mile logistics processes , it is not the only option.

Category	Document, source	EQF		
		4	5	6
		X	X	X

Exercises included	YES

Effort for the capsule	Content 12 Min.	Exercises 5 Min.	Extra material 8 Min.

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Contents

1. KPI´s used to measure the success of LMD
2. Make more effective LMD operations

   - Exercise :: type brainstorming

Instructions for source revision

In this introductory capsule, only one source will be used. A web page, where 11 KPI´s (Key Performance Indicators) of Last Mile Delivery are presented.

This will be followed by a general introduction on how they could be improved, as different options will be presented throughout the chapter.

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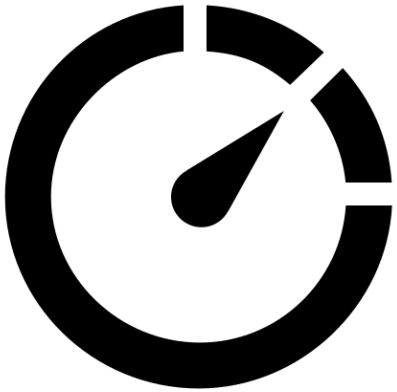
1. KPI´s used to measure the success of LMD

KPI stands for **K**ey **P**erformance **I**ndicators:

Measurable value that indicates progress towards a project outcome or result.

KPI´s are indicators set at the beginning of a given process to assess the overall progress and to identify the results achieved. They can be designed in many areas, such as marketing, organizing, or financing and also Last Mile Delivery (LMD).

In the web site we will use as a source, 11 KPI´s are identified in LMD, and all of them help you to have an overall picture of your logistics operations.



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1. KPI´s used to measure the success of LMD

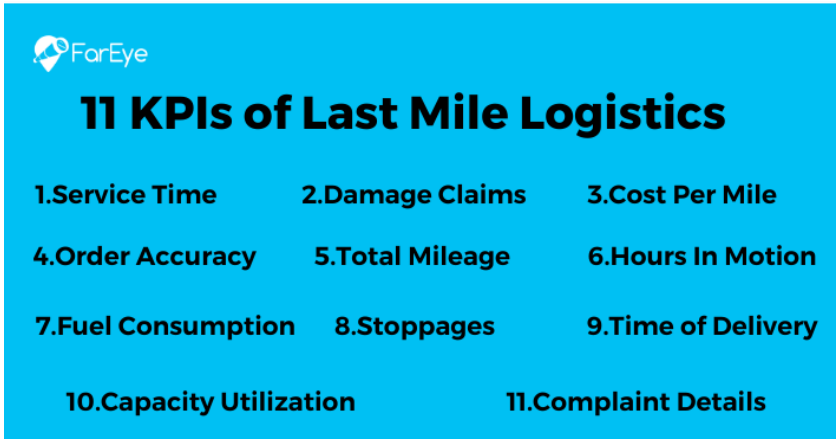
Source (Web site in EN): Far Eye. (2022). *11 Last Mile Delivery KPIs To Measure The Success Of Last Mile Logistics*.

https://www.getfareye.com/insights/blog/last-mile-kpi-metrics

Summary:

For each one of the 11 KPIs, a definition is included and how should be calculated.

After calculating these 11 KPIs, a logistics operator that serves in the last mile or a distributor that serves in the city, knows where it should minimize expenses, reduce errors, fix accountability, gain visibility, etc. to strengthen the last mile delivery.



1. KPI´s used to measure the success of LMD

Shortly, the definition for each one is the following:

1. **Order Accuracy** :: To verify whether the packed order meets the specifications of the actual customer demand
2. **Fuel Consumption Rate** :: All you must do is compute an average of fuel prices, per vehicle, per route.
3. **Average service time** :: It is essentially the total amount of time that is spent in fulfilling a single order.
4. **Damage Claims** :: It can be calculated by dividing the total number of claims received by the number of shipments sent.
5. **Time of Delivery** :: In last-mile logistics, the time of delivery is one of the most critical KPIs
6. **Total Mileage** :: By drawing a comparison between your planned mileage and the order's actual mileage, you can comfortably find out whether there are any problems in route planning, detouring or delivery schedules.

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1. KPI´s used to measure the success of LMD

7. **Cost Per Mile** :: The cost that a company has to bear in executing an order per mile, per vehicle, is a KPI that needs to be calculated daily.
8. **Capacity Utilization** :: Capacity utilization can easily be calculated by dividing the available capacity of a vehicle by its total carrying capacity.
9. **Unnecessary Stoppages** :: Touted as one of the most straightforward last-mile metrics, stoppages means tracking the total number of stops that a vehicle makes while delivering a batch of orders.
10. **Hours In Motion** :: No matter what your mode of last-mile transport, the vehicle in question tend to remain both, in motion and stationary for long periods
11. **Complaint Details** :: complaint details can serve as a good KPI to compute your delivery efficiency and customer experience

In the serious game, we have grouped these indicators into 3:

ENVIRONMENTAL IMPACT

OPERATING COST

CUSTOMER SATISFACTION

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2. Make more effective LMD operations

Logistics operators and distributors had changed, are changing or are thinking that they should change their last mile logistics processes to become more effective in their operations, due to two main reasons:

1. Increase of deliveries to particular people, due to the **huge increase of e-commerce**, that has its own customer satisfaction parameters and new delivery difficulties comparing to C2C distribution model.

2. Increase Vehicles' difficulties to access to city centres because traffic congestions or implemented **Urban Vehicle Access Regulations (UVAR)*****

***Topic explained in capsule 1.4.6*

Source: Urban Access Regulations in Europe. (n.d.). https://urbanaccessregulations.eu/

2. Make more effective LMD operations

Before reading the next slides, we propose brainstorming about the options you can think of to improve last-mile logistics operations.

how can make more effective Last Mile Distribution operations?

You can do this brainstorming by yourself, or in class all together. In the latter case, it is good for each student to write their proposal on the board so that later an analysis of the proposals received, and a joint reflection can be carried out.

2. Make more effective LMD operations

If we do a quick research in internet, about how to be more efficient in LMD, we will see that almost all the contents are focused in the technology. They propose us to have a automated route planner; monitor drivers performance and driving; provide real time tracking; proof of delivery, etc. All this **technology** options, mainly focus in the information management, will be deeply explained in the second unit of this Chapter. But as you will see in the units three and four of this chapter, LMD could be also more efficient, **modifying processes.**

But how can we modified last mile delivery processes?

In the next slide, several ideas are presented.

2. Make more effective LMD operations

Training in eco-driving and drivers´ behaviours

Collaboration

Freight Quality Partnership

Circular economy

Labels and certifications

Technology

In the next slide, some of them are slightly explained, but those and others will be more deeply explained along the different capsules of the Chapter 3.

2. Make more effective LMD operations

Training could be a good tool to have a more efficient processes. For example:

- An **eco-driving training for drivers**, can reduces the fuel consumption and therefore, reduces operating costs.
- **A drivers' behaviours training**, could be an interesting tool to improve customer satisfaction rate.
- **Safe Urban Driving training** helps improving road safety, reduce their impact on the environment and the road network, and increase their level of regulatory compliance.

2. Make more effective LMD operations

Also, if goods delivery it is not your main target, but you want to give this service, because you are a shop or restaurant; you could **collaborate with operators specialized in LMD**.

Even, you could **collaborate with other merchants** that could be in your same situation and share costs…. Therefore, collaboration it a good option to have a more efficient and cost benefits processes.

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2. Make more effective LMD operations

The collaboration scope is also applicable with the administration, especially municipalities. Sometimes, the way in which urban distribution rules are set in the city, could be adapted or modified, and small changes could suppose a much more efficient process.

For example, the development of Multiuse lanes for freight distribution (1) or just modifying the characteristics of the loading and unloading areas (extending the hours; changing the signs to prevent their use by private vehicles; making sure that the garbage containers are not limiting their use....) could be the result of a collaboration between operator and cities (called **Freight Quality Partnership** – capsule 3.4.8).

References

(1) Bestfact. (2013). *Multiuse lanes for freight distribution in Bilbao.* http://www.bestfact.net/wp-content/uploads/2016/01/CL1_063_QuickInfo_Multiuse-lanes-16Dec2015.pdf