



Supply Chain Dashboard and KPIs from an analyst's perspective

Why is Finance vital for Supply Chain performance ?
Cluster for Logistic conference



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AGENDA



- 1 INTRODUCTION**
- 2 USUAL KPI TO MONITOR SUPPLY CHAIN PERFORMANCE
- 3 1ST EXAMPLE : THE DIO
- 4 2ND EXAMPLE : WRITE-OFF VALUE

Introduction



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Manager – Expert Data analytics

- General Engineer of French engineering and research institute of higher education Arts et Métiers
- Manager at Resultance with 6 years of experience in performance optimisation projects
- Recognized expertise in Supply Chain, data insight and IA

ABOUT RESULTANCE

TURNING STRATEGY INTO RESULTS
Operational excellence • Digital transformation • Change management

20 YEARS OF EXPERIENCE (with gear icon)
+500 REFERENCES (with magnifying glass icon)
+130 CONSULTANTS (with lightbulb icon)
15 SPOKEN LANGUAGES (with globe icon)

Pragmatic approach **Commitment to results** **Long term partnership**

EUROPEAN FOOTPRINT (with map of Europe and flags of Spain, Germany, and France)

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- ✓ Our Core Business is supporting our clients in **Operational Performance Improvement**.
- ✓ We need KPIs to monitor performance.
Supply Chain is a strong lever to improve Financial performance of the company

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Usual KPI to monitor Supply Chain performance

KPI	Impact
Supply Chain Cycle time	Client / Supply Chain
Availability rate	Client / Supply Chain
Average days late	Client / Supply Chain
OTIF	Client / Supply Chain
Service Level	Client / Supply Chain
Stock ageing	Finance / Supply Chain
Inventory Value	Finance / Supply Chain
Write off	Finance / Supply Chain
DIO	Finance / Supply Chain
Order Fulfilment LT	Client / Supply Chain
Cost to serve	Finance / Supply Chain
Stock health	Supply Chain
Conformance to plan	Supply Chain
Conformance to schedule	Supply Chain
Forecast Accuracy	Supply Chain / Sales
Foarecast Bias	Supply Chain / Sales
% release on time	Supply Chain / Quality



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DIO - Days of Inventory Outstanding

Definition

The **DIO (Days of Inventory Outstanding)** KPI represents the number of days during which a product stays in inventory.

Calculation



$$\frac{\text{Average inventory}}{\text{Cost Of Goods Sold}} * 365$$

This KPI is calculated over the last 12 months.

Cost of Goods Sold = Manufacturing Value + Distribution Cost + Warehouse Cost

-> can be simplified by using : Manufacturing Value * Distribution Factor, with the factor between 3 to 17 %, depending on your business constraints.

Target

Depends on your business specificities and the shelf life of your products.
Should be established once a year during the budget process.

Advantages

Easy to put in place, as it is based on mandatory values of the financial results

Useful for

Strategic decision : It allows to spot straight if you have a good balance between good and bad inventory. It also ensure that your inventory reduction is not the consequence of a drop in demand. It is also a trustful indicator, as it is not dependant on seasonality.

Supply Chain interest

This KPI value indicates :

- If you are building up inventory (if greater than 365)
- The average days your product stays in stock

Can be use to measure ROI on a lead time reduction project.

Add value to analyze it by

- Stock Category (strategic, quality, anticipation, finished goods)
- Product Segmentation (A, B, C)
- S&OP Cycle product family

Financial Impact upon reductions

One day reduction versus the previous period (pp.) get you :

- Cash flow reduction = avg. inventory of the pp. / 365
- Cost reduction = avg inventory of the pp. / 365 * holding cost (factor between 3% to 17%)

DIO – concrete example

DIO (Days of Inventory Outstanding)

illustrated data

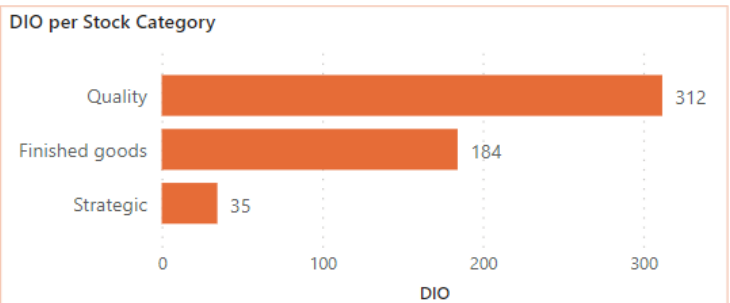
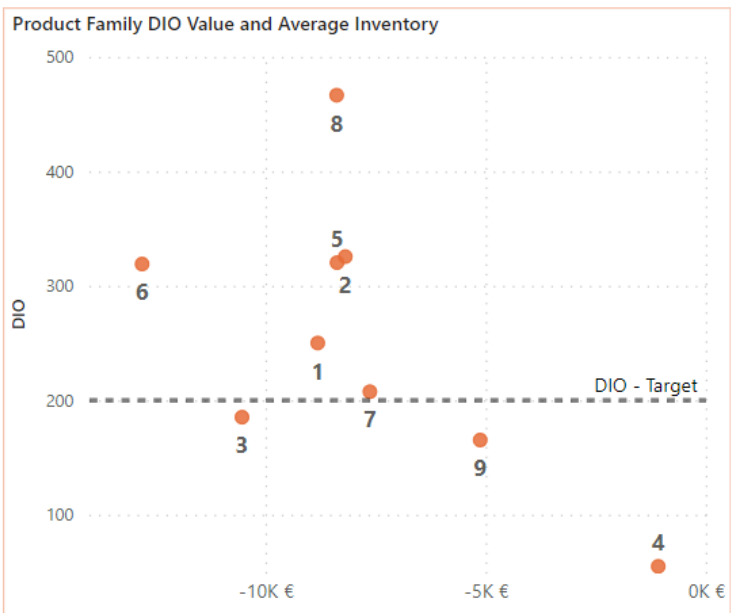
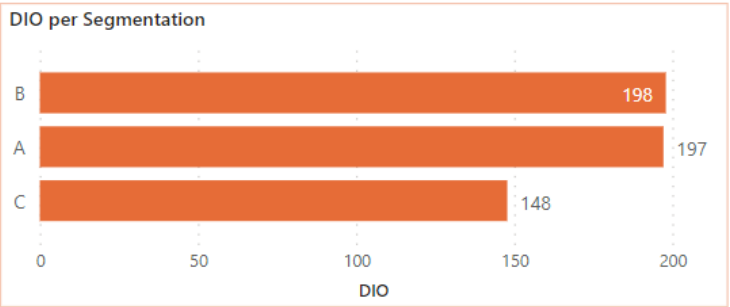
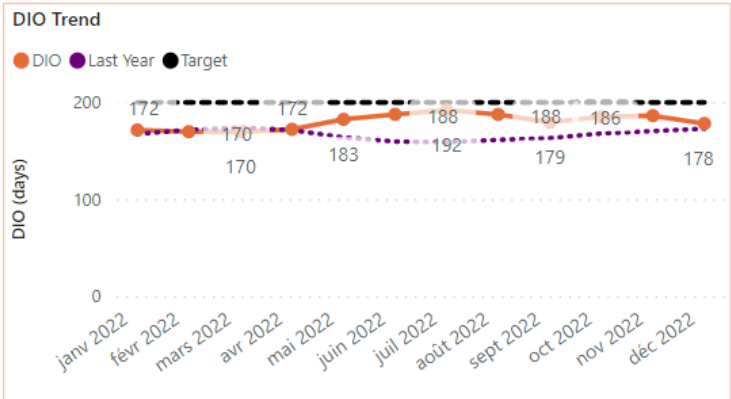
DIO (days)
178 ✓
 Target: 200 (-22)

Cost of goods Sold
 12 moth rolling
5,498,620 € ✓
 Target: 6.16M (-665,181 €)

Inventory Value
 last 12 Month Average
2.68M ✓
 Target: 2.92M (-235.5K)

Weekly reduction - Cash Flow
 Over a year
-51.48K€

Weekly reduction - Cost Impact
 Over a year
-6.18K€



Product Family	Weekly red. impact - Cash Flow	Weekly red. impact - Cost reduction	DIO
6	-12,802.91 €	-1,536.35 €	319
3	-10,533.95 €	-1,264.07 €	185
1	-8,814.00 €	-1,057.68 €	250
8	-8,383.81 €	-1,006.06 €	467
5	-8,375.69 €	-1,005.08 €	320
2	-8,187.71 €	-982.53 €	326
7	-7,629.36 €	-915.52 €	208
9	-5,124.14 €	-614.90 €	165
4	-1,080.14 €	-129.62 €	55
Total	-51,478.11 €	-6,177.37 €	178

Year:

Segmentation:

Stock Category:

Product Family:



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Write-Off Value

Definition

The **WO Value (Write-Off Value)** KPI monitors the loss (scrapping) or a potential loss (provision) of Value of Goods in inventory, which can be either purchased or manufactured goods.

Calculation



$$WO = GIO\&LOC\ new\ provisions + changes\ in\ previous\ years\ provisions$$

New provisions = expired/failed doses + expected to expire/fail doses

Target

Depends on your business specificities and the risk level link to your products. Should be established once a year during the budget process.

Advantages

Easy to put in place, as it is based on mandatory value of the financial results.
Easier than calculating stock-out and give similar insight.

Useful for

Tactical decision : It allows to spot straight if you have a manufacturing, purchasing or quality issue.
Scrap : efficiency of manufacturing processes (maintenance, setup, tool quality, and training)
Expiry : link with Excess inventory (excess purchasing, order cycle not adequate,...)

Supply Chain interest

The trend of this KPI can allow easy ROI calculation for project that try to improve :

- Planning quality / relevance
- Manufacturing stability
- Sales Forecast Accuracy

Add value to analyze it by

- **Write off root causes**
- Product segmentation
- Storage location
- Quality control point

Financial Impact upon reductions

Direct financial impact, as a product destroyed cost double. (production cost + lost sales of product that could have been produce)
Less WO also indicates :

- Less environmental impact
- Less Recycling Cost

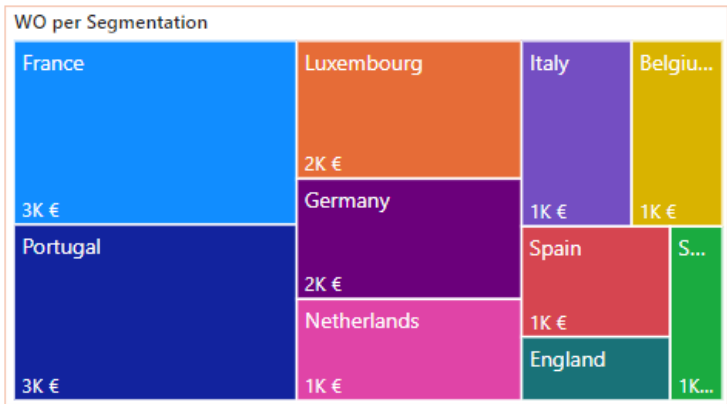
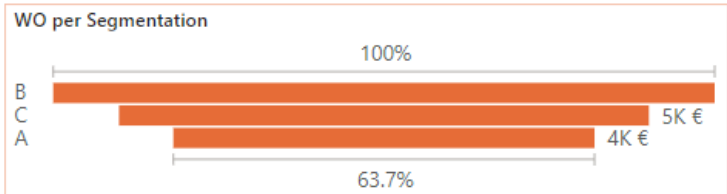
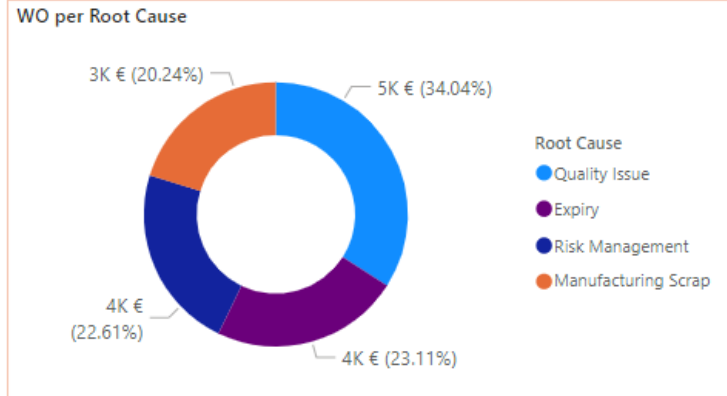
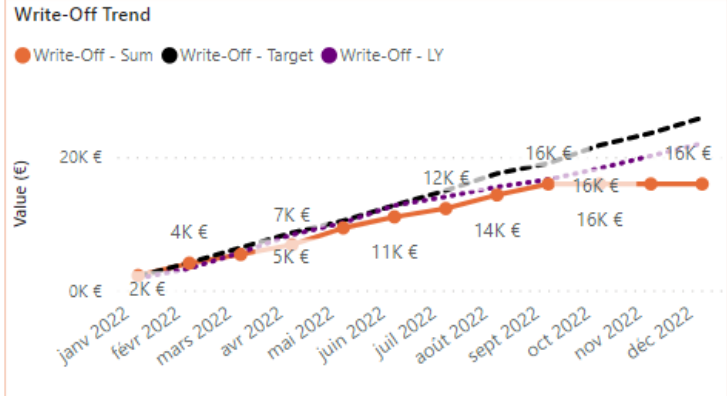
Write-Off Value – concrete use case

Write-Off

illustrated data

MTD **YTD**

Write-Off (€)
15,965 € ✓
 Target: 25,914 € (-9,949 €)



Root Cause	Location	Write-Off	Budget	Delta
Quality Issue	Germany	1,593 €	717 €	-876 €
Risk Management	France	1,539 €	1,306 €	-233 €
Quality Issue	Belgium	774 €	550 €	-224 €
Manufacturing Scrap	Netherlands	486 €	411 €	-75 €
Expiry	Netherlands	349 €	366 €	17 €
Quality Issue	Luxembourg	338 €	389 €	51 €
Risk Management	Portugal	690 €	787 €	97 €
Quality Issue	France	724 €	847 €	123 €
Expiry	Switz	570 €	703 €	133 €
Expiry	Belgium	286 €	458 €	172 €
Expiry	Italy	1,119 €	1,331 €	212 €
Expiry	Luxembourg	526 €	747 €	221 €
Manufacturing Scrap	France	252 €	542 €	290 €
Manufacturing Scrap	Spain	809 €	1,203 €	394 €
Expiry	England		476 €	476 €
Manufacturing Scrap	Luxembourg	674 €	1,150 €	476 €
Total		15,965 €	25,914 €	9,949 €

- Year
- Segmentation
- Stock Category
- Product Family





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Thank you !

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