DRAG SUPPLY CHAIN ANALYSIS

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DQLab Bootcamp Data Analyst
With Excel

INTRODUCTION

• DQLab Group Company is a pharmaceutical supply and distribution company. DQLab Group Company works with various drug suppliers to distribute medicines to DQLab Hospitals.

• The dataset contains the movement of goods from a medicine provider company to a hospital and drugsales by hospitals for 2 years (2020-2021).

• All dataset files are in excel with CSV format.

Note : The dataset used is a dataset provided by DQLab as a learning medium. This dataset is a dummy dataset, not a real dataset.

DATASET

There are 4 datasets used, the following is an explanation of each dataset.

A. Items.csv

1. Item_id : unique code for each item

2. Item_name : item name

3. Item_type : item type

4. 2020_selling_price : selling price in 2020

5. 2021_selling_price : selling price in 2021

item_id	item_name	item_type	2020_selling_price	2021_selling_price
OA0001	Ozen 10 MG Blister	Obat Alergi	18611	18816
OA0002	Ketoconazole Ogb Dexa	Obat Alergi	4480	4507
OA0003	Acetylcysteine Mahakam 200 mg	Obat Alergi	33000	33330
OA0004	Bisoprolol Ogb Dexa	Obat Alergi	10000	10180
OA0005	Bedak Heroxyn 150 gr	Obat Alergi	16950	17170
OA0006	Dexteem Box Plus 100 Tablet	Obat Alergi	25322	25449
OB0001	Neozep Forte 1 Strip 4 Tablet	Obat Batuk & Pilek	2324	2338
OB0002	Decolsen 1 Strip 4 Tablet	Obat Batuk & Pilek	2886	2915
OB0003	Silex Syrup	Obat Batuk & Pilek	75400	76456
OB0004	Lo Han Kuo Infusion 12	Obat Batuk & Pilek	23869	24179
OB0005	Vicks Formula 44 Antitusif	Obat Batuk & Pilek	23461	23836
OB0006	Ultraflu Box Isi 25 Strip	Obat Batuk & Pilek	72500	73805
OB0007	Vicks Inhaler 0.5 mL	Obat Batuk & Pilek	16155	16430
OB0008	Konidin 4 Tablet	Obat Batuk & Pilek	2460	2490
OB0009	Paratusin 1 Strip 10 Tablet	Obat Batuk & Pilek	13600	13818
OH0001	Carditens	Obat Hipertensi	100000	100900
OH0002	Concor 5MG Strip 10	Obat Hipertensi	102000	103632
OH0003	Candesartan Ogb Dexa	Obat Hipertensi	5000	5095
OH0004	Amlodipine Besilate	Obat Hipertensi	7467	7504
OH0005	Irbesartan	Obat Hipertensi	108794	109447
OH0006	Irvell 150MG Box 20 Tablet	Obat Hipertensi	143991	146871
OH0007	Zevask 10 MG Box 50 Kaplet	Obat Hipertensi	30000	30540
OK0001	Simvastatin 10 MG Strip 10	Obat Kolesterol	6222	6253
OK0002	Hyperchol 100 MG 12 KPS	Obat Kolesterol	42800	43442

DATASET

B. Suppliers.csv

1. Supplier_id : unique code for each supplier of goods

2. Supplier_name : supplier name

supplier_id	supplier_name
DQLab-01	DQLab Pharmacy Kebon Jeruk
DQLab-02	DQLab Pharmacy Senayan
DQLab-03	DQLab Pharmacy Tanah Abang
DQLab-04	DQLab Pharmacy Menteng
DQLab-05	DQLab Pharmacy Palmerah
DQLab-06	DQLab Pharmacy Kelapa Gading
DQLab-07	DQLab Pharmacy Kalideres
DQLab-08	DQLab Pharmacy Cilandak
DQLab-09	DQLab Pharmacy Setiabudi
DQLab-10	DQLab Pharmacy Cempaka Putih
DQLab-11	DQLab Pharmacy Jatinegara
DQLab-12	DQLab Pharmacy Jagakarsa
DQLab-13	DQLab Pharmacy Pancoran
DQLab-14	DQLab Pharmacy Tanjung Priuk
DQLab-15	DQLab Pharmacy Cipayung
DQLab-16	DQLab Pharmacy Pulogadung

DATASET

C. Item_suppliers.csv

1. Item_id : unique code for each item

2. Supplier_id : unique code for each supplier of goods

3. Lead_time : the arrival time of the goods since the order was placed

4. 2020_buying_price : purchase price at the supplier in 2020

5. 2021_buying_price : purchase price at the supplier in 2021

item_id	supplier_id	helper	lead_time	2020_buying_price	2021_buying_price
OA0001	DQLab-08	OA0001	DQLab-08	21	18425	18775
OA0001	DQLab-14	OA0001	DQLab-14	28	17494	17967
OA0001	DQLab-15	OA0001	DQLab-15	7	18983	18983
OA0002	DQLab-11	OA0002	DQLab-11	28	4346	4472
OA0002	DQLab-07	OA0002	DQLab-07	7	4570	4615
OA0002	DQLab-16	OA0002	DQLab-16	28	4211	4241
OA0003	DQLab-03	OA0003	DQLab-03	7	34320	34972
OA0003	DQLab-14	OA0003	DQLab-14	21	32670	33029
OA0003	DQLab-02	OA0003	DQLab-02	14	31350	31413
OA0004	DQLab-15	OA0004	DQLab-15	7	10300	10444
OA0004	DQLab-13	OA0004	DQLab-13	14	9800	9927
OA0005	DQLab-10	OA0005	DQLab-10	21	16272	16435
OA0005	DQLab-08	OA0005	DQLab-08	14	17289	17393
OA0005	DQLab-13	OA0005	DQLab-13	7	17628	17646
OA0006	DQLab-05	OA0006	DQLab-05	21	25069	25420
OA0006	DQLab-03	OA0006	DQLab-03	7	25828	25906
OA0006	DQLab-01	OA0006	DQLab-01	14	24562	24587
OB0001	DQLab-07	OB0001	DQLab-07	21	2278	2307
OB0001	DQLab-09	OB0001	DQLab-09	14	2301	2305
OB0001	DQLab-11	OB0001	DQLab-11	14	2208	2241
OB0001	DQLab-13	OB0001	DQLab-13	7	2394	2396
OB0001	DQLab-08	OB0001	DQLab-08	14	2185	2195
OB0002	DQLab-12	OB0002	DQLab-12	7	2944	2932
OB0002	DQLab-01	OB0002	DQLab-01	21	2713	2786

DATASET

D. Transactions.csv

1. Transaction_id : transaction serial number

2. Transaction_date : transaction date

3. Item_id : unique code for each item

4. Quantity : the number of items in a transaction

5. Purchased_from : supplier used to purchase goods

6. Sold_to : destination of selling goods

7. Transaction_type : transaction type

transaction_id	transaction_date	item_id	quantity	purchased_from	sold_to	transaction_type
DQ-00001	01/01/20	OA0001	1000	DQLab-14		buy
DQ-00002	01/01/20	OA0003	2000	DQLab-02		buy
DQ-00003	01/01/20	OA0004	3000	DQLab-13		buy
DQ-00004	01/01/20	OA0005	2000	DQLab-10		buy
DQ-00005	01/01/20	OA0006	1000	DQLab-01		buy
DQ-00006	01/01/20	OB0001	2000	DQLab-08		buy
DQ-00007	01/01/20	OB0002	3000	DQLab-01		buy
DQ-00008	01/01/20	OB0004	2000	DQLab-06		buy
DQ-00009	01/01/20	OB0006	2000	DQLab-12		buy
DQ-00010	01/01/20	OB00007	2000	DQLab-01		buy
DQ-00011	01/01/20	OB0008	1000	DQLab-02		buy
DQ-00012	01/01/20	OD0001	2000	DQLab-05		buy
DQ-00013	01/01/20	OD0002	1000	DQLab-07		buy
DQ-00014	01/01/20	OD0005	1000	DQLab-16		buy
DQ-00015	01/01/20	OD0006	2000	DQLab-16		buy
DQ-00016	01/01/20	OD0007	2000	DQLab-06		buy
DQ-00017	01/01/20	OD0008	2000			buy
DQ-00018	01/01/20	OD0009	1000	DQLab-10		buy
DQ-00019	01/01/20	OD0010	1000	DQLab-12		buy
DQ-00020	01/01/20	OD0011	2000	DQLab-03		buy
DQ-00021	01/01/20	OH0001	2000	DQLab-15		buy
DQ-00022	01/01/20	OH0002	1000	DQLab-11		buy
DQ-00023	01/01/20	OH0003	1000	DQLab-16		buy
DQ-00024	01/01/20	OH0004	2000	DQLab-09		buy

DATA CLEANING

before we process and analyze the data, it would be nice if we clean and tidy up the data first

There will be several data cleaning processes that we will do, including:

1. Conditioning to determine the data
IF

2. Combine multiple characters
CONCAT

3. Correct inappropriate words
FIND AND REPLACE

4. Find data from other sheet
VLOOKUP

BUSINESS QUESTION

In this project there are several business problems/questions that will be answered, namely:

1. what are the names of the best selling items in 2020-2021 ?
2. what is the name of the item that sells the least in 2020-2021 ?
3. What types of drugs sell best in 2020-2021?
4. Which supplier has the highest performance? (based on the arrival time of the goods) ?
5. Which supplier has the lowest performance? (based on the arrival time of the goods) ?
6. Which suppliers should remain current? (due to high sales of goods and good supplier performance) ?
7. What is the profit of each year?

ANALYSIS

Number 1

The analysis results obtained for The names of goods with the most Sales were "Decolsen 1 Strip 4 Tablets" of approximately 21,000 items followed by "Bodrex Extra" of 17,000 then "Ultraflu Box Contents 25 Strips", "Paramex Tablets/Drugs", and "Dexteem Box Plus 100 Tablet" whose sales range is not too large, namely between 14,000–12,000 items.
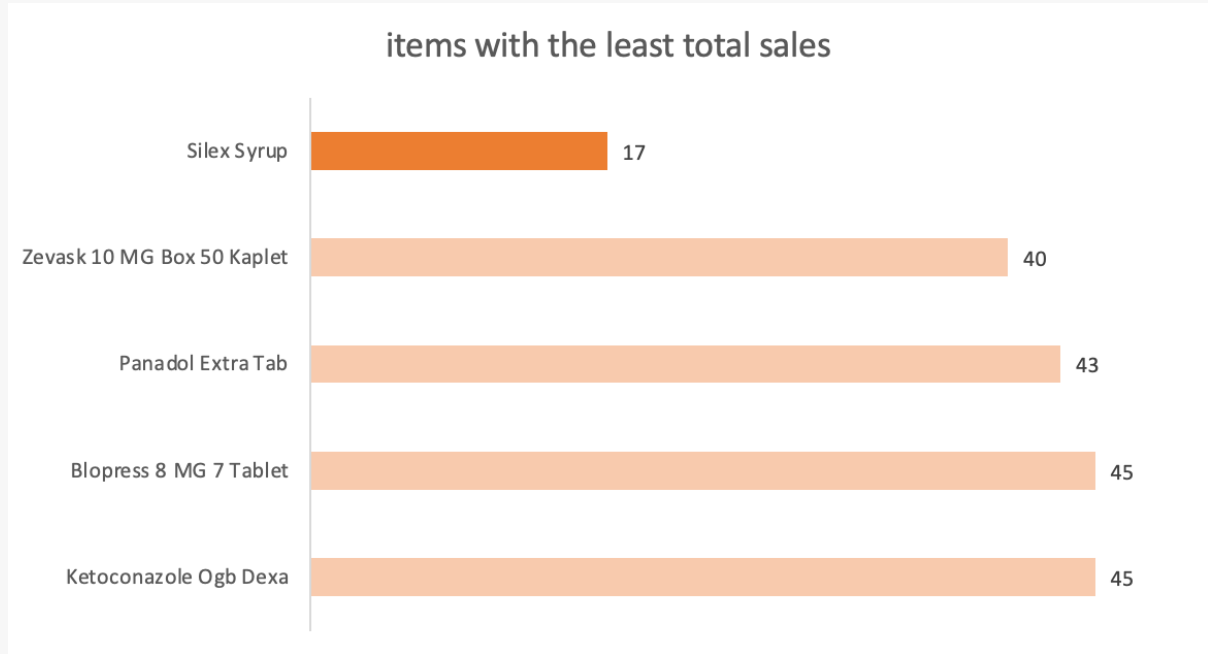

Most Selling items

Item	Sales
Decolsen 1 Strip 4 Tablet	21 K
Bodrex Extra	17 K
Ultraflu Box Isi 25 Strip	14 K
Paramex Tablet / Obat	13 K
Dexteem Box Plus 100 Tablet	12 K
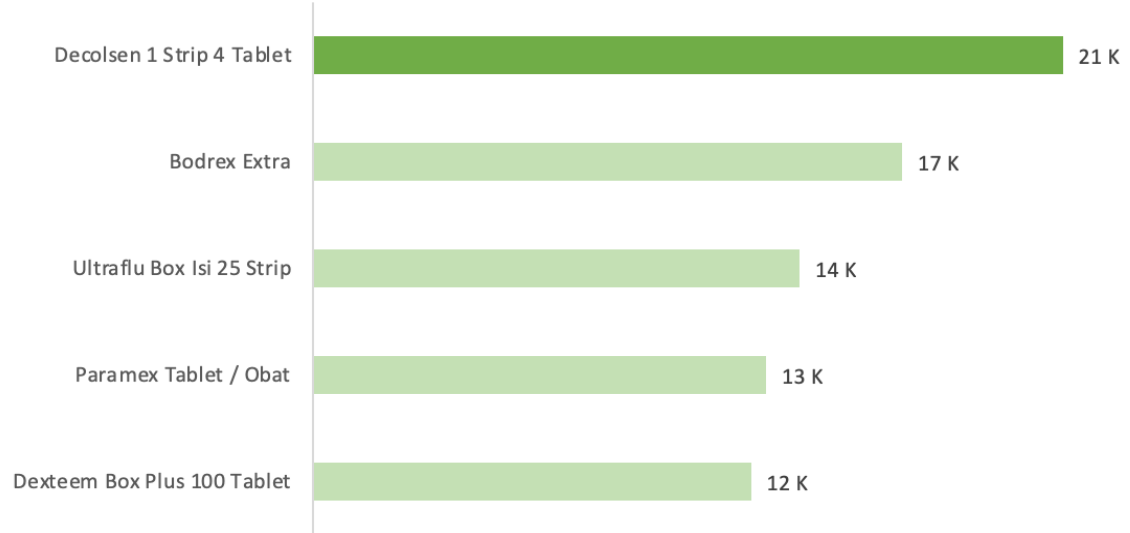
ANALYSIS

Number 2

As for the goods with the fewest sales, all of them were less than 50 items with "Silex Syrup" being the least sold item, namely only 17 items.
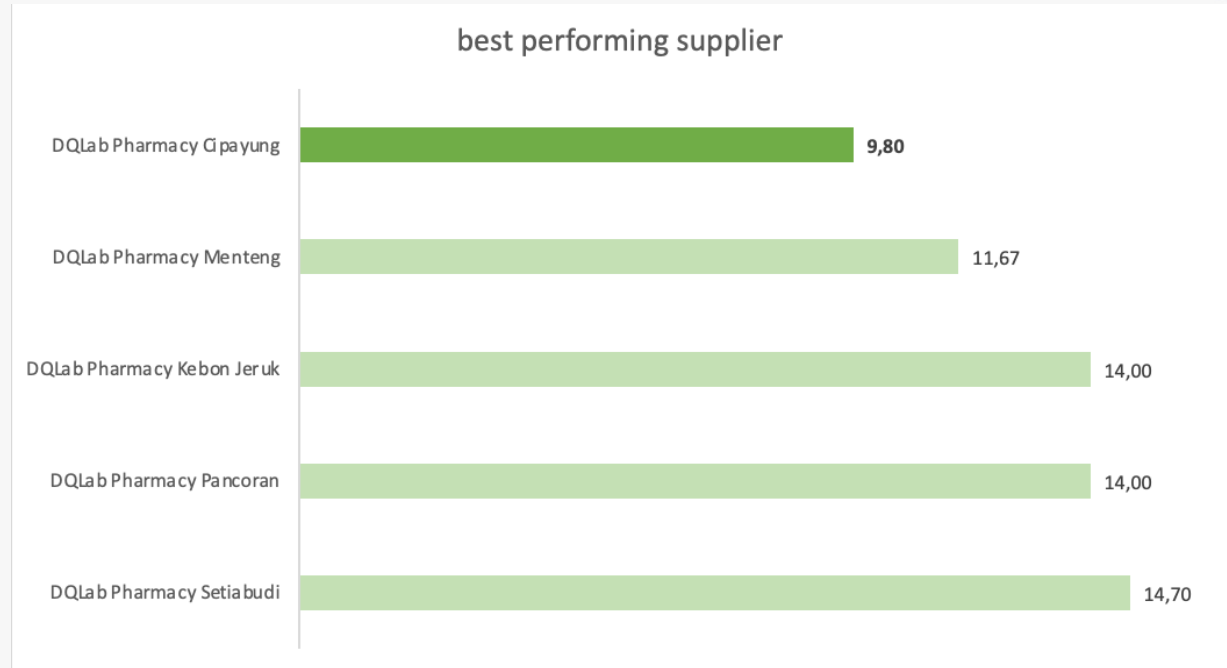
items with the least total sales

Item	Sales
Silex Syrup	17
Zevask 10 MG Box 50 Kaplet	40
Panadol Extra Tab	43
Blopress 8 MG 7 Tablet	45
Ketoconazole Ogb Dexa	45

ANALYSIS

Number 3

with total sales of 73k, the type of drug "Obat Sakit Kepala & Demam" is the type of drug that has the highest sales in 2020-2021. Unfortunately, the type of drug "Obat Telinga" is the type of drug that has the lowest sales.

sales of drugs
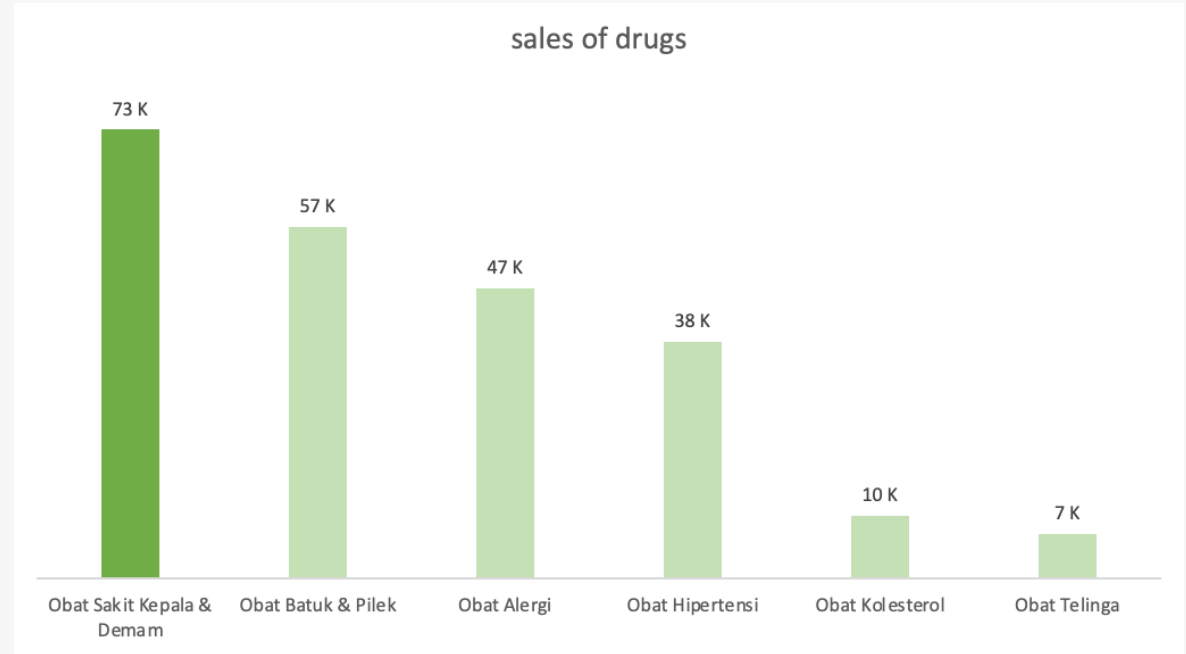
ANALYSIS

Number 4

To assess the performance of Suppliers, an assessment is carried out by assessing the average value of delivery time (time_lead). From the results of this assessment, 5 suppliers with the best performance were selected, it was found that the supplier "DQLab Pharmacy Cipayung" had the best performance with an average delivery time of only 10 days. Followed by the supplier "DQLab Pharmacy Menteng" with 12 days and 3 others with around 14-15 days.

best performing supplier

Supplier	Value
DQLab Pharmacy Cipayung	9,80
DQLab Pharmacy Menteng	11,67
DQLab Pharmacy Kebon Jeruk	14,00
DQLab Pharmacy Pancoran	14,00
DQLab Pharmacy Setiabudi	14,70

ANALYSIS

Number 5

Furthermore, an assessment is also carried out to find suppliers with poor performance. It's the same as finding a supplier with good performance, but the name of the supplier with the lowest average value is taken. "DQLab Pharmacy Tanjung Priuk" is the supplier with the worst performance because it takes about 26 days to ship goods. Followed by 4 other suppliers who have an average delivery time of 21–24 days.
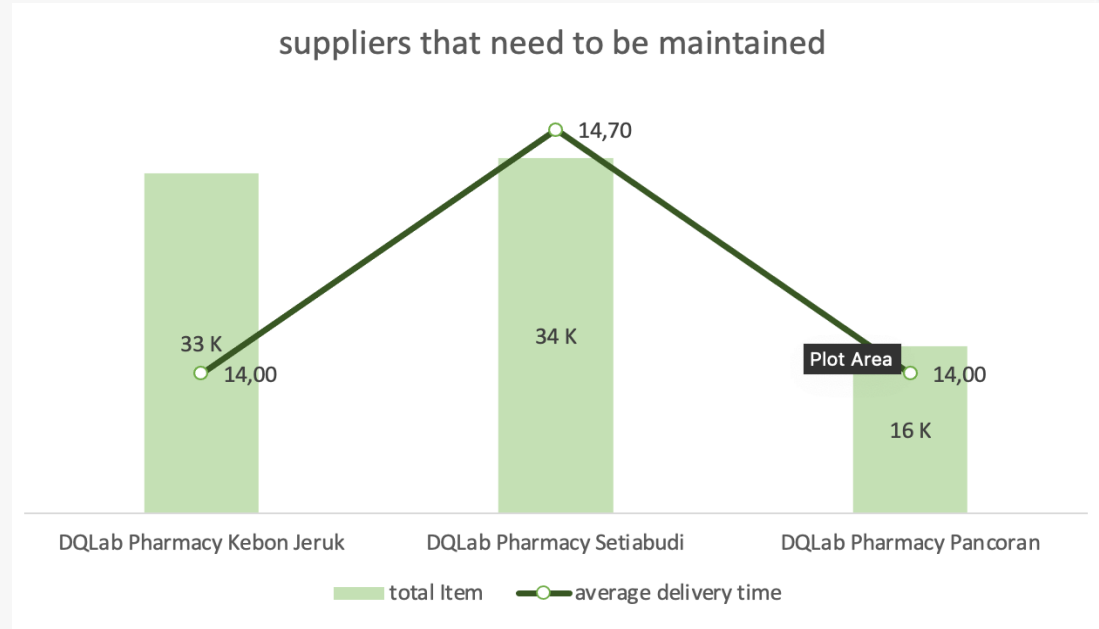

Worst Performing Supplier

Supplier	Value
DQLab Pharmacy Tanjung Priuk	26,25
DQLab Pharmacy Cempaka Putih	23,47
DQLab Pharmacy Palmerah	22,75
DQLab Pharmacy Kelapa Gading	21,00
DQLab Pharmacy Jagakarsa	20,56
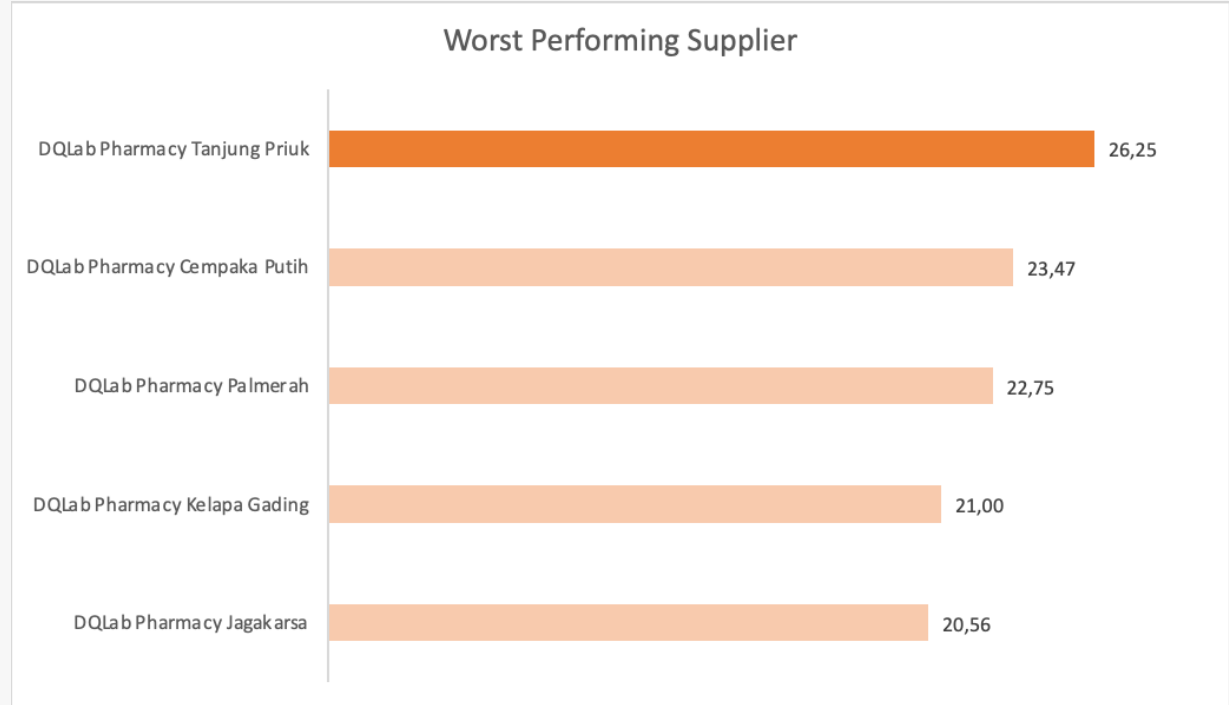
ANALYSIS

Number 6

In this problem, an analysis is carried out by looking at the 10 names of goods with the highest sales and the 5 suppliers with the best performance and then they are matched, so that it is found which supplier provides the goods with the most demand.
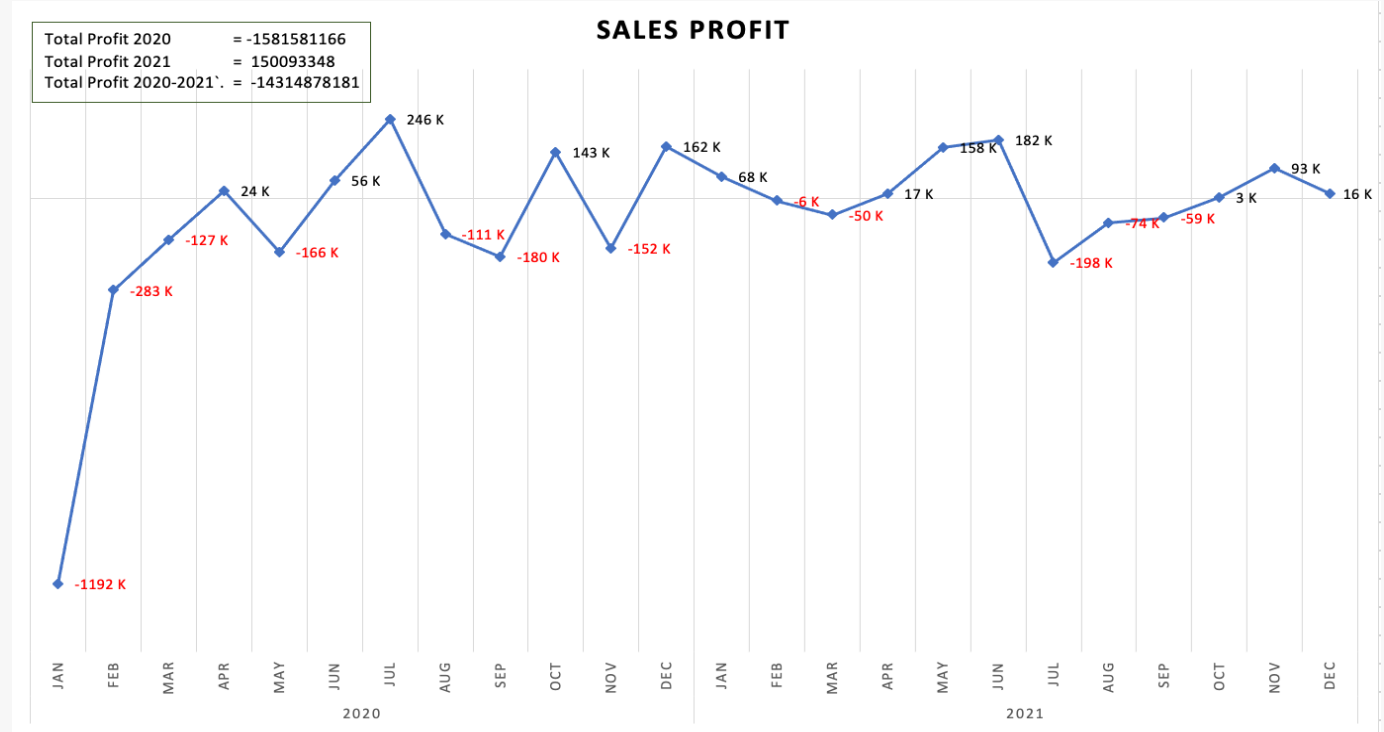
Based on the analysis carried out, it was found that 3 suppliers should continue to work smoothly. In terms of delivery time, "DQLab Pharmacy Kebon Jeruk" is superior to 2 other suppliers with an average delivery time of 14 days, 33,000 items sold, and provides 2 items with the highest sales in "RS DQLab". Followed by "DQLab Pharmacy setiabudi" with the highest sell and "DQLab Pharmacy Pancora"

suppliers that need to be maintained

33 K — 14,00 — DQLab Pharmacy Kebon Jeruk
34 K — 14,70 — DQLab Pharmacy Setiabudi
16 K — 14,00 — DQLab Pharmacy Pancoran
Plot Area

total Item   average delivery time

ANALYSIS

Number 7

In 2020, the profits are negative due to the large number of purchases of goods with little income. In 2021 the profits obtained have produced positive numbers, but overall, profits from 2020-2021 are still negative with large numbers.

SALES PROFIT

Total Profit 2020	= -1581581166
Total Profit 2021	= 150093348
Total Profit 2020-2021`.	= -14314878181

DASHBOARD

DQLab Group Company

"Drug Supply Chain"

2020 - 2021
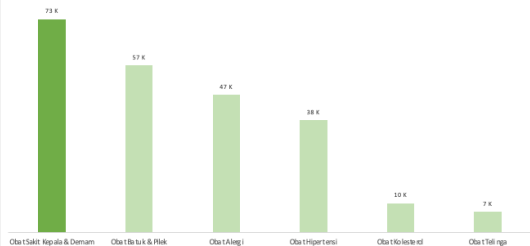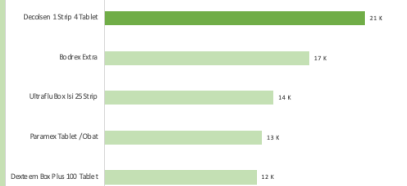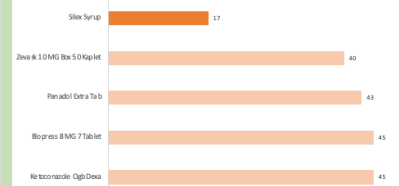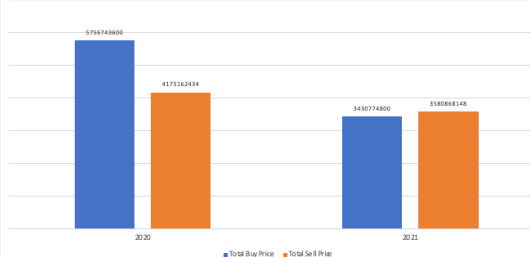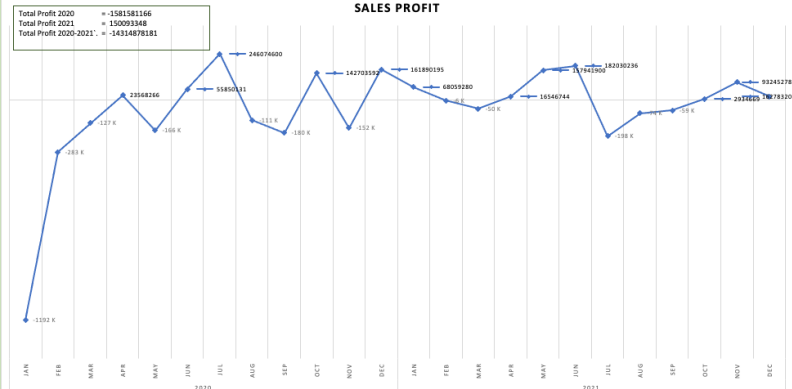
Thank you for reading the analysis that I have made. criticism and suggestions will be very useful for me considering this is my first analysis. To see a more complete analysis, please visit my github which I have written in the caption.

SERTIFIKAT
PENYELESAIAN

Diberikan atas keberhasilan telah menyelesaikan Bootcamp

Bootcamp Data Analyst with Excel
dengan durasi 28 jam

Abid Muhammad

#DQLABBCDAEB12023RNCUFH

Yovita Surianto
DQLab Manager